THE AUTHORIZED RED RIVER CHLORIDE CONTROL PROJECT WICHITA RIVER ONLY PORTION

PUBLIC INFORMATION WORKSHOPS AND SCOPING PROCESS

Prepared by:
URS Corporation
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NOTICE OF INTENT, SCOPING SUMMARY
AND TNRCC COMMENTS ON USFWS ALTERNATIVES

[Federal Register: July 22, 1998 (Volume 63, Number 140)]
[Notices]
[Page 39275]
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DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Intent to Prepare an Environmental Impact Statement (EIS) for the Wichita River Basin Portion of the Red River Chloride Control Project (RRCCP), Texas and Oklahoma

AGENCY: U.S. Army Corps of Engineers, Department of Defense.

ACTION: Notice of intent.

SUMMARY: The purpose of the EIS is to address alternatives and modifications to the authorized plan for chloride control in the Wichita River Basin to provide improved water quality at Lake Kemp, Texas.

FOR FURTHER INFORMATION CONTACT:
Questions or comments concerning the proposed action should be addressed to Mr. David L. Combs, Chief, Environmental Analysis and Compliance Branch, Tulsa District, U.S. Army Corps of Engineers, P.O. Box 61, Tulsa, Oklahoma 74121-0061, telephone 918-669-7188.

SUPPLEMENTARY INFORMATION: The Wichita River Basin portion was authorized as part of a larger chloride control project by the Flood Control Act of 1966, approved 7 November 1966, Public Law 89-789, SD 110; as modified by the Flood Control Act approved 31 December 1970, Public Law 91-611; and as amended by the Water Resources Development Acts of 1974 (Public Law 93-251) and 1976 (Public Law 94--587). Section 1107 of the Water Resources Development Act of 1986 amended the above authorization to separate the overall project into the Arkansas River Basin and the Red River Basin and authorized the Red River Basin for construction subject to a favorable report by a review panel on the performance of Area VIII. The review panel submitted a favorable report to the Public Works Committee of the House and Senate in August 1988 indicating that Area VIII was performing as designed. The portion of the authorized project on the upstream forks of the Wichita River consists of collection Areas VII, VIII, and X and Truscott Lake. The authorized plan consisted of four low flow dams for collection of brine-laden waters, two brine storage lakes for holding concentrated brine solutions, and the necessary pumps and pipelines to transport brine solutions from the low flow dams to the brine storage lakes.

Facilities constructed to date include the Areas VIII and X low flow collection facilities, Truscott Brine Lake, and a pipeline from

the Area VIII collection facility to the Truscott Brine Lake. Approximately 10,000 acres of lands have also been purchased at the Crowell Brine Lake site near Crowell, Texas. The Crowell Brine Lake component will not be constructed, but the lands will be used for fish and wildlife mitigation requirements associated with completion of the Wichita River Basin facilities. The EIS will evaluate the impacts associated with construction and operation of only the Wichita River Basin chloride control facilities.

Reasonable alternatives to be considered include various combinations of constructed facilities in combination with plans for deep well injection, construction of the Area VII collection facility, abandonment of the Area X collection facility, an increase in the size of Truscott Brine Lake, and no action.

Significant issues to be addressed in the EIS include: (1) hydrological, biological, and water quality issues concerning fish, aquatic invertebrates, algae/biofilm, aquatic macrophytes, wetland/riparian ecosystem of the Wichita River, Lake Kemp, and Red River above Lake Texoma to the confluence of the Wichita River; (2) the Lakes Kemp and Texoma components, including chloride/turbidity relationships, chloride/fish reproduction issues, chloride/plankton community issues, chloride/nutrient dynamics issues, and impacts on recreational values; (3) a selenium (Se) component addressing Se concentrations and impacts on biota; (4) alternative studies involving constructed facilities and remaining facilities to be constructed; (5) man-made brines and associated reduction (6) mitigation as it relates indirectly to habitat losses resulting from irrigated cropland and direct impacts resulting from construction of project components; (7) Section 401 water quality issues; (8) impacts on the commercial bait-fishery of the upper Red River; (9) Federally-listed threatened and endangered species; and (10) unquantifiable/undefined impacts.

Scoping meetings for the project are planned to be conducted in August 1998. News releases, informing the public and local, state,and Federal agencies of the proposed action will be published in local newspapers. Comments received as a result of this notice and the news releases will be used to assist the Tulsa District in identifying potential impacts to the quality of the human or natural environment. Affected Federal, state, or local agencies, affected Indian tribes, and other interested private organizations and parties may participate in the Scoping process by forwarding written comments to the above noted address or attending the Scoping meetings.

The draft EIS (DEIS) is expected to be available for public review and comment by 1 August 1999. Any comments and suggestions should be forwarded to the above noted address no later than 1 October 1999 to be considered in the DEIS.

Timothy L. Sanford,
Colonel, U.S. Army, District Engineer.

[FR Doc. 98-19478 Filed 7-21-98; 8:45 am]
BILLING CODE 3710-39-M

CESWTPE-P 6 January 1999

MEMORANDUM FOR RECORD

Subject: Scoping Process and Public Information Workshop, Texas Wichita River Basin Project.

1. Workshop Purpose. On December 9 and December 16, 1998, the Tulsa District held public information workshop at the Holiday Inn, Wichita Falls, Texas and the Holiday Inn, Durant, Oklahoma. The purpose of the workshops was to inform the public about initiation of the National Environmental Policy Act (NEPA) scoping process and the planning investigations on the Wichita Basin Chloride Control Project. The workshop was also intended to solicit questions and concerns from the public about the project. The District organized the workshops as part of the scoping process and public involvement requirements specified by NEPA and Corps water resource planning guidance.

2. Prior Community Contact. The Tulsa District issued a news release and sent it to the print and broadcast media surrounding Wichita Falls, Durant and Sherman Texas and nearby areas. Releases were sent to 80 newspapers and electronic broadcasters. The release included the Tulsa, Oklahoma City, and Dallas area media. Retail advertisements were purchased in the Wichita Falls, Durant, and Vernon, Texas newspapers. Dates for the advertisement were December 3, 6, 13, 16. The Tulsa District wrote letters to state and federal resource agencies about the proposed project and the workshop. Both the advertisement and the letters specified the beginning of the NEPA scoping process. A copy of the letters, news release, list of press release contacts and the advertisement are attached (Attachment 1).

3. Workshop Structure. The workshop was structured as an open-house format consisting of information tables accompanied by poster type displays. Attachment 2 contains display contents and room layout. The tables had information sheets with summaries of various parts of the investigations. Comment sheets were also distributed. Attachment 3 contains information and comment sheets. Corps of Engineers personnel were stationed at each table to answer questions and discuss the NEPA process and the basin investigations. Technical documents, information sheets, and maps were also made available for anyone wanting more detail. Corps staff addressed specific questions about the plans at Wichita Basin. The format allowed attendees to go from table to table, spending as much time as needed to communicate their concerns and obtain answers to their questions. The workshop hours, 6:30 p.m. to 9 p.m., accommodated the schedules of those wanting to attend.

4. Corps Participation. The Corps representative were Ron Bell, Rich Bilinski, David Combs, Marc Masnor, Jim Randolph, Jim Sullivan, Ed Rossman and Paula Willits. Harry Duncan and Jimmy Pryor represented the Operations Division field offices at the Durant workshop.

5. Attendees. A list of persons attending the meeting is provided in Attachment 4. Twenty six persons came to the Wichita Falls workshop, while thirteen came to the Durant workshop. Broadcast and print media attended both meetings. Attendees included representatives of the Red River Valley Association and the Red River Authority of Texas as well a members of

local and county government bodies.

6. Issues Raised. Many of those attending the Wichita Falls workshop raised the issue of the need for potable water in northwest Texas area. The mayor of Vernon Texas attended the meeting and provided a letter at the Wichita Falls workshop. He stated that his community had a very critical need for water in the future. He maintained that the Chloride project is the most viable and cost effective solution to water supply problems in the Red River basin and his community. Some attendees at the Wichita Falls workshop expressed frustration over not developing larger scale alternatives that would included the Wichita river basin as well other tributary basins of the Red River. These attendees felt that environmental impacts of larger scale alternatives did not merit excluding chloride control alternatives in those basins. One person, representing a Lawton chapter of an environmental group, provided written comments opposing modification to streams in the Wichita Basin. Two other persons attending the Durant workshop stated that they had strong opposition to any alternative involving actions on the Oklahoma side of the Red River. Four attendees, representing academic institutions in the area came to the Durant workshop and expressed a general interest in the project, without either support or non-support for the project. A vendor of desalinization technology also attended to the Druant workshop and expressed interested in having there technology being considered in the alternative selection process. A member of the Lake Texoma Association, representing recreation interests and related businesses attended the meeting. The association provided written comments and verbally expressed concerns. His concerns focused on flows into Lake Texoma and the game fishery in the lake. State and Federal fish and wildlife officials attended both workshops. While federal officials did not express a position about the project, a Oklahoma wildlife official expressed concern about federal expenditures on projects that did not have state of local cost sharing. The Oklahoma official stated that his department would oppose any Wichita Basin alternative that was 100% federal cost share.

6. Media and Public Awareness of Scoping Process. As noted, advertisements and press releases were placed announcing the workshops and scoping process. The Dallas Morning News and the Wichita Falls Times Democrat ran articles on the project. The Associated Press circulated a story about the project prior to the workshops. The electronic and print media provided considerable coverage of the workshops and their purposes. Television stations in Sherman and Wichita Falls televised segments on local news programs about the project.

   Information sheets about the project have been placed on the District's World Wide Web Home Page. Those pages contain an e-mail address where interested users can forward their comments and questions. Information sheets have been e-mailed to members of the public making requests for information.

7. Future Actions. The District will continue actively to seek out public input into this project. The district will update of the home page and mailing list. Information sheets will be updated an distributed as new information is available. If needed additional public workshops will be held, if public or others express a need for updated information on the project. The District will also seek out formal and informal opportunities to make information available about the project and to solicit information from the public and other agencies. Comments and questions forms obtained at the workshops will be maintained in a file at the District office. Future comments and questions will also be keep on file. All comments and questions will be used in developing environmental documents and identifying and formulating project alternatives. Once the draft environmental document is prepared, copies will be placed in the public library for review including Vernon Texas, Wichita Falls, Durant and Sherman Texas. Documents will also be made available to area academic institutions. Additional public meetings will be held to accommodate public comment on the draft environmental document. Durant and Wichita Falls are the suggested sites for any such meetings.

Edwin J. Rossman, Ph. D.
Social Scientist

4 Attachments

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Jeffrey A. Saitas, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

April 23, 2002

Mr. Marc Mansor
U.S. Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Alternatives for Chloride Control - Wichita River Basin and Truscott Brine Lake

Dear Sir:

This letter is in response to alternate chloride control methods proposed by Texas Parks and Wildlife Department (TPWD) and the United States Fish and Wildlife Service (USFWS) for the Wichita River Basin in Texas. In order to improve water quality within Lake Kemp, the United States Army Corps of Engineers (USACE) has been collecting brine from natural springs within the Lake Kemp watershed and ultimately disposing of the collected brine waters in Truscott Brine Lake. The USFWS and the TPWD have expressed concerns with possible selenium accumulation within Truscott Brine Lake water and sediments and what effect the selenium accumulation could have on aquatic or aquatic-dependant avian species which utilize Truscott Brine Lake.

The USFWS and the TPWD have proposed an alternative method of chloride control which has been presented and summarized by the USACE in the following three documents: "Alternatives for Chloride Control - Wichita River Basin and Truscott Brine Lake, Texas", "Selenium Monitoring Results: Truscott Brine Lake, Texas and Associated Brine Collection Areas, 1997-1998", and the "USFWS/TPWD Chloride Control Concept Alternatives - Reconnaissance Level Formulation and Evaluation Summary". Instead of using Truscott Brine Lake as a brine disposal area, the USFWS and the TPWD have requested that brine be diverted to Beaver Creek, Paradise Creek, and/or Raggedy Creek. This approach may also include the closure and removal of Truscott Brine Lake or only using Truscott Brine Lake for storage of brine from collection Area VIII.

The USACE requested comments on aspects of these alternatives relating to the Texas Natural Resource Conservation Commission (TNRCC) permitting activities such as state 401 water quality certification. The TNRCC has several concerns with the proposed chloride control alternative. These concerns are as follows:

1) Two streams, Paradise Creek and Raggedy Creek, would be changed from intermittent streams to perennial streams under the proposed alternative. In accordance with the Texas Surface Water Quality Standards, chronic aquatic life criteria for toxic pollutants would then apply rather than acute criteria which are applicable to intermittent streams. According to "USFWS/TPWD Chloride Control Concept Alternatives - Reconnaissance Level Formulation and Evaluation Summary", the chronic aquatic life criterion for selenium of 5 μg/L found in 30 Texas Administrative Code §307, Table 1, would be exceeded at the average design pumping rates ranging from 8.2 cubic feet per second (cfs) to 18.1 cfs. This scenario would result in a violation of state surface water quality standards.

2) This proposal will introduce selenium into Raggedy Creek, Paradise Creek, Beaver Creek and Santa Rosa Lake, which currently have no known loading of selenium. Paradise Creek and Raggedy Creek terminate in Segment 0220, Upper Pease/North Fork Pease River. Beaver Creek terminates in Segment 0214, Wichita River Below Diversion Lake. The Wichita River just upstream of Lake Kemp (Segment 0218) has been added to the proposed 2000 303(d) list due to elevated selenium concentrations. Increasing the selenium loading in other segments of the Wichita River or to the Pease River could result in additional waterbodies being added to the impaired waters (303(d)) list.

3) The TNRCC supports the creation of perennial streams. Perennial streams are presumed to support a high aquatic life use in the Texas Surface Water Quality Standards. However, the source water for these streams must meet the Texas Surface Water Quality Standards. The TNRCC also requires additional information about the extent to which Beaver Creek, Raggedy Creek, Paradise Creek, and Santa Rosa Lake would be changed from freshwater to brackish water habitats.

It is the TNRCC's understanding from a conversation with the TPWD staff that a draft Supplemental Environmental Impact Statement (SEIS) has been developed for this project. Please note that this letter in no way represents a 401 certification of any project. This letter is in response to an informal request from the USACE. The TNRCC Water Quality Assessment Section has not reviewed any final Environmental Impact Statement for chloride control alternatives in the Wichita River Basin and has not received any comments from the public and/or other resource agencies about the project.

The TNRCC looks forward to receiving and evaluating other agency or public comments as part of the SEIS process. Please provide any comments to Ms. Debbie K. Miller of the Water Quality Division (MC-150), P.O. Box 13087, Austin, Texas 78711-3087. Ms. Miller may also be contacted by phone at (512) 239-1703, or by e-mail at *demiller@tnrcc.state.tx.us*.

Sincerely,

Mark Fisher, Manager
Water Quality Assessment Section
Water Quality Division
Texas Natural Resource Conservation Commission

MF/DKM/sa

ccs: Mr. Curtis W. Campbell, Red River Authority of Texas, Hamilton Building, Suite 520, 900 8th Street, Wichita Falls, Texas 76301-6894
Mr. Larry McKinney, Texas Parks and Wildlife Department, Resource Protection Division, 4200 Smith School Road, Austin, Texas 78744
Mr. Todd Chenoweth, Manager, Water Rights Permitting & Availability Section, MC-160

MAILING LIST FROM SCOPING PROCESS

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Chief, Advisory Council on
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730 Simms Street, Room 450
Golden, CO 80401

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Executive Director
Red River Valley Association
P.O. Box 709
Shreveport, LA 71162-0709

Mr. Mark Ambler
American Fisheries Society
Route 1, Box 75-B
Porter, OK 74454

Mr. Jerry Black
President, Oklahoma Wildlife
Federation, Inc.
3900 North Santa Fe Avenue
Oklahoma City, OK 73118

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Field Supervisor
U.S. Fish & Wildlife Service
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Tulsa, OK 74127

Ms. Bretta Cantrell
The Nature Conservancy
Oklahoma Chapter
320 South Boston, Suite 1222
Tulsa, OK 74103

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Executive Director
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P.O. Box 610
Kingston, OK 73439

Honorable Wallace E. Coffey
Chairman
Comanche Tribe of Oklahoma
HC 32-Box 1720
Lawton, OK 73502

Mr. Mark S. Coleman
Oklahoma Dept. of Env. Quality
1000 N.E. 10th Street
Oklahoma City, OK 73105

Mr. Michael A. Deihl
Administrator
Southwestern Power Administration
P.O. Box 1619
Tulsa, OK 74102

Mr. Greg D. Duffy
Director
Oklahoma Dept. of Wildlife Cons.
P.O. Box 53465
Oklahoma City, OK 73105

Honorable Noah Frank
Chairman
Caddo Tribe of Oklahoma
P.O. Box 487
Binger, OK 73009

Honorable Billy Evans Horse
Chairman
Kiowa Tribe of Oklahoma
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Carnegie, OK 73015

Mr. Phil Keasling
Bureau of Land Management
220 North Service Road
Moore, OK 73160-4980

Honorable Henry Kostzuta
Chairman
Apache Tribe of Oklahoma
P.O. Box 1220
Anadarko, OK 73005

Honorable Gary McAdams
President
Wichita and Affiliated Tribes
P.O. Box 729
Anadarko, OK 73005

Ms. Kathy D. Peter
District Chief
U.S. Department of the Interior
U.S. Geological Survey
202 N.W. 66th, Building 7
Oklahoma City, OK 73116

Ms. Altha-Lee Ripley
Congressman Ernest J. Istooks Ofc.
5400 N. Grand Boulevard, Suite 505
Oklahoma City, OK 73112

Ms. Margaret Ruff
Oklahoma Wildlife Federation
3900 N. Santa Fe Ave.
Oklahoma City, OK 73118

Mr. Gary L. Sherrer
Executive Director
Oklahoma Water Resources Board
P.O. Box 150
Oklahoma City, OK 73101-0150

Mr. J. Blake Wade
State Historic Preservation Officer
Oklahoma Historical Society
Wiley Post Historical Building
Oklahoma City, OK 73105

Mr. T. C. Adams
State Single Point of Contact
Texas Office of State-Federal Rel.
P.O. Box 13005
Austin, TX 78711

Mr. Jimmy Banks
General Manager
Wichita Co. Water Impr. Dist. No. 2
402 E. Scott
Wichita Falls, TX 76301

Dr. James E. Bruseth
Dep. State Hist. Preserv. Officer
Texas Historical Commission
Department of Antiquities Prot.
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Temple, TX 76503

Honorable Lowell Cable
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858 Gilmer
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Mr. Jerry Chapman
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?
Mayor, City of Wichita Falls
Wichita Falls, TX 76301

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Texas Natural Resources Cons. Comm.
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City Manager
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P.O. Box 1423
Vernon, TX 76384

Mr. John Hirschi
State Representative, District 81
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Wichita Falls, TX 76208

Mr. Ed Lehman
U.S. Department of Agriculture
17702 C.R. 126 W.
Vernon, TX 76384

Honorable Pat Norriss
Mayor of Burkburnett
501 Sheppard Road
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Mr. Andrew Sansom
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Austin, TX 78744

Mr. Herman Settemeyer
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Texas Natural Resource Cons. Comm.
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Southcentral Field Representative
Wildlife Management Institute
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Oklahoma City, OK 73102

Wes Watkins

Honorable Frank D. Lucas
Representative in Congress
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Oklahoma City, OK 73102

Honorable Kay Bailey Hutchison
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Honorable Phil Gramm
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P.O. Box 538
Sulphur Springs, TX 75482

Honorable William Thornberry
Representative in Congress
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Amarillo, TX 79101

Honorable Larry Combest
Representative in Congress
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Lubbock, TX 79401

Honorable Frank A. Keating
Governor of Oklahoma
State Capitol Building, Room 212
Oklahoma City, OK 73105

Honorable George W. Bush
Governor of Texas
State Capitol
P.O. Box 12428
Austin, TX 78711

Honorable Bill Anoatubby
Governor
The Chickasaw Nation
P.O. Box 1548
Ada, OK 74821

Chief, Choctaw Nation of Oklahoma
P.O. Drawer 1210
Durant, OK 74701

Ms. Kay Yeager
Mayor of Wichita Falls
P.O. Box 1431
Wichita Falls, TX 76307

Honorable Wes Watkins
Representative in Congress
118 Carl Albert Federal Building
McAlester, OK 74501

NEWS RELEASE AND COMMUNICATION OUTLETS FROM SCOPING PROCESS

US Army Corps
of Engineers ®
Tulsa District

NEWS RELEASE

For Immediate Release

To: Editors, Assignment Editors, and News Directors
Synopsis: Corps of Engineers announces plans to host two workshops on Wichita River Chloride Control Project

News Release No. 98-14
December 1, 1998

Army Corps of Engineers to host public information workshop and scoping process on Wichita River Basin Chloride Control Project

TULSA, Okla. -- Two information workshops on the Wichita River Basin Chloride Control Project will be hosted by the U.S. Army Corps of Engineers, Tulsa District in December.

The workshops are part of the project's scoping process. The scoping process is part of the evaluation process outlined by the National Environmental Policy Act. The process involves soliciting ideas from the public and others about project alternatives and potential environmental impacts. The process is the first step in the environmental evaluation of a proposed change to land use, waterways or overall environmental conditions.

The workshops are informal and interested parties are invited to attend, visit information tables and discuss the Corps' study of the Wichita River Basin. The workshops are scheduled at the following locations and dates:

Wichita Falls, Texas Area

Wednesday, December 9, 1998, 6:30 p.m. to 9:00 p.m.
Holiday Inn, 401 Broad Street, Wichita Falls, Texas

Durant, Oklahoma Area

Wednesday, December 16, 1998, 6:30 p.m. to 9:00 p.m.
Holiday Inn, 2121 West Main, Durant, Oklahoma

Representatives from the Corps' Tulsa District Office will be available at the workshop to answer questions and listen to comments from those who attend.

-- more --

For Additional Information
Public Affairs Office
www.swt.usace.army.mil
Phone: 918-669-7366
FAX: 918-669-7368

Comments are welcome throughout the environmental investigations and can be made at the workshops or mailed to:

Mr. David L. Combs
U. S. Army Corps of Engineers, Tulsa District
ATTN: CESWT-PE-E
P.O. Box 61
Tulsa, OK 74121-0061
Phone: 918-669-7660 e-mail: David.L.Combs@usace.army.mil

Please see attached sheet for further details.

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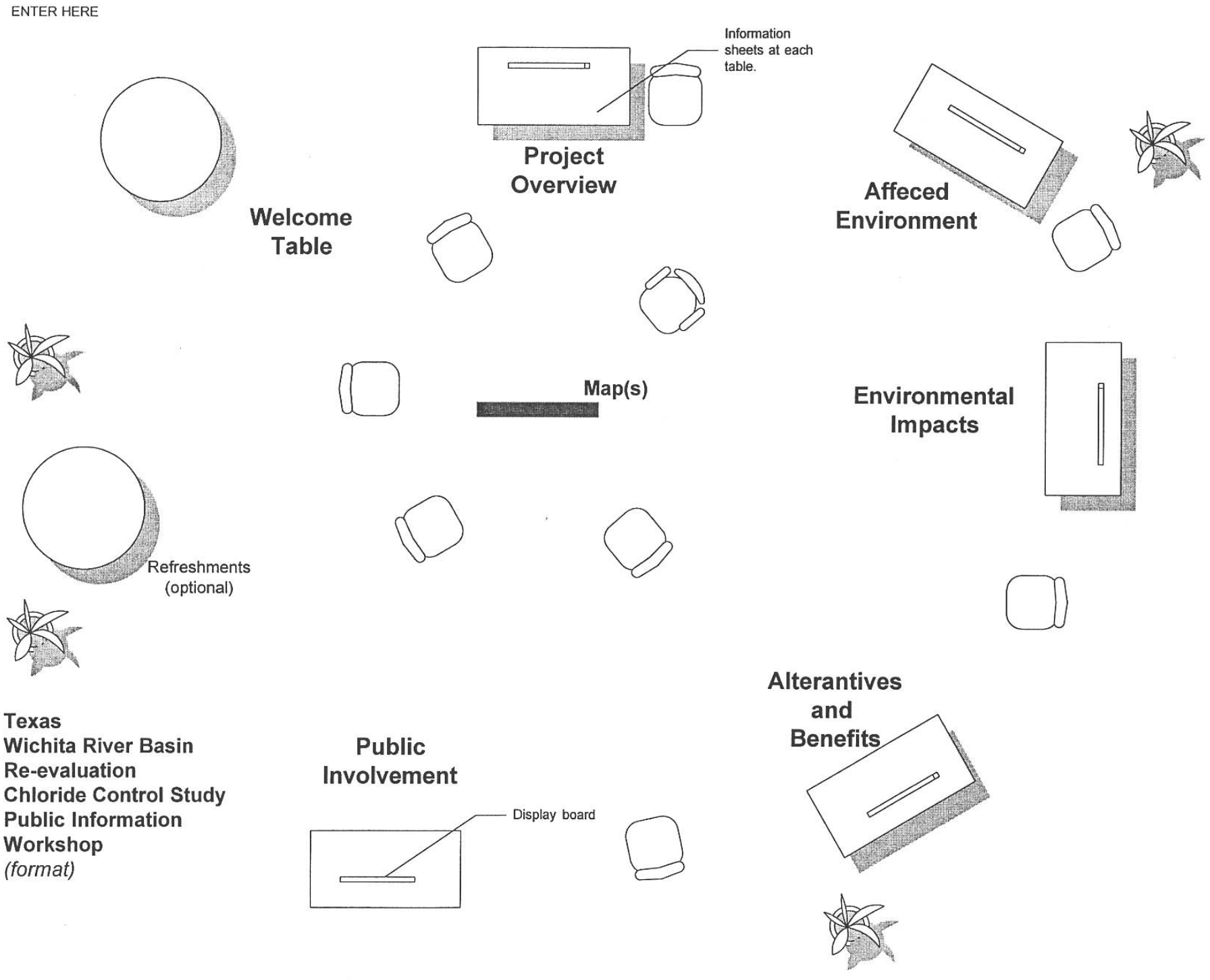
12/1/98
Filename MEDIAALL

Company	City	ST	Zip	Notes1	Phone	Notes2
Accent West Magazine	Amarillo	TX	79105	FAX:(806)371-9129	TEL: (806)359-6801	Monthly
Amarillo College Ranger	Amarillo	TX	79178	FAX:(806)371-5370	TEL: (806)371-5290	10 times a semester
Amarillo Globe News	Amarillo	TX	79166	FAX*(806)373-0810	TEL: (806)376-4488	*41
Focus	Amarillo	TX	79116	FAX:(806)355-3109	TEL: (806)355-2747	Monthly
Golden Plains Leader	Amarillo	TX	79120-1674	FAX:(806)373-7351	TEL: (806)373-4237	
KACV-FM Radio	Amarillo	TX	79178	FAX:(806)371-5258	TEL: (806)371-5222	
KACV-TV (CH 2 -- PBS)	Amarillo	TX	79178	FAX:(806)371-5258	TEL: (806)371-5222	
KAEZ-FM Radio	Amarillo	TX	79101	FAX:(806)372-3628	TEL: (806)372-3002	
KAKS-AM/FM Radio	Amarillo	TX	79114-8580	FAX:(806)353-1142	TEL: (806)353-3500	PSAs to Randy Rush
KAMR-TV (CH 4 -- NBC)	Amarillo	TX	79189-0751	FAX*(806)381-2943	TEL: (806)383-3321	*45
KCIT-TV (CH 14 -- FOX)	Amarillo	TX	79101	FAX:(806)371-0408	TEL: (806)374-1414	
KDJW-FM & KBUY-AM Radio	Amarillo	TX	79117-5844	FAX:(806)379-7339	TEL: (806)372-6543	
KFDA-TV (CH 10 -- CBS)	Amarillo	TX	79105	FAX*(806)381-9859	TEL: (806)383-1010	*44
KGNC-AM/FM Radio	Amarillo	TX	79189-0710	FAX*(806)354-8779	TEL: (806)355-9801	*42
KIXZ AM & KMML FM Radio	Amarillo	TX	79116	FAX:(806)355-5832	TEL: (806)355-9777	
KLCJ-AM Radio	Amarillo	TX	79106	FAX:(806)355-7831	TEL: (806)353-4448	
KQAC-FM Radio	Amarillo	TX	79116	FAX:(806)355-5832	TEL: (806)355-9777	
KQFX-FM Radio	Amarillo	TX	79102	FAX:(806)352-6525	TEL: (806)381-1010	
KQIZ-FM Radio	Amarillo	TX	79114-7488	FAX:(806)353-1860	TEL: (806)353-6662	
KVII-TV (CH 7 -- ABC)	Amarillo	TX	79101-4328	FAX*(806)371-7329	TEL: (806)373-1787	*43
KYFA-FM Radio	Amarillo	TX	79102	NO FAX	TEL: (800)888-7077	
KZIP-AM Radio	Amarillo	TX	79101	FAX:(806)371-0559	TEL: (806)374-8555	
Archer County News	Archer City	TX	76351	FAX:(817)574-2523	TEL :(817)574-4569	
Foard County News	Crowell	TX	79227-0489	NO FAX	TEL: (817) 684-135	
Dallas Morning News	Dallas	TX	75265-5237	FAX*(214)977-8319	TEL: (214)977-8222	*14
KDAF-TV (CH 33 -- FOX)	Dallas	TX	75247	FAX:(214)640-3460	TEL: (214)634-8833	
KDFW-TV (CH 4 -- CBS)	Dallas	TX	75202	FAX:(214)720-3263	TEL: (214)720-4414	
KDMX-FM Radio	Dallas	TX	75247	FAX:(214)688-1029	TEL: (214)688-0641	
KEGL-FM Radio	Dallas	TX	75354	FAX:(214)401-2161	TEL: (214)869-9700	
KERA-TV (CH 13 -- PBS)	Dallas	TX	75201	FAX:(214)754-0635	TEL: (214)871-1390	
KLIF Radio	Dallas	TX	75219	FAX:(214)787-1329	TEL: (214)526-2400	
KLUV-FM Radio	Dallas	TX	75204	FAX:(214)443-1570	TEL: (214)526-9870	
KOAI-FM Radio	Dallas	TX	75225	FAX:(214)368-1075	TEL: (214)691-1075	
KXTX-TV (CH 39 -- IND)	Dallas	TX	75219	FAX:(214)522-8311	TEL: (214)521-3900	
WFAA-TV (CH 8 -- ABC)	Dallas	TX	75202	FAX:(214)977-6585	TEL: (214)748-9631	
Denison Herald	Denison	TX	75020-0908	FAX*(903)465-7188	TEL: (903)465-7171	*16
Grandpappy Point Marina	Denison	TX	75020	FAX:(405)564-9322	TEL: Unknown	

Company	City	ST	Zip	Notes1	Phone	Notes2
KLAK Radio	Denison	TX	75020	FAX*(903)463-9816	TEL: (903)463-6800	*17 (dial manually
KTEN-TV (CH 10 -- NBC)	Denison	TX	75020	FAX*(903)465-5859	TEL: (903)465-5836	*19
Bryan County Star	Durant	OK	74072	FAX:(580)924-7685	TEL: (580)924-6499	
Durant Democrat	Durant	OK	74702-0250	FAX*(580)924-6026	TEL: (580)924-4388	*04
KHIB Radio, SEOSU Campu	Durant	OK	74701	FAX:(580)924-7313	TEL: (580)924-0138	
KSEO & KLBC Radio	Durant	OK	74702	FAX*(580)920-1426	TEL: (580)924-3100	*05
Southern Leader	Durant	OK	74072	NO FAX	TEL: (580)924-6664	
Fort Worth Star Telegra	Fort Worth	TX	76101-1870	FAX*(817)390-7789	TEL: (817)390-7400	*52
KTVT-TV (CH 11 -- IND)	Fort Worth	TX	76103	FAX:(817)496-7739	TEL: (817)496-7711	
KXAS-TV (CH 5 -- NBC)	Fort Worth	TX	76101	FAX:(817)654-6325	TEL: (817)654-6300	
Daily Oklahoman	Oklahoma Ci	OK	73125-0125	FAX:(405)475-3183	TEL: (405)475-3234	Sports FAX: (405) 4
Daily Oklahoman	Oklahoma Ci	OK	73125-0125	FAX*(405)475-3183	TEL: (405)475-3311	*29
Journal Record	Oklahoma Ci	OK	73102	FAX*(405)278-2890	TEL: (405)235-3100	*66
KATT-FM & KPRW-AM Radio	Oklahoma Ci	OK	73116	FAX:(405)843-5288	TEL: (405)848-0100	
KFOR-TV (CH 4)	Oklahoma Ci	OK	73113	FAX*(405)478-6337	TEL: (405)424-4444	*36
KOCO-TV (CH 5)	Oklahoma Ci	OK	73113	FAX*(405)478-6675	TEL: (405)478-3000	*37
KOMA & KRXO Radio	Oklahoma Ci	OK	73153	FAX*(405)793-0514	TEL: (405)794-4000	*33
KWTV-TV (CH 9)	Oklahoma Ci	OK	73113	FAX*(405)841-9989	TEL: (405)843-6641	*38
OETA-TV (CH 13)	Oklahoma Ci	OK	73113	FAX*(405)841-9216	TEL: (405)848-8501	*35
Oklahoma Business News	Oklahoma Ci	OK	73126-0370	FAX*(405)278-2877	TEL: (405)235-3100	*68
WKY/KTOK Radio	Oklahoma Ci	OK	73118	FAX*(405)858-5333	TEL: (405)840-5271	*32
KIKM-FM Radio	Sherman	TX	75091	FAX:(903)893-1154	TEL: (903)893-1151	
KXII-TV (CH 12 -- CBS)	Sherman	TX	75091	FAX*(903)892-4623	TEL: (903)892-8123	*20
Sherman Democrat	Sherman	TX	75091-1128	FAX*(903)868-1930	TEL: (903)893-8181	*15
Associated Press	Tulsa	OK	74102	FAX*9+584-4654	TEL: 9+584-4346	*18
KJRH-TV (CH 2)	Tulsa	OK	74101	FAX*9+748-1436	TEL: 9+743-2222	*56
KOED-TV (CH 11)	Tulsa	OK	74115-7832	FAX*9+838-1807	TEL: 9+838-7611	*57
KOTV-TV (CH 6)	Tulsa	OK	74101	FAX*9+584-5513	TEL: 9+582-6666	*59
KRMG/KWEN Radio	Tulsa	OK	74136	FAX*9+493-5345	TEL: 9+493-7400	*55
KTUL-TV (CH 8)	Tulsa	OK	74101	FAX*9+445-9359	TEL: 9+445-8888	*58
KVOO/KCKI Radio	Tulsa	OK	74152	FAX*9+743-6462	TEL: 9+743-7814	*54
Tulsa Business Journal	Tulsa	OK	74145	FAX: 9+664-8161	TEL: 9+663-1414	
Tulsa World	Tulsa	OK	74102	FAX*9+581-8353	TEL: 9+581-8300	*53
KAUZ-TV (CH 6 -- CBS)	Wichita Fal	TX	76307	FAX:(817)761-2354	TEL: (817)322-6957	
KFDX-TV (CH 3 -- NBC)	Wichita Fal	TX	76309	FAX:(817)691-4384	TEL: (817)692-4530	
KJTL-TV (CH 18 -- FOX)	Wichita Fal	TX	76308	FAX:(817)696-5766	TEL: (817)691-1808	
KMOC-FM Radio	Wichita Fal	TX	76307	FAX:(817)723-5807	TEL: (817)767-3303	

Company	City	ST	Zip	Notes1	Phone	Notes2
KNIN-AM/FM Radio	Wichita Fal	TX	76307	FAX:(817)855-4041	TEL: (817)855-6924	
KQXC-FM Radio	Wichita Fal	TX	76308	FAX:(817)691-5855	TEL: (817)696-3401	
KWFS-FM Radio	Wichita Fal	TX	76307	FAX:(817)855-1070	TEL: (817)855-3555	
KYYI-FM Radio	Wichita Fal	TX	76308	FAX:(817)691-5855	TEL: (817)691-1054	
Midwestern Wichitan	Wichita Fal	TX	76308-2099	NO FAX	TEL: (817)689-4704	
North Texas Journal	Wichita Fal	TX	76301	FAX:(817)766-6541	TEL: (817)766-6525	
Wichita Falls Times Rec	Wichita Fal	TX	76307-0120	FAX*(940)767-5201	TEL: (817)767-8341	*62

DISPLAY LAYOUT AND MATERIALS FROM SCOPING PROCESS


ENTER HERE
Information sheets at each table.
Project Overview
Welcome Table
Affeced Environment
Map(s)
Environmental Impacts
Refreshments (optional)
Alterantives and Benefits
Texas
Wichita River Basin
Re-evaluation
Chloride Control Study
Public Information
Workshop
(format)
Public Involvement
Display board

Advertisment (mail also to attached list)

~Announcing~

PUBLIC INFORMATION WORKSHOP AND SCOPING PROCESS

as related to the

Texas Wichita River Basin Chloride Control Study

in compliance with

The National Environmental Policy Act

Workshops

Purposes: To (1) Inform the public about the Wichita River Basin Study; (2) Solicit comments and questions about the study; and (3) Scope ideas and questions about the environmental impacts of project alternatives being considered.

Wichita Falls, Texas Area

Date and Time: Wednesday, December 9, 1998, 6:30 p.m. to 9:00 p.m.
Place: Holiday Inn, 401 Broad Street, Wichita Falls, Texas

Durant, Oklahoma Area

Date and Time: Wednesday, December 16, 1998, 6:30 p.m. to 9:00 p.m.
Place: Holiday Inn, 2121 West Main, Durant, Oklahoma

Host: U.S. Army Corps of Engineers, Tulsa District

Format: Open house format, no set or formal presentation. Arrive anytime between 6:30 p.m. and 9:00 p.m.

Scoping Process

The Corps is evaluating alternatives for controlling chlorides (natural salts) in the waters of the Wichita River Basin and portions of the Red River. One alternative includes no action. The purpose of each alternative is the improvement of water quality for potable and agricultural uses. The Corps evaluation includes consideration of the environmental impacts that those alternatives may have. The scoping process is being done in compliance with the National Environmental Policy Act. As part of the scoping process, the Corps of Engineers requests that the public as well as Federal, State, and local agencies identify environmental issues related to the project alternatives. Comments and questions can be forwarded to:

Mr. David L. Combs
U. S. Army Corps of Engineers, Tulsa District
ATTN: CESWT-PE-E
P.O. Box 61
Tulsa, OK 74121-0061
Phone: 918-669-7660 **e-mail**: David.L.Combs@usace.army.mil

US Army Corps
of Engineers
Tulsa District

WICHITA RIVER BASIN REEVALUATION
WICHITA RIVER, TEXAS

AFFECTED ENVIRONMENT

STUDY REACHES

The Wichita River Basin Reevaluation Study will encompass all of the Wichita River from the brine collection facilities downstream to the Wichita River's confluence with the Red River and the upper Red River from its confluence with the Wichita River downstream to Lake Texoma. Study reaches to be evaluated include Reach 10 (North and Middle Wichita), Reach 11 (South Wichita), Reach 9 (Wichita River and Lake Diversion), Reach 8 (Wichita River to its confluence with the Red River), Reach 6 (Red River to Lake Texoma), and Reach 5 (Lake Texoma). This area constitutes a major change from the Red River Chloride Control Project (RRCCP) in that Reaches 7, 13, 14, and 15 (Elm Creek, the North Fork of the Red River, the Prairie Dog Town Fork of the Red River, the Pease River, and the Red River upstream from its confluence with the Wichita River) would be unaffected with implementation of the new project. The attached map identifies the location of these reaches.

ENVIRONMENTAL EVALUATION

The environmental evaluation will first establish existing environmental conditions (the affected environment) for the reaches specified above. Environment conditions include socioeconomic resources (population communities, services, and recreational opportunities); terrestrial resources (plants and animals, soils); aquatic resources of the Wichita and Red rivers (fish, plants, and other life forms), Threatened and Endangered Species; water quality in the Red and Wichita River Basin; cultural resources (archeological sites); air quality; prime and unique farmland; and other environmental conditions of the Red and Wichita Basin to be specified during the scoping process. These are conditions that may be impacted by project alternatives.

TARGET GOAL

The environmental impacts and benefits predicted for the impacted reaches of the Wichita River are being reevaluated. Predictions for these reaches will be based on the same output goal as the original RRCCP, which was to keep chloride concentrations in Lake Kemp at or less than 250 mg/l 98% of the time.

CHLORIDE LOADINGS

The total percent reduction in chlorides in Reaches 5 and 6 with construction of Wichita River Basin facilities would depend upon any reduction of manmade brines that has been or would be realized. A total of 3,370 tons per day chloride loading is experienced basin-wide. Of that, 2,250 tons have been identified as coming from natural major point sources, while the

remaining 1,120 tons come from minor natural and manmade sources. A total of 405 tons is already being controlled by operation of Areas V and VIII, leaving a total of 2,965 tons per day loading remaining. For target chloride concentrations to be met in Lake Kemp, approximately 197 tons per day must be removed from the watershed above the lake in addition to the 165 tons currently being removed from Area VIII. Therefore, the total percent reduction in chlorides in Reaches 5 and 6 with completion of the Wichita River Basin facilities would fall between approximately 6.6% and 10.7 % of current levels.

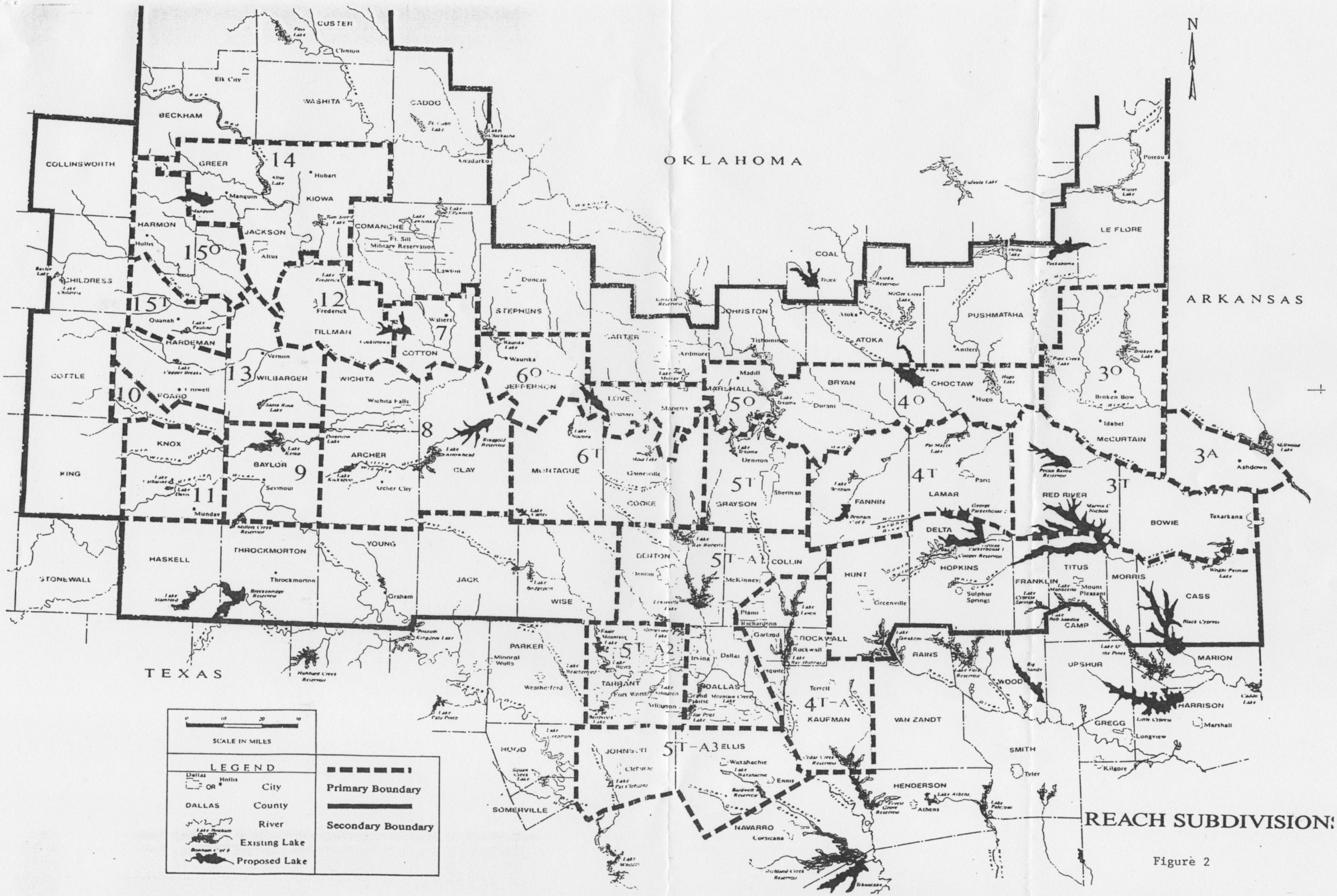
This is opposed to the 44.1% total chloride reduction over current levels in Reaches 5 and 6 that was expected to occur with the original RRCCP. The percent and the total reduction in chlorides in Reaches 5 and 6 would be much less with completion of the Wichita River Basin facilities than with the original RRCCP. Because many of the potential environmental impacts for Reaches 5 and 6 with the RRCCP were not as severe as upstream reaches, impacts to Lake Texoma and the Red River as a result of constructing only the Wichita River Basin portion of the project should be significantly reduced.

INFORMATION, COMMENTS, AND QUESTIONS

The Corps is actively seeking public involvement in the planning of the Wichita River Basin Project. Inquiries and comments can be directed to:

Mr. David L. Combs
U.S. Army Corps of Engineers, Tulsa District
ATTN: CESWT-PE-E
P.O. Box 61
Tulsa, OK 74121-0061
Phone: 918-669-7660 **e-mail**: David.L.Combs@usace.army.mil

Information about the project can also be obtained from the Tulsa District World Wide Web Site-- **www.swt.usace.army.mil**.



REACH SUBDIVISION:

Figure 2

US Army Corps
of Engineers
Tulsa District

WICHITA BASIN REEVALUATION
WICHITA RIVER, TEXAS

PROJECT OVERVIEW

HISTORY OF THE CHLORIDE CONTROL PROJECT

Studies to control natural chloride emissions in the Arkansas and Red River basins began in 1957 when Congress directed the U.S. Public Health Service to locate the major sources of natural chloride emissions in those basins. Ten major sources were located in the Red River Basin on the upper Red River and the Wichita River. Areas V, VI, IX, XI, XIII, XIV, and XV are on the Red River. Areas VII, VIII, and X are on the Wichita River. The attached map locates these areas.

In 1959, Congress directed the Corps of Engineers (COE) to determine if the naturally occurring salt sources could be controlled and, if so, to determine the costs and benefits of alternative control plans. Experimental work at Estelline Springs (Area V in the upper Red River Basin) was authorized in 1962. An effective control plan at Area V was completed in 1964.

The COE completed a survey report in 1966 that recommended chloride control plans at the salt sources on the Wichita River – Areas VII, VIII, and X (Part 1). Part I was authorized by Congress in 1966. Preconstruction planning started in 1968. Detailed studies of the three areas were completed in 1972. In 1974, the Water Resources Development Act (Public Law 93-251) provided special authorization to construct control measures at Area VIII on the Wichita River. Construction began in 1977, and Area VIII became operational in 1987.

The remaining areas in the Red River Basin (Part II) were the subject of a second survey report completed in 1966 that recommended chloride control plans for five of the six salt sources. Area XI was not recommended for further studies. Part II, including the experimental work at Area XIII on Jonah Creek, was authorized for construction in 1970.

In 1976, the COE submitted General Design Memorandum No. 25, which recommended control measures for salt areas on the Pease and Red Rivers. Area XV and the North Pease River portion of Area IX were not considered economically feasible at that time and were recommended for possible development in the future.

The Water Resources Development Act of 1986 (Public Law 99-662) amended earlier authorizations to separate the overall project into the Arkansas River Basin and the Red River Basin. The Red River Basin features were authorized for construction, subject to a favorable review panel on the performance of Area VIII in the Wichita River Basin. Area VIII had been under construction since 1977 and became operational in 1987.

In accordance with the National Environmental Policy Act, a Final Environmental Statement for the project was completed in July 1976, distributed for agency and public review, and filed with the Environmental Protection Agency on May 18, 1977.

In 1978, the COE requested an economic reanalysis of the entire Red River Chloride Control plan to include a significantly more detailed benefit analysis. On September 12, 1991, the Office of the Assistant Secretary of the Army (Civil Works) directed the COE to prepare a current economic analysis of the authorized plan of the Red River Chloride Project (RRCCP) prior to construction of any other areas outside Area X. Accordingly, the COE completed the Limited Reevaluation Report in June 1993. The report focused on an economic evaluation that defined a sequence of construction of the various project elements.

By memorandum dated September 20, 1996, the Assistant Secretary of the Army (Civil Works) directed the COE to prepare a Supplemental Assessment Report to identify and explore in a preliminary fashion other options, such as the feasibility of desalinization or mixing and blending of water supplies. Partnership options for support of the project were also considered. The report would discuss implementation issues; preliminary costs; and whether the options, alone or in combination, might provide a workable, more environmentally sensitive solution to long-term water needs identified in the region. The Supplemental Assessment Report was completed in February 1997.

On September 9, 1997, the Office of the Assistant Secretary of the Army (Civil Works) directed the COE to delay construction on the RRCCP and prepare an informal economic analysis of completing the Wichita River Basin features of the authorized RRCCP. It was proposed that proceeding with completion of the Wichita River Basin construction in lieu of the total authorized project would address recent geographic shifts in water demand, avoid environmentally sensitive areas along the Red and Pease rivers, and avoid impacts to fish and wildlife species and habitat. Further, the evaluation would identify if opportunities to build upon previous RRCCP investments were justified economically. The analysis was based on current, existing information and was completed in October 1997. The findings indicated that there was a good possibility that completion of the Wichita River Basin features was economically feasible. A thorough reevaluation of the Wichita River Basin features was warranted.

On December 2, 1997, the Director of Civil Works, Major General Russell L. Fuhrman, approved by letter, with concurrence from the Assistant Secretary of the Army (Civil Works), that the Tulsa District COE could undertake the proposed reevaluation. The study was to be titled "Wichita River Basin Project Reevaluation".

Whereas the study completed in October 1997 was a brief analysis of the economic feasibility of completing specific, authorized Wichita River Basin features of the RRCCP, the Wichita River Basin Project Reevaluation study would be more involved. The new study would include detailed formulation, economic, environmental, and cost analyses of the alternatives identified for both with- and without-project conditions. The alternatives would include modifications to the authorized project for existing and unconstructed features.

PROJECT PURPOSE AND SCOPE

The Wichita River Basin Project Reevaluation consists of features in and associated with chloride control in the Wichita River Basin, a tributary of the Red River located southeast of the Texas panhandle in Texas. The study area includes north central and northeastern Texas, including the Dallas-Fort Worth region and the region along the Red River as far downstream as Shreveport, Louisiana. The goal of the project is to reduce naturally occurring chloride and total dissolved solid concentrations in the Red River, including the Wichita River, to allow economical use of those waters for municipal, industrial, and agricultural purposes.

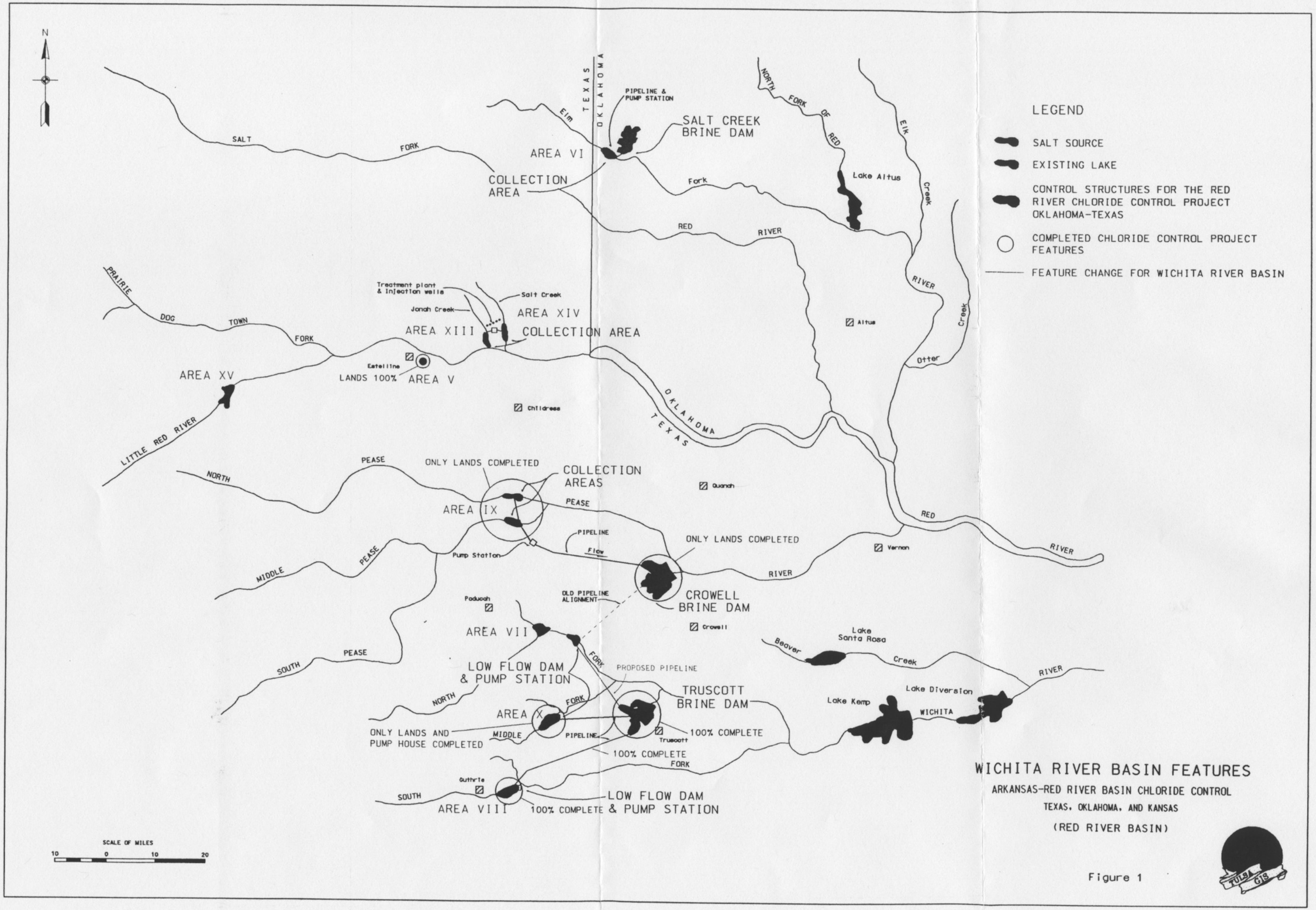
The purpose of the reevaluation is twofold: (1) to provide a basis to determine the most appropriate course of action for the unconstructed features of the authorized project, and (2) to reexamine the economic feasibility of chloride control alternatives and the environmental impacts of those alternatives.

INFORMATION, COMMENTS, AND QUESTIONS

The Corps is actively seeking public involvement in the planning of the Wichita Basin Project. Inquiries and comments can be directed to:

Mr. David L. Combs
U.S. Army Corps of Engineers, Tulsa District
ATTN: CESWT-PE-E
P.O. Box 61
Tulsa, OK 74121-0061
Phone: 918-669-7660 **e-mail**: David.L.Combs@usace.army.mil

Information about the project can also be obtained from the Tulsa District World Wide Web Site-- **www.swt.usace.army.mil**.



WICHITA RIVER BASIN FEATURES

ARKANSAS-RED RIVER BASIN CHLORIDE CONTROL

TEXAS, OKLAHOMA, AND KANSAS

(RED RIVER BASIN)

Figure 1

US Army Corps
of Engineers
Tulsa District

WICHITA RIVER BASIN REEVALUATION
WICHITA RIVER, TEXAS

POTENTIAL IMPACTS

GENERAL

The primary purpose of an environmental impact statement (EIS) is to serve as an action-forcing device to ensure that policies and goals defined in the National Environmental Policy Act are infused into ongoing programs and actions of the Federal Government. The EIS shall provide a full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment. The National Environmental Policy Act provides that there shall be an early and open process for determining the scope of issues to be addressed and for identifying significant issues related to a proposed action. This process is termed Scoping and is accomplished as soon as practicable after publishing a Notice of Intent in the Federal Register.

Some purposes of Scoping include: (1) Invite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons who might not be in accord with the action; (2) Determine the scope and significant issues to be analyzed in depth in the EIS; and (3) Identify and eliminate from detailed study issues that are not significant or that have been covered by prior environmental review.

Your participation in the Scoping process is appreciated. Following is a list of potential impacts associated with construction of Wichita River Basin chloride control facilities that will be addressed in the EIS. Any additional significant concerns or issues you may want to identify will also be considered.

POTENTIAL IMPACTS

(1) Impacts to hydrological, biological, and water quality issues concerning fish, aquatic invertebrates, algae/biofilm, aquatic macrophytes, wetland/riparian ecosystem components, along with the continued functioning and integrity of the Wichita River and Reach 6 of the upper Red River ecosystem.

(2) Impacts to the Lake Texoma and Lake Kemp components, including chloride/turbidity relationships, chloride/fish reproduction issues, chloride/plankton community issues, chloride/nutrient dynamics issues, and impacts on lake sport fisheries, aesthetics, and recreational values.

(3) Impacts of the potential for Selenium (Se) at Truscott Brine Lake.

(4) Changes in size and land use at Truscott Brine Lake.

(5) Manmade brines and associated reduction

(6) Section 401 water quality issues

(7) Mitigation as it relates to indirect habitat losses resulting from irrigated cropland and direct impacts from construction of project components.

(8) Impacts on the commercial bait minnow fishery in the upper Red River.

(9) Federally listed threatened and endangered species.

(10) Unquantifiable/undefined impacts

INFORMATION, COMMENTS, AND QUESTIONS

The Corps is actively seeking public involvement in the environmental evaluation of the Wichita River Basin Project. Inquiries and comments can be directed to:

Mr. David L. Combs
U.S. Army Corps of Engineers, Tulsa District
ATTN: CESWT-PE-E
P.O. Box 61
Tulsa, OK 74121-0061
Phone: 918-669-7660 **e-mail:** David.L.Combs@usace.army.mil

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US Army Corps
of Engineers
Tulsa District

WICHITA RIVER BASIN REEVALUATION
WICHITA RIVER, TEXAS

BENEFIT EVALUATION

INTRODUCTION

The objective of the Wichita River Basin Chloride Control Project is to provide the most practical and cost effective means of improving the quality of water for beneficial uses.

Reducing chlorides to improve water quality in the Wichita River Basin would benefit municipal, industrial, and agricultural users of Wichita and Red River water. An economic evaluation of the effectiveness of the project in improving the quality of water for beneficial purposes is to be performed in accordance with the "Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies", dated March 1983. The Federal objective of water and related land resources planning is to contribute to national economic development (NED) consistent with protecting the Nation's environment pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Prior evaluations are contained in a Department of the Army, Tulsa District, Corps of Engineers November 1980 report, entitled "Supplemental Data to Arkansas-Red River Basin Chloride Control, Red River Basin, Design Memorandum No. 25, General Design, Phase I – Plan Formulation", Volumes I and II. In 1992, the 1980 economic evaluation was updated and is contained in the "Limited Reevaluation Report, Red River Chloride Control Project", dated June 1993.

NATIONAL ECONOMIC DEVELOPMENT PLAN

The purpose of the NED plan is to reasonably maximize net NED benefits consistent with the Federal objective of contributing to NED while protecting the Nation's environment. The NED plan identifies beneficial and adverse impacts on the national economy. Beneficial impacts are increases in economic value of the national output of goods and services from the plan; the value of output resulting from external economies caused by a plan; and the value associated with use of otherwise unemployed or underemployed labor resources. Adverse impacts of the NED plan are the resources used in implementing the plan, such as implementation outlays, associated costs, and other direct costs. The general measurement standard of the value of goods and services is defined as the willingness of users to pay for each increment of output from a plan. NED benefits or outputs are measured in terms of municipal and industrial water supply and agricultural irrigation. An adverse effect would include hydropower forgone at Lake Texoma. Other beneficial or adverse impacts may be on recreation and commercial or sport fisheries.

NED benefits are measured in those counties and reaches that may be economically affected by the project. Forty-two counties are in the four-state study area, Texas, Oklahoma, Arkansas, and Louisiana. These counties are either existing or potential users of Wichita/Red River water for one or more of the following reasons:

(1) The projected demand for water in some counties exceeds existing source capabilities; therefore, alternative sources of water supply must be considered.

(2) Because of their proximity to Wichita/Red River, transportation costs are low enough to use the river compared to using alternative sources.

(3) Current and past activities document that Wichita/Red River is a viable alternative water source.

(4) There is a lack of readily available alternatives to Wichita/Red River as a water source for some counties.

MUNICIPAL AND INDUSTRIAL BENEFITS

Sources and costs of municipal and industrial (M&I) water supply are identified for counties and reaches that may also use water improved by the project. Estimates of existing and future M&I water demand are also calculated. Allocation of sources to meet demand depends on the cost of the water supply, which, in turn, is based on the quantity and quality of water needed. The costs assigned to water supply sources allow M&I NED benefits to be computed. M&I benefits are measured as either water quality benefits or water supply benefits. Water quality benefits are derived when Wichita/Red River water is used with and without the project based on costs. The benefit is a measure of the quality cost of water, either the cost of treatment to an acceptable standard or the damage cost of saline water as a result of no treatment, without the project compared to with the project. A water supply benefit is calculated if Wichita/Red River water is used only with the project. The benefit is the difference in the cost of Wichita/Red River water and the next least costly alternative with the project.

AGRICULTURAL IRRIGATION BENEFITS

Agricultural irrigation NED benefits are estimated as the difference in net crop returns with the project compared to net crop returns without the project. The crop type and the amount of crops expected to be grown in the area are projected with and without the project over the period of analysis. The basic assumption behind forecasting cropping patterns under with and without project conditions is to obtain the maximum possible net revenue. The combination of crops within a reach or study area that will provide the maximum possible net revenue, based on farm budgets, is the optimal crop mix. The optimal crop mix is estimated for each reach, with irrigable land (by soil type) and amount and quality of irrigation water as resource constraints. Differences in net returns with and without the project occur primarily from higher yields resulting from increased irrigation with water of improved quality.

POTENTIAL LOSS OF HYDROPOWER BENEFITS

Reduction of inflows into Lake Texoma due to chloride control facilities and increased agricultural irrigation, plus increasing use of Lake Texoma for M&I purposes, may have a future impact on generation of hydropower at Lake Texoma. Estimates of potential hydropower losses, if significant, are considered a NED cost to the project.

OTHER NED ECONOMIC IMPACTS

Potential NED economic impacts on public recreation, such as at the Lake Texoma sport fishery; on boating, lake recreation, and aesthetics; and on other stream and lake uses as a result of a change in water quality depend on documentation of significant biological changes. Regional economic development impacts that register positive and negative changes in distribution of regional economic activity, such as project expenditure impacts on regional income and regional employment, are not considered NED effects on the national economy. The benefit-to-cost ratio for the project is based on NED effects on the national economy.

LETTERS AND NEWS REPORTS REGARDING PROPOSED PROJECT FROM SCOPING PROCESS

DIRECTORS
BEN KIRKLAND, PRESIDENT
JOHN STABER, VICE-PRESIDENT
STANLEY WATSON, SECRETARY
JESSE FLICK
BOBBY ROWLAND

JIMMY BANKS, GENERAL MGR.
ANNELLA BRIXEY, AUDITOR
TAX COLLECTOR

WICHITA COUNTY WATER IMPROVEMENT DISTRICT No. 2
402 E. SCOTT
Wichita Falls, Texas 76301
(940) 767-6721

January 4, 1999

Mr. David L. Combs
U. S. Army Corps of Engineers, Tulsa District
ATTN: CESWT-PE-E
P. O. Box 61
Tulsa, OK. 74121-0061

Dear Mr. Combs,

The Wichita County Water Improvement District No. 2 Board of Directors strongly support the completion of the Wichita River Basin portion of the chloride project. Information on the completion of the Wichita River Basin portion was well presented.

The District has worked for the Red River Chloride Control Project since its inception in the late 1950's. Just with the completion of Area VIII in 1987, the District's farmers have better yields with the improved water quality. Center pivot sprinkler systems are now being used and irrigable land has been added to the District. With good water, this valley could play a major roll in future agriculture production.

As joint owners of the Lake Kemp system, the City of Wichita Falls could rely on Lake Kemp water to meet their future municipal water needs.

We look toward the day when Mr. Kemp's vision of flood control, irrigation, and a dependable water supply for area citizens will be completed.

Sincerely,

Jimmy Banks
General Manager

Ben Kirkland
Board President

US Army Corps
of Engineers
Tulsa District

Wichita River Basin Re-evaluation Study

QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps study and leave with the completed sheet with one of the Corps representatives. You may take this form with you and return it using the postage-paid envelopes provided at this table.

Why has the Corp decided that its more important to listen to fishing Guides and ecologist than concern their study toward getting potable water for communites down the pease River which eventually empties into the Red River - Many small communities are facing needs in water supply the next few years.

(Feel free to use the back of this page or add additional pages.)

Please see back

We are eager to answer your questions. If you wish to have a response to your question mailed to you or be include in future mailings regarding this project, please provide the following information:

Name: John Liles

Address: P.O. Box 408

City: Vernon State TX Zip Code: 76385

Phone: (Area Code): (940) - 553 - 3202

THANK YOU FOR YOUR TIME!

Chillicothe, Crowell, Electra, Vernon
Burkburnett in the immediate
AREA are in dire need of a good
supply of good potable water.

I'm a sportsman, fishing and hunting
but study after study has been made
about impact of taking salt out
of the river, yet it has not been
proven that this would effect either
wildlife or fish —

Have the Corp decided
too drop the Pease River
Project completely?

John Lides

City of Vernon

P. O. Box 1423
Vernon, Texas 76384
(817) 552-2581

December 9, 1998

Mr. David L. Combs
U.S. Army Corps of Engineers
Tulsa District
P.O Box 61
Tulsa, Oklahoma 74121-0061

RE: ***Texas Wichita River Basin Chloride Control Study Workshop***

Dear Mr. Combs:

I am grateful for the opportunity to express my view on the Red River Chloride Control Project.

I grew up in Vernon, left for W.W.II, stayed in the military, retired, worked for the State for twelve years, retired again, and returned to Vernon after 39 years. In 1984, I was elected Mayor and served in that capacity for ten years.

One of the first tasks I was asked to work on was the critical water situation facing the future growth and survival of our City. We are totally dependent on groundwater for our survival. Many solutions were investigated, explored, and evaluated.

Consultants were employed to evaluate the options and recommend solutions in order of priority. Without exception, all recommend the Chloride Project as the most viable and cost effective solution not only to Vernon's water solution but also for the entire Red River drainage basin. It would convert 1.74 billion gallons of water daily currently unfit for human, commercial (except for fishing) or agricultural consumption into a reliable water source suited for all three types of consumption. Repeated studies verified this to be the most cost effective solution for the Red River basin.

I became more than casually involved. I developed a file folder of information from the City, Red River Authority, Senator Bentsen's office, Senator Gramm's office, Representative Sarpalius, Boulter and Thornberry, Red River Valley Association office, Corps' files in the Tulsa District, plus information gathered at numerous meetings over a ten years period.

(a) This was the most cost effective water project of this nature in the United States.
(b) The project is a political hot potato.
(c) When completed, this project will provide an additional 1.74 billion gallons heretofore unusable for municipal, industrial and agricultural use for the Red River basin.

(d) There is a signed agreement between the U.S. Corps of Engineers and the State of Texas which states that if Texas cleans up manmade oil field waste and contamination at their expense, the U.S. Corps will clean up natural pollution at Federal expense. We did and have been waiting over two decades for the Feds to act, as agreed to. Once again, politics. Delaying tactics, false promises.

(e) There have been numerous cost benefit studies performed on this Project. All passed with flying colors, but varied in relation to the economy and inflation.

(f) At Congress' insistence, a panel of experts was appointed to conduct a three year test to confirm the validity of the design performance. If confirmed that the completed portion of the Project was performing up to design standards, the rest of the project would be completed. After only six months of study (it took longer to appoint the Board) the Board concluded that the completed portion of the Project exceeded design criteria and recommended completion of the Project.

(g) The initial Environmental Impact Statement (EIS) was approved by all the required, interested and affected parties. With partial construction and subsequent funding delays, some of the entities have decided to oppose the Project for economic and political reasons. Oklahoma is the primary objector. The initial EIS was agreed to before the introduction of the stripped bass in Texoma. Those who concurred in the first EIS were aware that if the stripped bass did by chance catch on, removal of the salt water would possibly be the demise of that industry in Texoma.

(h) Facts about the stripe bass:
   (1) They are not native to Lake Texoma.
   (2) They do not reproduce in Texoma. Fish & Wildlife is subsidizing that industry just as the Government helps the farmers.
   (3) There is a continuing build up at the bottom of Lake Texoma of super saturated salt water that fish cannot survive in thereby lessening the availability of food and water available to the fish each day.

(i) When Texoma cleans up its waters, the demands down stream will negate the constant level advantage Lake Texoma now enjoys.

In summary, it appears that the snags currently holding up construction of the Project, are broken promises, greed and politics. We honored our part of the signed agreement. Were the circumstances reversed, we would have been in court years ago. What legal reason does Congress have to deny continuing construction on the Project?

Sincerely,

George E. Maxon, Jr.
Former Mayor of Vernon

Lake Texoma Association

Comments on the Texas Wichita River Basin Chloride Control Study

1. Our understanding is that if this is to be a separate project, then none of the environmental impact study done on the original **Red River Chloride Control (RRCCP)** project may be used.
2. What is the benefit of this project as opposed to point-of-use treatment of the water… Plants such as the one at Sherman, TX cost about $20-$25m and produce up to 15 m gal of water/day at very economical rates.
3. Has new technology been considered? Since the original project began, there have been a number of new processes developed for treatment of water.
4. If ag. benefit is claimed, where will water come from? Doesn't seem to be enough water in river for extensive irrigation… If alluvium to be used, who will pay for the wells required to purge it?
5. Isn't there a requirement by the Sec. of the Army that there be Co-Sponsors of this project for it to get any further consideration? Who are they?

The ***Lake Texoma Association*** remains opposed to this project until it can be shown that there is a definite need for it that far outweighs its **negative** benefits.

US Army Corps
of Engineers
Tulsa District

Wichita River Basin Re-evaluation Study

QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps study and leave with the completed sheet with one of the Corps representatives. You may take this form with you and return it using the postage-paid envelopes provided at this table.

The City of Vernon is in full support of the project. Please proceed.

Thank you for this opportunity.

(Feel free to use the back of this page or add additional pages.)

We are eager to answer your questions. If you wish to have a response to your question mailed to you or be include in future mailings regarding this project, please provide the following information:

Name: Jim Murray, City Manager

Address: P.O. Box 1421

City: Vernon State TX Zip Code: 76384

Phone: (Area Code): 940 - 552 - 2581

THANK YOU FOR YOUR TIME!

US Army Corps
of Engineers
Tulsa District

Wichita River Basin Re-evaluation Study

QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps study and leave with the completed sheet with one of the Corps representatives. You may take this form with you and return it using the postage-paid envelopes provided at this table.

I support the Wichita River Basin Re-evaluation study. Burkburnett gets 50% or more of its water supply from Wichita Falls. Cleaning up Lake Kemp would provide additional pure water to the City of Wichita Falls and thus more for distribution to the surrounding communities. It would be nice to some day have salt free water in the Red River at Burkburnett. I hope the Oklahoma and Texas Wildlife Associations

(Feel free to use the back of this page or add additional pages.)

(See back page)

We are eager to answer your questions. If you wish to have a response to your question mailed to you or be include in future mailings regarding this project, please provide the following information:

Name: PAT YARMOSKI

Address: 1029 PAWHUSKA

City: Burkburnett State TX Zip Code: 76354

Phone: (Area Code): (940) - 569 - 2916

THANK YOU FOR YOUR TIME!

can find a plan to give the cities along the Red River clean drinking water that will be Salt free.

As a suggestion why can't the salt removed from the river or stream be re-introduced to the water near lake Tex-homa. And this could work in any lake that wants the Striper Bass for Sports fishermen

US Army Corps
of Engineers
Tulsa District

Wichita River Basin Re-evaluation Study

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I'M IN SUPPORT OF THE PROJECT TO REMOVE SALT FROM THE WICHITA RIVER BASIN. I FARM AND I HAVE HAD A LOT OF IMPROVEMENTS IN THE SOIL & CROPS SINCE THE LATE '80'S & EARLY 90'S. I ALSO FIND WILDLIFE I NEVER HAD BEFORE IN THE SAME TIME FRAME. MAKE EVERY EFFORT YOU CAN TO COMPLETE THIS PROJECT.

(Feel free to use the back of this page or add additional pages.)

We are eager to answer your questions. If you wish to have a response to your question mailed to you or be include in future mailings regarding this project, please provide the following information:

Name: DWAYNE PEIRCE

Address: 11868 GULF LAKE RD.

City: IOWA PARK State TX Zip Code: 76367

Phone: (Area Code): (940) - 569 - 3060

THANK YOU FOR YOUR TIME!

US Army Corps of Engineers
Tulsa District

Wichita River Basin Re-evaluation Study

QUESTIONS & COMMENTS

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I represent the 90 members of the Wichita Mountains Group of the Sierra Club in Southwest Oklahoma and the over 2,000 members state wide. We are opposed to the R.R.C. project because of its environmental impact. We plan to begin a public campaign opposing the project. We will be joining forces with Oklahoma wildlife groups and the federal agencies who are opposed to the project to vigorously oppose it.

(Feel free to use the back of this page or add additional pages.)

We are eager to answer your questions. If you wish to have a response to your question mailed to you or be include in future mailings regarding this project, please provide the following information:

Name: Boyd T. Fisher

Address: 306 SW 75th

City: Lawton State OK Zip Code: 73505-6403

Phone: (Area Code): (580) - 351 - 6337 (w)

THANK YOU FOR YOUR TIME!

580-536-5926 (h)

WF Times Record

Red River project years from end

Project designed to improve quality of water in Red, Wichita River basins

Cody V. Aycock
Times Record News

More than four decades have passed since the inception of the Red River Chloride Control Project, a federal project originally designed to reduce salt contaminants in the Red River and Wichita River basins.

And it will be several more years before construction of facilities along the Wichita River Basin continues, if it continues at all, Richard Bilinski, project manager for the U.S. Corps of Engineers, said Wednesday at an information meeting in Wichita Falls.

The project, begun in 1957 by the U.S. Public Health Service, was originally designed to improve the quality of water in the Red River and Wichita River Basin by removing chlorides, or salt contaminants.

Completion of the Wichita River Basin portion would provide chloride-free water for cities, agriculture interests and industries throughout North Texas.

The U.S. Army Corps of Engineers is currently studying the economic feasibility, environmental impact and the need to reduce salt contaminants known as chlorides.

The project was stalled in 1997 when the Office of the Assistant Secretary of the Army directed the corps to delay construction to further study environmental concerns raised by fisherman and businesses along Lake Kemp and the U.S. Fish and Wildlife Department. Construction of facilities north of the North Fork of the Wichita River is not being considered, Mark Masnor, civil engineer for the corps said Wednesday.

Bilinski said the corps is re-evaluating all impacts and benefits of the Wichita River Basin facilities again before making a decision about that portion of the original project.

The corps could make a recommendation to the Office of the Assistant Secretary of the Army by December 1999, he said. The recommendation would then be studied by other agencies and be submitted to the public for comment. That could take about a year, Bilinski said.

If it makes it through that process without major revisions, Congress would need to allocate funds for construction of whatever facilities the corps recommends, something that has been hotly debated in the past.

"If it wasn't for interest in this area we would have probably stopped the project all together for lack of funding," Bilinski said.

Engineers are looking for the best way to reduce salt contaminants for the lowest cost with the least deleterious effects on the environment. The project uses brine lakes, low-water dams and other methods to control the flow of salt water down both rivers and their tributaries.

The corps' study has 10 alternatives that include three, and possibly four, salt-reduction facilities on the Wichita River Basin. The alternatives revolve around low-flow dams and pump stations on the North and South Fork of the Wichita River; the Truscott Brine Lake near Truscott, Texas; and possibly a partially complete pump station on the Middle Fork of the river.

The South Fork pump station and pipeline and Truscott Brine Lake are the only facilities currently operational.

Truscott Brine Lake is specially designed to store salt water. Depending on the alternative chosen, two or all three of the pump stations would feed salt water into the lake. The lake's level is regulated by evaporation. The height of the lake's dam would have to be raised according to how many pump stations feed into the lake.

In addition, engineers are evaluating systems that would spray water deposited into the Truscott Brine Lake into the air to help speed up evaporation.

And other alternatives, besides the Red River Chloride Control Project, are being considered, such as the Lake Ringgold reservoir.

The proposed reservoir, which is not part of the Red River Chloride Control Project, could cost between $120 to $140 million to build, according to the U.S. Army Corps of Engineers. The cost of pumping water to cities and other areas would be extra. Construction of the reservoir would not be federally funded, Masnor said.

Completion of the three or four of the project's facilities is estimated to cost between $20 and $40 million, depending on what alternative is used. Operational costs would also make those amounts increase. The project would be federally funded, Masnor said.

"The object is to get the best level of control you can with the least amount of money," he said.

Included in some of the 10 alternatives are plans that would collect the contaminants and deep-well inject them back into isolated geological areas in the ground, ensuring that they would not rise to the surface again.

Salt was deposited in the Red River Basin by an inland sea that became isolated, then evaporated, more than 200 million years ago. Now, when it rains, water flowing underground reaches the salt deposits and carries it away. When the brine reaches a break in the earth's surface, it joins with rivers and tributaries that carry it downstream.

Regional Staff Writer Cody V. Aycock can be reached at (800) 627-1646, (940) 767-8341, Ext. 538 or by e-mail at caycock@wf.scripps.com.

Briefly

Wednesday afternoon fire damages mobile home

HENRIETTA, Texas (Special) — The home of J.D. and Verna Jordan burned Wednesday afternoon in the Deer Creek community southwest of Henrietta.

The mobile home, on FM 1863 just off FM 1883, suffered severe damage from the stubborn fire which took area departments more than an hour to bring under control.

No one was at home when the fire started.

E.C. Crump, a rancher who lives in the area, said he was driving down the road after 1 p.m when he spotted smoke coming from the home. He called for aid.

The first fire truck took 10 to 15 minutes to arrive from Bluegrove which is more than five miles away.

Bluegrove firemen were soon joined by units from Joy, Henrietta and Bellevue.

Sheriff's Deputy Simon Dwyer said the family had no insurance and had recently purchased Christmas presents. The family has four children.

A family pet dog, which is pregnant, was found unconscious under a bed in the home. She was taken to a vet to try to save the puppies, which were expected any day.

An adjacent mobile home was not damaged in the fire.

According to Dwyer, Jordan who works on homes professionally, had been renovating the second home and planned to attach the

torney, Katherine Scardino, Cobb Solicited to p...

Massive effort to divert salt from Red River stalls

Associated Press

TULSA, Okla. — A massive federal project to divert salt from the Red River has come to a standstill while engineers re-evaluate its merits and potential harms.

The Tulsa office of the U.S. Army Corps of Engineers has scheduled public meetings Wednesday in Wichita Falls and Dec. 16 in Durant. Officials want to hear any misgivings and ideas that Oklahomans and Texans have about the project, which already has cost $85 million.

"We want to make sure that we put the best project out there that would satisfy and alleviate any of the concerns any of the agencies would have," said Richard Bilinski, project manager.

The Red River Chloride Control Project was authorized in 1957 to collect and dispose of brine in the West Texas tributaries that feed the river.

> "We still feel like we can reduce the chlorides enough in the basin to allow it to become a viable source [of water] for public use."
>
> — *Richard Bilinski, project manager*

Construction of dams, brine reservoirs, pipelines and pumps in West Texas came to a halt in November 1997. A shutdown was ordered so that federal engineers could study the complaints from environmentalists and business owners dependent upon tourism at Lake Texoma.

One phase of the project — the Wichita River basin portion in Texas — will be the subject of the two public meetings this month.

Mr. Bilinski said construction was started but never completed on a pump house and low-float dam on ranchland northeast of Guthrie, Texas. The corps wants to know what river-area residents think about various alternatives, such as injecting the brine into wells, he said.

"We still feel like we can reduce the chlorides enough in the basin to allow it to become a viable source [of water] for public use," Mr. Bilinski said.

Jerry Brabander, field supervisor for the U.S. Fish and Wildlife Service office in Tulsa, said his staff is working with the corps to determine the effects of reduced salinity on Lake Texoma fish.

Opponents have complained for years that the project costs too much, threatens wildlife and tampers with ecology. Oklahoma Gov. Frank Keating sides with the critics.

Supporters of the project say it would make the water better fit for municipal, industrial and agricultural use in Oklahoma, Texas, Arkansas and Louisiana. Eradication of tons of salt will help ensure a future water supply for the region, supporters say.

"I cannot envision any rational person suggesting it would do more harm than good," said George R. Bonnett, director of public works in Wichita Falls. "We think it makes absolute sense, because in a semiarid area, water controls growth, not oil."

12-5-98 DALLAS MORNING NEWS

Post-it® Fax Note 7671	Date 12-7-98	# of pages ▶ 1
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Red River project years from e

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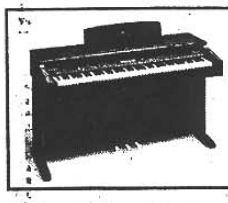
Regional Staff W
Aycock can be reac
627-1646, (940) 76
538 or by
caycock@wf.scripps.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No one was at home when the fire started.

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The first fire truck took 10 to 15 minutes to arrive from Bluegrove, which is more than five miles away.

Bluegrove firemen were soon joined by units from Joy, Henrietta and Bellevue.

Sheriff's Deputy Simon Dwyer said the family had no insurance and had recently purchased Christmas presents. The family has four children.

A family pet dog, which is pregnant, was found unconscious under a bed in the home. She was taken to a vet to try to save its puppies, which were expected any day.

An adjacent mobile home was not damaged in the fire.

According to Dwyer, Jordan, who works on homes professionally, had been renovating the second home and planned to attach the two structures.

The Wichita Falls Red Cross office was called to assist the family.

Deer Creek is five miles west of the Midway School, which is 14 miles south of Henrietta.

Hardcastle released from hospital after surgery

State Rep.-elect Rick Hardcastle was released from a Wichita Falls hospital Wednesday and said he was feeling better after surgery this week to repair a collapsed lung.

The Vernon Republican said he suffered the ailment on the day before Thanksgiving.

"One of the plagues of being skinny," he said. "I just coughed or sneezed in my sleep" and caused the medical problem.

Hardcastle, who unseated longtime state Rep. Charles Finnell, D-Holliday, said he intends to return to a full schedule next week.

Berkeley translator wins national ALTA award

The American Literary Translators Association presented the National Translation Award to translator Carolyn Tipton of Berkeley, Calif., during ALTA's 21st annual meeting.

The award carries a $1,500 stipend and is co-sponsored by the Larry McMurtry Center for the Arts and Humanities at Midwestern State University and by the Simon H. Rifkind Center for the Humanities at the City College of City University of New York.

Tipton was honored for her translation of "To Painting: Poems" by Rafael Alberti.

SCOPING WORKSHOP ATTENDEES

Attachment 4

Wichita Basin Re-evaluation Study
Public Information Workshop
Sign-In/ Mailing List

We want to keep in touch with people interested in the Corps of Engineers study at Grand Lake. Though it is strictly optional, we please ask you to list your name and other information below. This information will only be used for keeping you informed about the Corps studies. If you do not want to be on the mailing list, but would like to sign-in, please make a note of your preference next to your name. **Thanks for coming to tonight's workshop!**

Name	Address	City/State	Zip	Phone
Jay Marks / Jason Walker	KSWO - CH 7	Lawton / OK		580 355-6397
Ira French	PO Box 729	Ardmore, OK	73005	405 247 2425
Jim Murray	P.O. Box 1423	Vernon, TX	76385	940-552-2581
John Riley	P.O. Box 408	Vernon, TX	76385	940 553 5202
Wayne Wood	PO 692	Wichita Falls	76305	940 723-1840
Dwayne Pierce	11812 Gulf Lake Rd	Iowa Park, TX	76367	940-569-3060
[illegible]	4516 Barnett	WF, TX	76310	940-767-5341
Edel [illegible]	4113 Cardinal Dr	WF TX	76308	691-[illegible]-790
Joe Ware	306 W Ruby	Iowa Park TX	76367	592-2110
Mike Schulz	PO Box 220	Altus OK	73521	(580) [illegible]-0886
James Hawkins	Red River Authority	Wichita Falls	76301	940/723-8697
Kevin Weekes	4610 Jennings	Wichita Falls, TX	76310	940-692-4235
Jesse Flick	780 Bell Rd S	Iowa Park TX	76367	940-592-2640

Wichita Basin Re-evaluation Study
Public Information Workshop
Sign-In/ Mailing List

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Wichita River Only Portion of the Authorized Red River Chloride Control Project
Wichita River, Texas

PROJECT OVERVIEW

Chloride control is a congressionally legislated endeavor to reduce the natural occurring levels of salts in the Wichita River in Texas. Natural chloride and sulfate concentrations from the upper reaches of the Wichita River Basin render downstream waters unusable for most purposes. The goal of the project is to improve the quality of the water resources thereby making the resource more readily usable for municipal, industrial, and agricultural purposes.

Surface and groundwater resources to meet current and future economic growth within the Wichita River Basin are reaching their maximum dependable limits. Controlling chlorides presents a practical means to achieve an economically feasible source of water for municipal, industrial, and agricultural purposes and support the water needs of the region. The City of Wichita Falls provides water to several surrounding cities, water districts, industry, and agriculture. Because of extended drought conditions experienced in the region, water from Lake Kemp is currently intended for supplemental use along with Arrowhead and Kickapoo reservoirs within the next 3 years. Utilization of Lake Kemp, as modeled in this study, could add up to 61,222 acre-feet of water per year to the present municipal, industrial and agriculture water supplies within the region. Other entities not supplied directly from the Wichita Falls system are considering the use of Lake Kemp with advanced treatment techniques to supplement their existing water supplies until such time as the water quality is sufficiently improved through chloride control. These entities include the cities of Seymour, Vernon, Electra, Harrold, Oklaunion, and several water supply districts. In summary, the Wichita River system is ideally located to provide supplemental water supply to a multi-county region of North Texas that is expected to collectively require an additional source supply by 2015.

The U.S. Public Health Service initiated a study in 1957 to locate natural brine source areas and determine the contribution of brine sources to the Wichita River and Red River. The Corps of Engineers entered the study in 1959 and recommended measures to control the natural chloride sources. The project's history is as follows:

- 1957: U.S. Public Health Service directed to locate major sources of natural chloride discharges.
- 1959: Congress directs the Corps of Engineers to determine if the chloride sources could be controlled and, if so, to determine the costs and benefits of alternative control plans.
- 1962: Experimental work at Estelline Springs (Area V in the upper Red River Basin) authorized.
- 1964: An effective control plan at Area V implemented. Area V used as an indicator of the potential for chloride control in remaining portions of the basin.
- 1966: The Corps of Engineers reported on chloride control plans for chloride sources in the Wichita River (Areas VII, VIII, and X). These plans were known as Part I and were authorized by Congress the same year.
- 1968: Pre-construction planning started for Phase I.
- 1970: Construction at other areas in the Red River Basin (Part II) authorized, although, to date, construction on these areas has not been initiated.
- 1972: Detailed studies for Phase I completed.
- 1974: Funds allotted by the Water Resources Development Act (Public Law 93-251) for construction at Area VIII and Truscott Brine Lake. (Truscott Brine Lake is a storage reservoir for collected brine.)

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Wichita River, Texas

- 1976: In accordance with National Environmental Policy Act, a Final Environmental Statement for the overall Red River Chloride Control Project completed.
- 1977: Final Environmental Statement for Phase I filed with the Environmental Protection Agency (EPA) in May 1977. Construction on Area VIII begins.
- 1978: The Corps of Engineers requested an economic reanalysis of the entire Red River Chloride Control Project.
- 1986: Congress authorized further construction on the Red River.
- 1987: Area VIII became operational. (Area VIII is currently seen as an indicator of the effectiveness that can be realized with inflatable dam retention and pump-out collection techniques.)
- 1991: A second economic reanalysis requested by the Office of the Assistant Secretary of the Army prior to construction of any other areas outside Area X.
- 1993: Economic reevaluation completed in June confirming economic benefits.
- 1997: Delay ordered in construction of chloride control project for economic reevaluation of Wichita River Basin. This informal economic reevaluation was completed in October 1997 and indicated that a thorough reevaluation of the Wichita River Basin features was warranted based upon the project's economic effectiveness.

The Corps of Engineers was subsequently approved to undertake a proposed reevaluation of the Wichita River Basin features. Due to changes in the proposed project following the Final Environmental Statement filing for the Red River Chloride Control Project, a supplement to the Final Environmental Statement was required to comply with the intent of the National Environmental Policy Act. To avoid repetitive discussions of issues addressed in the 1976 Final Environmental Statement, the supplement concentrates primarily on issues specific to subsequent actions. Copies of supporting environmental studies are on file in the Environmental Analysis and Compliance Branch of the Tulsa District Planning, Environmental, and Regulatory Division. Copies of the 1976 Final Environmental Statement are provided at http://www.swt.usace.army.mil/library/library.cfm.

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Wichita River Only Portion of the Authorized Red River Chloride Control Project Wichita River, Texas

Affected Environment

The study area encompasses all of the Wichita River from the upstream brine collection facilities downstream to the Wichita River's confluence with the Red River and the upper Red River from its confluence with the Wichita River downstream to Lake Texoma. A map delineating the project study area and study reaches is attached. Hydrologic study reaches include:

- Reach 11 (South Fork of the Wichita River),
- Reach 10 (North & Middle Fork of the Wichita River),
- Reach 9 (main stem Wichita River to Lake Diversion dam),
- Reach 8 (Wichita River from Lake Diversion dam to confluence with the Red River),
- Reach 7 (Red River at Cooke/Montague County line to Wichita River confluence),
- Reach 6 (Cooke/Montague County line to Lake Texoma), and
- Reach 5 (Lake Texoma).

The study area also encompasses lands within 50 feet elevation of rivers and reservoirs within the study area as well as agricultural lands within each hydrologic region affected by potential changes in irrigation. The scope constitutes a major change over the Red River Chloride Control Project in that several reaches previously evaluated have not been included in this study. The current study evaluated the affected environmental conditions including land use, cultural resources, threatened and endangered species, terrestrial and aquatic biology, water quality and quantity, and socioeconomics.

Land Use

Land use was evaluated for each brine collection area and the brine disposal site to be utilized under the proposed plan. The proposed collection facilities at Area VII consist primarily of rough, broken lands and mesquite and juniper grasslands utilized for grazing. The collection facilities at Area VIII and Area X consist primarily of rough, broken lands and mesquite grasslands utilized for grazing. Truscott Brine Lake currently receives brine from Area VIII, and with the proposed plan would also receive brines from Areas VII and X. Truscott was completed in 1982 and has been collecting brines from Area VIII since 1987. The lake currently has a pool of approximately 1,700 surface acres.

Cultural Resources

The portion of northern Texas where the proposed project area is located generally falls within the Southern Great Plains culture area. In its designation of archeological regions in Texas for comprehensive planning, the Texas Historical Commission placed the project area near the center of its Lower Plains region, falling between the High Plains, central Texas, and north-central Texas. A total of six prehistoric sites dating to the Archaic period were found within the vicinity of Area VII during a preliminary cultural resource reconnaissance survey. Late in 1994, the proposed pipeline corridor connecting the Area X collection area and Truscott Brine Lake was inventoried and two sites were identified. A cultural resources inventory of the proposed pipeline route between Truscott Brine Lake and Area VII was performed in 2001. In addition, a complete intensive

survey of the area around the Truscott Brine Lake that would be impacted by lake level changes was also performed. The inventory documented four prehistoric archeological sites that will require testing to reach a determination of eligibility for the National Register of Historic Places and seven prehistoric archeological sites and one historic farmstead that have not been recommended as eligible. The exact locations for additional proposed structures have not been determined. Once the locations are known, and prior to construction, the areas would be inventoried for cultural resources. If any resources were discovered in this area, they would be evaluated and impacts assessed.

Aquatic Biology

Overall within the **Wichita River**, a total of 43 fish species have been reported. Of these, 16 species were collected in all portions of the river. Fish species that were collected throughout the Wichita River include:

- Gizzard shad
- Red River shiner
- Bullhead minnow
- green sunfish
- carp
- red shiner
- Red River pupfish
- orangespotted sunfish
- plains minnow
- sharpnose shiner
- plains killifish
- bluegill
- speckled chub
- fathead minnow
- mosquitofish
- longear sunfish

Information regarding the most abundant fish species in pre- and post-1970 collections showed that:

- 50% of the native cyprinids were extirpated,
- The relative abundance of plains minnows has decreased throughout the basin,
- The relative abundance of red shiners has increased in the reaches of the Wichita and North Fork of the Wichita Rivers, and
- The relative abundance of Red River pupfish has increased in the North Fork and South Fork of the Wichita River.

The only portion of the upper **Red River** that could potentially be affected is that portion between the confluence of the Wichita River and Lake Texoma.. With the exception of the sharpnose shiner, all 16 fish species that were collected in the Wichita River were also collected in the Red River. The larger assemblage of fish species in the Red River when compared to the Wichita River is likely attributable to being located immediately upstream from Lake Texoma and more desirable environmental conditions within the river. Three fish species collected in the Red River (Red River pupfish, Red River shiner, and speckled chub) have been identified by resource agencies as being of special concern because of their limited distribution.

Only a limited amount of information is available regarding fish resources in **Truscott Brine Lake**. Fish were collected from the reservoir in 1995 when the salinity was 18,000 mg/l. As would be expected with this level of salinity, fish species were limited to three salt tolerant species: Red River pupfish (49%), plains killifish (43%), and mosquitofish (8%). This data would indicate that Truscott Brine Lake is presently providing additional habitat for salt tolerant fish species. In addition, three freshwater ponds are located on the north side of Truscott Brine Lake and provide freshwater habitat. An additional pond has been constructed but has not

filled with water due to recent drought conditions in northern Texas. The freshwater ponds have been stocked with largemouth bass, channel catfish, blue catfish, and crappie.

Terrestrial Resources

The study area in north-central Texas lies within the Rolling Plains ecoregion. This region is characterized by a slightly undulating land surface dominated by native rangelands. Terrestrial resources that could be affected by the proposed project include lands at Truscott Brine Lake as well as lands that may be affected by collection facility, spray field or pipeline construction.

Water Quality

Natural chloride areas occurring as seeps, springs, and salt flats are located in the basin study area. The sources identified for control in this study contribute about 551 tons/day of chlorides as shown:

Salt Source	Contributing Stream	Chloride Load (tons per day)
Area V	Estelline Springs, Prairie Dog Town Fork	60
Area VII	North Fork, Wichita River	244
Area VIII	South Fork, Wichita River	189
Area X	Middle Fork, Wichita River	58
Total Identified Natural Sources		551

In addition, water quality in the Wichita River is affected by selenium. Total selenium concentrations range from 3 µg/l to 17 µg/l and from 4 µg/l to 17 µg/l on the North Fork (Area VII), and Middle Fork (Area X) of the Wichita River, respectively. Data from the Salt Fork of the Red River near Elmer, Oklahoma and Wellington, Texas indicate that total selenium concentrations range from approximately 1 µg/l to 9 µg/l and 3 µg/l to 29 µg/l, respectively, upstream of the study area. The upper end of the naturally-occurring range exceeds concentrations reported as hazardous to health and long-term survival of fish and wildlife populations.

Data from **Lakes Kemp and Diversion** indicate chloride concentrations of 1,312 mg/l, sulfates of 755 mg/l, and total dissolved solids of 3,254 mg/l, 50% of the time. Data from the Texas Natural Resources Conservation Commission for Lake Diversion (at the outlet of Lake Kemp) indicates that even the minimum total dissolved solids values are greater than the EPA secondary drinking water standards (250 mg/l). Chlorides originating from natural sources are significant enough to prohibit use of the lake for domestic water supply without advanced treatment.

Water quality in the upper **Red River** is influenced by both natural and anthropogenic discharges. Chloride concentrations in the Red River were found in an average range of 990 mg/l to1,193 mg/l. Total dissolved solids concentrations have an average range or 2,504-3,053 mg/l. Lower concentrations are typical of the downstream reaches of the Red River.

Wichita River Only Portion of the Authorized Red River Chloride Control Project
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The water quality of **Truscott Brine Lake** is influenced by the brine collection areas, evaporation, and contributions from freshwater runoff. Baseline selenium data for Truscott Brine Lake were collected in 1992. Data collected during reservoir filling indicated overall selenium concentrations of 2 µg/l. Additional monitoring was conducted in 1997 and 1998. Total selenium concentrations for the 1997-1998 monitoring were below analytical detection limits (ranging from 0.5 µg/l to 1.0 µg/l). The last samples, collected in September 1998, indicated that waterborne total selenium concentrations were still less than the 0.5 µg/l detection limit after approximately 11 years of project operation collecting brine from Area VIII only.

Water Quantity

Water quantity has been measured in the Wichita River and Red River both in terms of average flow rates and number of zero flow days at specific points.

PROJECT AREA STREAM FLOW

Reach	Average Flow (cfs)
6	971.0
7	653.0
8	82.0
9	42.6
10	20.0
11	7.6

Water quantity has also been evaluated in light of current legislation affecting brush management. There has been a growing concern in the **Wichita River Basin** about the availability of water and its effect on economic growth and development. In response, the Red River Authority of Texas in cooperation with the Texas State Soil and Water Conservation Board studied the feasibility of implementing a brush control and management program to increase water yield. The goal of brush management is to restore large areas of brush to native grasses, but leave brush buffers and habitat corridors. The results of the study revealed that implementation of the proposed brush control program may be expected to provide a net increase in overall watershed yield (measured at Lake Kemp) ranging from 27.6% to 38.9%. The brush control program has currently been included in Texas Senate Bill 1 and implementation is expected to occur regardless of the outcome of chloride control efforts.

Socioeconomic Setting

The area adjoining the proposed project facilities is composed of parts of 11 counties in Texas (Cottle, Foard, Wilbarger, Wichita, King, Knox, Baylor, Archer, Clay, Cooke, and Grayson) and three counties in Oklahoma (Love, Marshall, and Bryan) and towns of less than 10,000 population. Based on U.S. Bureau of Census population data, 383,935 persons lived in the area in 2000. The number of persons living in the area increased by an average of 5% between 1990 and 2000.

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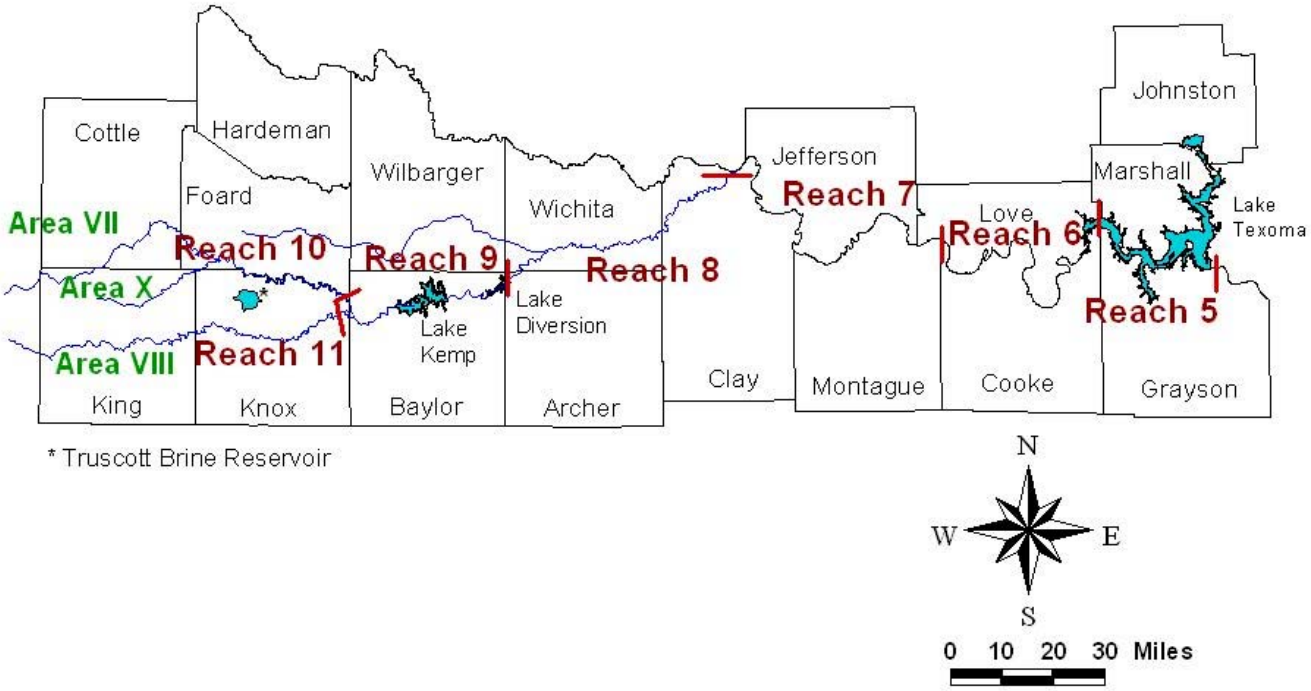
Wichita River, Texas

STUDY AREA HYDROLOGIC REACHES



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Wichita River, Texas

ALTERNATIVES

A total of 27 alternatives, including the No Action alternative, were evaluated. Indefinitely postponing construction of a chloride control system, the No Action alternative, was the first evaluated. The No Action alternative would eliminate potential adverse social or environmental effects associated with construction and operation of additional chloride control features; however, it would forego water quality improvements and resultant economic and social benefits that completion of construction would provide.

The 26 action alternatives to lower chloride concentrations in the Wichita River include continued operation of existing chloride control facilities and completion of facilities under construction. The chloride control features and stages of development include:

- Area V (constructed on the Red River, Prairie Dog Town Fork),
- Area VII (not constructed),
- Area VIII (constructed and operating),
- Area X (partially constructed), and
- Truscott Brine Lake (constructed and operating).

At the collection areas, low-flow dams would impound flows that would be drained into a sump and pumped to a disposal system. The dams would have a deflatable weir section that would allow flood flows to pass unimpeded. Collected brines would then be pumped to their disposal site using parallel vertical turbine pumps and an underground pipeline. Four alternatives were considered for subsequent brine disposal:

- A brine impoundment reservoir, Truscott Brine Lake, consisting of an impervious dam to impound brine water and serve as an evaporation reservoir.
- Injecting brine down wells (deep well injection) drilled into suitable geologic formations.
- Pumping collected brine from the upper Wichita River drainage basin to Beaver Creek, Paradise Creek, or Raggedy Creek in the Red River watershed. These alternatives (developed by the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department) would convert freshwater streams to brine streams.
- Reducing brine volume through spray fields to accomplish an overall volume reduction of roughly 42%.

Fourteen alternatives were developed by the Corps of Engineers for achieving lower concentrations of chlorides in the Wichita River. Common elements among the original Corps of Engineers action alternatives include:

- Continued operation of the existing ring dike at Area V (Estelline Springs),
- Continued operation of the existing Area VIII brine collection area,
- Continued operation of the Area VIII pipeline to Truscott Brine Lake, and
- Continued operation of the Truscott Brine Lake.

Wichita River Only Portion of the Authorized Red River Chloride Control Project
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From the Corps of Engineers alternatives, one was selected as having the greatest net benefits. However, concerns regarding this alternative have been raised by the U.S. Fish and Wildlife Service and Texas Parks and Wildlife Department including:

- Impacts to aquatic resources through reduced stream salinity and native fishes that are adapted and dependent on naturally high salinities;
- Selenium levels in Truscott Brine Lake and potential impacts to migratory birds;
- Security of water supplies and water quality for the Dundee State Fish Hatchery at Lake Diversion;
- Potential impacts to sport fisheries at Lakes Kemp, Diversion, and Texoma;
- Impacts to prairie stream ecosystems due to exacerbated low flow conditions and reduction in chloride loads; and
- Invasion of saltcedar or zebra mussels.

The 12 alternatives developed by the U.S. Fish and Wildlife Service and Texas Parks and Wildlife Department would address these concerns by reducing brines pumped to Truscott and eliminating or reducing potential selenium impacts, as well as replacing stream habitat and lessening the impact of zero flow days on refugia fish populations. From the U.S. Fish and Wildlife Service/Texas Parks and Wildlife Department alternatives, one was identified as having the greatest economic potential. While this alternative is economically viable, net benefits for the alternative are less than those of the Corps of Engineers alternative. In addition, implementation issues, as described below, would potentially preclude this alternative from further consideration. These issues, which are common to all the U.S. Fish and Wildlife Service/Texas Parks and Wildlife Department alternatives, include:

- Technical viability of proposed alternatives to create new salt-tolerant species habitat (i.e., can suitable new habitat be created in a short time period);
- Regulatory viability in light of potential TNRCC opposition to degradation of usable freshwater streams from brine and selenium introduction;
- Destruction of fresh water streams and riparian (wetland) habitat;
- Public and municipal objections to stream conversion;
- Land use and land value impacts to landowners, farmers, and ranchers from converting freshwater streams to brine streams; and
- Flooding and erosion risks from increased stream flow.

Due to higher economic, technical, and regulatory viability, the selected Corps of Engineers alternative was determined to best serve the purpose and need for the proposed action. The proposed plan therefore consists of:

- Continuing to pump Area VIII brine to Truscott Brine Lake.
- Constructing low water dam collection facilities at Area VII and pumping brine to Truscott Brine Lake.
- Constructing pipeline from Area X to Truscott Brine Lake and pump Area X brine to Truscott Brine Reservoir.
- Constructing spray fields at intake and outfall of each pipeline (Area VII, Area VIII {existing} and Area X).

Wichita River Only Portion of the Authorized Red River Chloride Control Project
Wichita River, Texas

POTENTIAL IMPACTS

Potential positive or negative impacts on natural resources, social values, economic benefits, and cultural resources were carefully considered and the magnitude of projected impacts determined. Consideration of impacts to air quality, wild and scenic rivers, environmental justice, noise, and soils were not found to be applicable in analysis of the project. These topics were therefore removed from further discussion.

Land Use

With the proposed project operational and improved water quality, there would be an increase in agricultural production and a noticeable shift in crop yields and cropping patterns on irrigable lands along the Wichita River and a portion of the Red River. As determined from studies conducted by Texas A&M, most of the agricultural changes are expected to occur from the conversion of dryland farming of Bermuda grass/hay to irrigated farming of alfalfa. Benefits to agriculture were found to range from about $3.2-$4.5 million depending on the scenario and management practice used. Completion of control structures at Areas VII, VIII, X, and Truscott Reservoir are anticipated to result in the loss of minor areas of mesquite-juniper uplands (4,417 acres out of 825,000 acres of mesquite-juniper in the Wichita Basin).

Cultural Resources

In accordance with the provisions of the National Historic Preservation Act and 36 CFR 800, the Corps of Engineers has consulted with the Texas Historic Preservation Office, interested Native American tribes, and the interested public regarding potential impacts the proposed project may have on cultural resources. Further identification, evaluation, and treatment of cultural resources that may be affected by the project would occur once the Corps of Engineers has access to the project area. Significant cultural resources impacts are not anticipated for the proposed project.

Threatened and Endangered Species

The U.S. Fish and Wildlife Service identified Federally listed species possibly occurring in the project area and included the whooping crane, bald eagle, and the interior least tern. The Corps of Engineers submitted a Biological Assessment addressing potential impacts of the proposed project on these species to the U.S. Fish and Wildlife Service on May 8, 2001. The U.S. Fish and Wildlife Service issued a response to the Biological Assessment dated July 20, 2001, stating that the project should have no effect on the Federally listed species.

Aquatic Biology

Fish populations of the upper **Wichita River** Basin have been genetically isolated since the early 1920's when Lake Kemp and Lake Diversion were impounded. Therefore, genetic isolation from construction of brine collection dams should not be a significant impact to fish species. With respect to flow alteration impacts, when the combined effects of a brush management program and chloride control are considered, it would be expected that there would be little flow-related effect (adverse or beneficial) on fish communities. Finally,

water quality changes would affect species that are tolerant of higher salinity levels. In habitats of decreased salinity, abundance of salt tolerant species would likely decrease with an increase in less salt tolerant species. Impacts to the salt tolerant community as a result of decreased salinity concentrations would probably not occur over long-term periods of time. Increases in less salt tolerant species in these areas would most likely be limited to short-term pulses resulting from above average rainfall events and associated flow increases. It would be expected that the predicted changes in water quantity and water quality would have little effect on the fish community in the Wichita River downstream from Lake Diversion.

Truscott Brine Lake presently provides additional habitat for salt tolerant species: Red River pupfish, plains killifish, and mosquitofish. In 1995, the salinity was 18,000 mg/l. At salinity concentrations near 100,000 mg/l (planned equilibrium point), the reservoir would continue to provide suitable habitat for the Red River pupfish. However, if salinity concentrations reach or exceed 100,000 mg/l, the long-term survival of this species in Truscott Reservoir could potentially diminish or be eliminated.

Fish populations in the **Red River** from the confluence of the Wichita River downstream to Lake Texoma should not be affected. Flow changes are not anticipated in the Upper Red River. Therefore, it would be expected that the fish population diversity and density in the Red River from the confluence of the Wichita River downstream to Lake Texoma would not be affected.

In **Lake Kemp**, elevations should remain relatively stable during the spawning period and spawning should not be affected. Presently, recruitment of sport fish in Lake Kemp is being adversely affected by the lack of desired littoral zone habitat, and this condition would continue with the implementation of chloride control. Habitat alteration can be implemented to mitigate for habitat loss. This alternative would most likely be implemented on a local level with coordination through the Corps of Engineers. Benefits would be realized through improvements in spawning and recruitment habitat.

High flows associated with spawning striped bass would remain relatively unchanged. Therefore, reduced flows should not be an issue with respect to fish reproduction at **Lake Texoma.**

Terrestrial Resources

Issues identified during scoping include: impacts to wildlife/vegetation species and habitat; potential impacts caused by site location, structures, and construction; and chloride control operational activities. Studies conducted by the University of Oklahoma concluded that chloride control would not have a significant impact on terrestrial vegetation: monitoring of riparian areas would occur to evaluate these potential habitat changes. Terrestrial resources would also be impacted on a temporary basis by the construction of pipelines associated with the proposed project. Pipelines would be constructed to convey collected brines from Area VII and Area X to Truscott Brine Lake. Terrestrial resource losses resulting from construction of the spray fields and Area VII would be a permanent loss of approximately 528 acres consisting primarily of mesquite-juniper grassland.

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Wichita River, Texas

Water Quality

Total dissolved solids in the North and Middle Forks of the **Wichita River** would decrease by 71% and chlorides would decrease by 75%. Total dissolved solids in the South Fork of the Wichita River would decrease by 52%, and chloride concentrations would decrease by 62%. Nitrogen and phosphorous concentrations could increase in the lower Wichita River. The lower Wichita River would potentially receive higher concentrations of pesticides but lower concentrations of herbicides due to expected shifts in farming practices. Operation of brine collection facilities would reduce selenium loading to downstream reaches due to selenium removal and transport to Truscott Brine Lake. To address these changes, a stream water quality monitoring plan has been established for the Wichita River Basin.

Chloride concentrations in **Truscott Brine Lake** have changed as the reservoir received brines from the operation of project components. Chloride concentrations in Truscott Reservoir would be expected to increase with the proposed project until an equilibrium is reached, which is predicted to be less than 100,000 mg/l. Operation of the project would result in transport of selenium, a naturally occurring element, to Truscott Brine Lake. Concentration could increase as a result of evaporation of brine. Natural processes working to remove selenium from the water column in Truscott Brine Lake are significant. Following approximately 11 years of project operation, selenium concentrations are not detectable in Truscott Lake waters. Conservative estimates indicate that the potential exists for selenium concentrations which could impact selenium-sensitive birds, should they breed at the reservoir. Selenium monitoring and an action plan are proposed for evaluation of these potential impacts over the life of the project.

The Wichita River Basin makes up about 14% of the water flow and discharge of chlorides to the **Red River.** Due to the limited volumetric contribution of the Wichita River, a 50% reduction of chloride loading in the Wichita River would only reduce the concentrations of chlorides in the Red River by approximately 7%. Consequently, stream water quality changes from the proposed project in the Red River would be minimal, with reductions of approximately 10%, 5%, and 7.5% for chloride, sulfates, and total dissolved solids, respectively (50% of the time) as calculated at Lake Texoma. At **Lake Texoma**, predicted differences in pre- and post- project turbidities are extremely small and are within the accuracy range and near the limits of resolution of scientific instruments which measure field turbidity. Accordingly, no turbidity-related impacts at Lake Texoma are anticipated.

At **Lake Kemp**, the TNRCC secondary drinking water standard of 300 mg/l chloride would be met approximately 40% of the time. Predicted differences in pre- and post-project turbidities for Lake Kemp are relatively minor for a highly turbid reservoir with tremendous variability in turbidity levels. Salinity changes would probably not have a direct effect on blooms of golden algae in Lake Diversion and the Dundee State Fish Hatchery. However, salinity decreases may favor native algal species.

Water Quantity

Within the upper **Wichita River**, zero flow days would increase slightly in the main stem without brush management. Current conditions on the South Fork, would not be affected because Area VIII is currently in

operation. In the North and Middle Forks, the percentage of zero flow days would increase from 0% under natural conditions to 8.4% under the proposed plan without brush management. However, 8.4% is still less than the frequency of zero flow days in the South Fork (8.8%).

Incorporating disposal of brines from all three collection areas into **Truscott Brine Lake** would result in volumes greater than the original design capacity of the reservoir. For the proposed plan, a final conservation pool elevation of 1502.2 feet NGVD was developed with a spillway elevation of 1505.3 feet NGVD. Maximum pool elevation would be 1510.4 feet NGVD, and the top of the dam could need to be raised to 1514.9 feet NGVD.

The proposed plan is expected to increase water demands on **Lake Kemp** due to improved water quality. Water usage is expected to increase by 61,222 acre-feet/year. The increased water demand on Lake Kemp under the proposed plan would result in wider fluctuations in elevation during certain times of the year. These wider elevation fluctuations should not be interpreted to mean that insufficient storage is available to meet future water demands at Lake Kemp. As the duration data indicates, Lake Kemp would experience lower elevations during dry weather periods (when more water is used) and would recover as wetter periods are experienced. Elevation changes at Lake Kemp may also affect the Dundee State Fish Hatchery at Lake Diversion. The hatchery has a contractual cutoff elevation below which water supply is still available to municipal and industrial entities for a fee. Negotiation of the cutoff point or fees would allow continued operation of the hatchery despite elevation fluctuations due to agricultural, municipal or industrial use..

Water quality improvement at **Lake Texoma** would be minimal; therefore, water demand is anticipated to change only minimally. With increased water use for water supply, there may be changes in lake level fluctuations at Lake Texoma. However, additional water supply storage should not be required as a result of the project. If needed, this storage would be provided by reallocating storage from hydropower to water supply.

Socioeconomics

Some members of the public and resource agencies have expressed concern about the changes in water quality in the Wichita River and its impact on water-based recreation. Based on project differences between the pre- and post-project turbidity, the impact to recreational use and the value of recreation under the with-project condition is below a level that can likely be identified by recreation users. Consequently there should be no discernable impacts at **Lake Kemp** from decreased salt concentrations.

Turbidity studies predict little to no noticeable effect on lake clarity at **Lake Texoma**. There should be little or no impact associated with lake clarity at Lake Texoma.

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Wichita River Only Portion of the Authorized Red River Chloride Control Project
Wichita River, Texas

PUBLIC INVOLVEMENT

Coordination with others is an important aspect in preparation of an environmental impact statement. Input is solicited from the general public, local units of government, and interested agencies.

As part of the National Environmental Policy Act requirements, a Notice of Intent was published in the Federal Register on July 22, 1998 announcing the intent to prepare a Supplement to the 1976 Final Environmental Statement and providing a description of the project. As part of the scoping process, the U.S. Army Corps of Engineers held two public information workshops on December 9 and December 16, 1998. The purpose of the workshops were to inform the public about the beginning of the NEPA scoping process and the upcoming planning investigations on the proposed plan. The public also had the opportunity to provide comments and raise concerns about the project. Key issues raised in the form of verbal and written comments received during the scoping process included:

- The need for potable water. Members of local governments as well as local citizens and ranchers consistently and specifically expressed this concern.
- Support for improvements in Lake Kemp water quality.
- Frustration because of delays in the project and a reduction in the scope of the project to include only the Wichita River Basin rather than the entire the Red River system.
- Desire to further improve agricultural water quality, and, consequently, agricultural yields.
- Desire to protect flows into Lake Texoma and the lake's game fishery.
- Support for community water resources over protection of non-native striped bass population in Lake Texoma.
- Opposition to non-specific environmental impacts voiced by a local environmental group.
- Opposition to stream changes in the Wichita Basin.
- Opposition to any alternatives involving actions in Oklahoma.
- Questions regarding the benefit of basin-wide chloride control as opposed to point-of-use chloride control.
- The viability of the Wichita River Basin as an agricultural water source of sufficient volume compared to the benefit claimed for agriculture.
- Opposition to any alternative that involved a 100% Federal cost share rather than State or local cost sharing.

These issues are consistent with those anticipated at the beginning of the scoping process. Alternatives reflect the issues developed before and during the scoping process.

The Corps of Engineers is very interested in obtaining public input regarding the project. Consequently, the following actions have been/will be taken:

- A notice announcing the availability of the environmental impact statement (Notice of Availability) for review was published in the Federal Register on June 21, 2002. The public and agencies have 45 days from the date the Notice of Availability was published to comment on this document.

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Wichita River Only Portion of the Authorized Red River Chloride Control Project
Wichita River, Texas

- Approximately halfway through the 45-day comment period, three formal public hearings are being held to solicit additional input regarding this document and the proposed plan.
- Several copies of this document have been placed for review in the public libraries at Vernon, Wichita Falls, and Denison, Texas as well as in Durant, Oklahoma.
- A number of related documents along with background information on this supplement have been made available at: http://www.swt.usace.army.mil/library/library.cfm.

All substantive comments received on this draft document will be incorporated and addressed in the Final Supplement Environmental Statement. Comments may be submitted by phone, e-mail, fax, or letter. For further information on this supplement or to submit your comments, please contact:

Mr. Stephen L. Nolen
U.S. Army Engineer District, Tulsa
1645 South 101st East Avenue
Tulsa, OK 74128-4609
Telephone: (918) 669-7660
Email: Stephen.L.Nolen@usace.army.mil

Comments should be submitted by August 5, 2002.

Draft SES Public Meeting Sign-In Sheets

Vernon Mtg 7/22

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
Sign-In/Mailing List

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Name		Address	City/State	Zip	E-mail
Gary Neal		Benjamin Tx			
Tracy Cartwright		105 Collins	Benjamin, Tx	79505	cartwt@srcaccess.net
Emmett Maxey		2829 Oaklawn	Vernon	76384	
Gene Tyra		1814 Main	Vernon	76384	

VERNON Mtg 7/22

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Name		Address	City/State	Zip	E-mail
Dennis Duke		400 N. Hinton	Benjamin TX	79505	DDuke@wesley.net
Curtis Campbell		900 Eighth St. Ste 520 Wichita Falls, TX	WF TX.	76301	CCampbell@rns.dst.tx
Peat Robinson		2924 Sunset Cr. ~~Vernon~~	Vernon TX	76384	peatv@go.com
Jim Murray		2715 Wilbarger St.	Vernon, TX.	76384	jmurray@chipshot.net
Robert Kincaid		Box 848, Crowell, TX	Crowell, TX	79227	—
J.S. (Jim) Wright		3510 Wichita	Vernon TX	76384	RJWRIGHT@CHIPSHOT.COM
Richard Brantley		P.O. Box 709	Shreveport, LA	71162	rrva@msn.com
Kelly Coach		3717 Texas St	Vernon, TX	76384	kcoach@vernoncollege.edu

July 23, 2002 Wichita Falls Mtg

Public Information Workshop
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Name		Address	City/State	Zip	E-mail
Len West		3204 Ave. J	Wichita Falls, TX	76309	
Jim Fry		702 Blackburn	MARLOW, OK	73055	
John Stoher		4600 Taft Blvd	W. Falls	76308	
London Griffith		807 E Ruby	Wichita Co	76302	
Patti Hamilton		Congressman Mac Thornberry 4245 Kemp, Suite 315	W.F., TX	76308	
Don Johnston		2222 SHEPPARD Accs RD	W.F. TX	76306	
James Hawkins		5018 Lakefront	W.F. TX	76310	
Shirley Banks		2074 Seel Rd S	Iowa Park	76367	SBfound2@aol.com
Jimmy Banks		402 E. Scott	Wichita Falls Tx.	76301	
Mark Howell		409 Chester Ave.	Wichita Falls, TX	76301	Mark.Howell@tpwd.state.tx.us

July 23, 2002 Wichita Falls Mtg

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Name		Address	City/State	Zip	E-mail
Jesse Flick		780 Bell Rd S	Iowa Park TX	76367	
Liz Pierce		829 PIUTE TRAIL	W.F. Tx	76310	
TORIN HALSEY			W.F.	08	
James Briley		13687 Hoge Rd	Iowa Park TX	76367	
Glenn Payton		819 Wellington	Wichita Falls	76305	
Duane Pierce		11868 GULF LAKE RD	IOWA PARK	76367	

July 23, 2002 Wichita falls Mtg

Public Information Workshop
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Name		Address	City/State	Zip	E-mail
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James Rozell		6178 Hwy 283 N.	Seymour TX.	76380	
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Gary Cook		2811 9 St.	WF	76301	
Lawrence R Kunz		5000 Rock Point Street	WF TX	76310	
James Pudeker		3326 Bohner Rd	Burk	76354	
Richard Brontuli		P.O. Box 209	Shreveport, LA	71162	
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David Holub		P.O. Box 758	Holliday TX	76301	dtholub@rra.dot.tx.us
Kari Cobb		PO Box 102	Kamay TX	76361	
Joe C. Smith		2402 Ellingham	Wichita Falls,	76308	
Marcia Burns		P.O. Box 1325	WICHITA FALLS	76307	
M. E. Huffman		1 Retta Terrace	Wichita Falls	76309	
Scott Taylor		PO Box 1431	Wichita Falls	76307	staylor@cwftx.net
Michelle Kamm		4200 Taft Blvd Apt. 126	" "	76308	Kammm@wtr.com

Durant, OK July 25, 2002

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
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Name		Address	City/State	Zip	E-mail
Rick Brondell		P.O. Box 709	Shreveport	71162	rrra@msn.com
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Jay Fonville		331 W. Woodard Denison	TX	75020	jfonville@herald-democrat.com
Harriet Eden		P.O. Box 53 Clayton OK 74536			
Shirley Banks		2074 Bell Rd S	Sowa Park	76367	SBfound2@aol.com
Bruce Hysmith		PO. BOX 1446	Pottsboro TX	75076	fisheries@texoma.net

Durant, OK July 25, 2002

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
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Name		Address	City/State	Zip	E-mail
Donna A. W/E Spadden		HC60 Box 218	Clayton OK	74536	
Jimmy Banks		402 E. Scott	Wichita Falls Tx.	76301	

Draft SES Public Meeting Verbal Comments
(Court Reporter Transcript)

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4 WICHITA RIVER ONLY PORTION OF THE RED RIVER
5 CHLORIDE CONTROL PROJECT
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14 PUBLIC MEETING OPEN HOUSE COMMENTS TAKEN:
15
16 ON THE 22ND DAY OF JULY, 2002, at Vernon Middle School, 2200 Yamparika Street, CITY OF VERNON, COUNTY OF WILBARGER,
17 STATE OF TEXAS
18
19 ON THE 23RD DAY OF JULY, 2002, at Barwise Junior High School, 3807 Kemp Blvd., CITY OF WICHITA FALLS, COUNTY OF WICHITA, STATE OF TEXAS
20
21 ON THE 25TH DAY OF JULY, 2002, at Durant High School, 802 West Walnut Street, CITY OF DURANT, COUNTY OF BRYAN, STATE
22 OF OKLAHOMA
23
24
25 ORIGINAL

1 P R O C E E D I N G S

2 (Comments by Mr. Robert Kincaid, P. O. Box 848,
3 Crowell, Texas, 79227, in Vernon, Texas:)

4 MR. KINCAID: Robert Kincaid,
5 K. I. N. C. A. I. D., Post Office Box 848, Crowell, Texas,
6 79227, I think. Okay.

7 I've come and trying to do what I can to support
8 the chloride control project. I serve on Area B Planning
9 for the State. It's situated in -- you know, it's about 11
10 to 15 counties, Wichita Falls being the largest city.

11 I'm thoroughly behind this. We've worked on this
12 thing. We've -- finally, through some of our efforts,
13 maybe I helped a little bit, we -- we got from almost just
14 -- just a passing glance to we have 13 pages dedicated in
15 our final Area B Planning in support of the chloride
16 project. We are in support of it. I think that the -- the
17 Wichita River Authority is definitely in support of it.

18 And there's -- there is physical evidence that
19 this will work very well. As far as taking enough chloride
20 components out of the Wichita River system, the shed to
21 enhance a major water source for the City of Wichita Falls
22 in badly need of extra water, we have visual proof that it
23 works. And we've had that almost since the Truscott Brine
24 Lake and the Weir Dam on the Bateman Ranch were put into
25 operation where it was noticeably all the way down the

1 river that salt content had been diminished by ability of
2 -- even in hot weather -- livestock being able to drink out
3 of the water, the noticeable drop in salt content in lake
4 Kemp, so forth. I think it's -- it was -- it would
5 definitely serve this area if it -- also, if it is seen
6 feasible that the -- in the coming years if we can do the
7 same for the Pease River water shed, reservoir, so forth,
8 that it will even be more beneficial to this -- this area.
9 That's about it.
10 (Comments by Mr. Emmett Maxon, 289 Oaklawn Drive,
11 Vernon, Texas, 76384, in Vernon, Texas:)
12 MR. MAXON: Emmett Maxon, E. M. M. E. T. T.,
13 M. A. X. O. N., 289 Oaklawn Drive, Vernon, 76384.
14 Oh, I'm just concerned that there's too much
15 politics in this whole thing. And it's such a needed
16 project and it's an economic project and it's going to save
17 a lot of lives. And economically it -- it's going to be a
18 lifesaver for the farmers and the ranchers. And we've been
19 fiddling around now since 1957 and have gotten very, very
20 little done. When Congress appropriates money, OMB holds
21 the funds up and will not release them. So Congress says,
22 I did my job, don't blame me.
23 And it's real frustrating because we're -- except
24 for the -- what's been done on the Wichita River in the
25 last year or two -- I've been out of the loop for three or

1 four years so I'm not familiar with it, but apparently,
2 Wichita Falls segmented the Wichita River, which they told
3 us emphatically not to do. And I don't -- I'm not critical
4 of it because I don't know the circumstances. And it may
5 be that's the only alternative they had, but they told us
6 many, many times, keep the project intact, it's the most
7 cost effective water project in the United States. If you
8 segment it, it goes down the tubes.
9 Now, the circumstances may have changed the last
10 five or six years. I don't know. But when I read that in
11 the paper, it upset me more than I wanted it to. And it
12 may be that that's -- that's the way it has to be. I've
13 talked with Senator Graham and he said the project is one
14 hundred percent political. Senator Bentsen says, I'll do
15 what I can and he did a great deal, got money, and got an
16 agreement, and the federal government, OMB, is holding up
17 the funds, and the federal government is not doing what
18 they said they would do.
19 The legislation, as I understand it, said if you
20 -- initially it was a cost share agreement and we don't
21 have the money to do that. Senator Bentsen got new
22 legislation and basically what it said is, if you, Texas,
23 clear up the man-made pollution, i.e. oil field waste, at
24 your expense, we will build a chloride project at federal
25 expense. We spent over a hundred -- I think 123 million

1 dollars to clean up the oil field waste, and the federal
2 government has done squat. They said they would do it, but
3 they didn't say when. So I guess that's -- and the thing
4 that is so abrasive to me is that they can do what they
5 cotton-pickin' well please and we can't take them to court.
6 But if we don't do what we say we're going to do, they take
7 us to court.
8 And my wife says I talk too much and I make
9 people mad and they quit listening. And I'm sorry. But
10 it's so frustrating to have this program, which I think was
11 started in 1957, still hanging by a thread. We were told
12 by Red River Authority that it's the most cost effective
13 water project in the United States. Ratio of one to 1.81.
14 That means for every dollar you spend on the project, you
15 get $1.81 back. This project will clear up, make available
16 for commercial agriculture and home use, 1.74 billion
17 gallons of water a day that as of right now kill anything
18 you try to use it on. You can't -- you can't use it for
19 farming. You can't use it for commercial. You can't use
20 it for home use or anything else because its too salty.
21 And that's a lot of water to go to waste in my opinion.
22 And Oklahoma is opposed to it because of Lake
23 Texhoma and the striped bass fishing although they signed
24 an agreement with it agreeing to the project knowing full
25 well what it potentially could do to the striped bass

1 fishing. They implanted the striped bass before -- before
2 we started work on this project. And now it's sizeable
3 economic benefit for the fishing guides and -- and they
4 argue that it's a constant-level lake and if you start
5 draining it for other stuff you'll -- it'll be fluctuating
6 and you'll lose the eggs when they spawn and all of this.
7 Well, I think there are enough people that will buy those
8 dam striped bass and put it back in the lake and let them
9 do it.
10 But here again, I'm trying not to be sarcastic
11 and negative and every -- but I just don't understand why
12 the federal government doesn't do what it says it's going
13 to do and they make us do what we say we're going to do.
14 Doesn't exactly seem fair to me. And I've talked too much
15 and I apologize but, I'm finished.
16 (Comments by Mr. Gary Cook, 211 Ninth Street,
17 Wichita Falls, Texas, 76301, in Wichita Falls, Texas:)
18 MR. COOK: I'm Gary Cook. I live in Wichita
19 Falls at 211 Ninth Street, Wichita Falls, Texas. My
20 involvement on the chloride control project goes back to
21 early nineteen-eighties when I served as mayor of Wichita
22 Falls from 1982 to 1986 and worked with Secretary Dawson to
23 actually get the chloride control project authorized in
24 1986. The project as far as the benefit for Wichita Falls'
25 citizens and North Texas is substantial in taking care of

1 future water needs. We felt that after it was authorized
2 in the late eighties and the benefits that it was going to
3 derive that the appropriations would continue and
4 construction would follow.
5 Unfortunately, we as local residents did not stay
6 involved, did not keep the authorization -- or excuse me --
7 the appropriations in line, and it's my understanding the
8 Fish and Wildlife Game people lobbied for the suspension of
9 the project for the reason of support fishing.
10 Our drought two years ago I think brought back
11 the focus that the importance of the potable water in North
12 Texas, is we need to be vigilant making sure that we try to
13 get this project constructed. So I'm certainly very
14 supportive of it. We need the appropriations and the
15 construction as soon as possible because we're still
16 looking at 15, 20-plus years before the lakes could clear
17 to become usable for large metropolitan areas, not only
18 Wichita Falls but Dallas/Fort Worth with the benefit to
19 Lake Texhoma.
20 (Comments by Mr. Glenn Payton, 819 Wellington,
21 Wichita Falls, Texas, 76306, in Wichita Falls, Texas:)
22 MR. PAYTON: The first thing that I have comments
23 on was the salinem, which I had prostrate cancer and I take
24 salinem, which I know it might be dangerous to some
25 species, but I don't see really a concern on the salinem

1 because it's naturally occurring. I mean because if we
2 bring it in and, you know, dropping it off or disposing of
3 it because it wasn't occurring, I think -- I think that
4 it's kindly -- it's already occurring so aren't really
5 changing anything. We might be concentrating only in one
6 area but that's not really -- we didn't do anything
7 different from the -- from naturally occurring salinem.
8 I guess the second thing that I am concerned
9 about is the quality of the salt. There have been a lot of
10 comments about how the salt is bad and everything else, but
11 it's strange to me that the EPA is telling the Railroad
12 Commission and everybody else that they've got to clean up
13 the oil wells and if they spill any, they have to clean up
14 the salt water and everything else. And we have an
15 opportunity to clean up the salt. And then -- and then
16 there's other people saying it's going to mess up the fish,
17 and if they want to -- if they want the salt there's plenty
18 of oil wells that are leaking enough that there's probably
19 enough salt leeching out in the soil right now that
20 probably what we take out is not going to be affected
21 whatsoever.
22 The other -- some other comments that I'd like to
23 comment about was the -- the quality of the water, what I
24 do with the water. And I raise shade trees. And I have to
25 flood irrigate them because the salt is so salty that if I

1 spray the leaves on the trees it would kill them. And with
2 better quality of water, there's two -- there's probably
3 more than just one thing could be done with it. It could
4 be drinkable, which we need drinking water. The second
5 thing is, we can probably use it for other stuff besides
6 pasture land and coastal trees; we might can raise
7 vegetables with it, 'cause when we can get good quality
8 water you can raise other types of food besides fiber and
9 cattle, which is food and everything.
10 And oh, I guess the other thing that I'm kind of
11 concerned about is the -- the striped fish and everything
12 like that. I'm not sure that striped fish -- I think
13 that's a hybrid. I'm not familiar with it, but if we
14 bring something in and then -- and then they become, you
15 know, adapted to this area, I mean, we have to go back to
16 the original concept that they weren't there at the
17 beginning, you know. And so -- the fish are important. I'm
18 not saying that I don't like fish 'cause I eat fish quite a
19 bit, but the same token is that we need to take care of our
20 own -- our own environment and our own people by drinking
21 water. And -- and I think that's a very important thing to
22 realize that drinking water is more a necessity than --
23 than just -- 'cause you have to have water to live.
24 Probably on the -- the funding and stuff like
25 that, I think that with more better quality of water, I

1 think it also would increase the value of property, that a
2 lot of people don't realize that, you know, with the salt
3 and stuff, there is -- that we are polluting the soil that
4 could be used for other purposes besides salted-out ground.
5 The quality of water I still say is very, very important
6 because it's going to be for drinking water, used for
7 cattle, everything from -- you know, for drinking to cattle
8 water and water and vegetables and stuff like that.
9 What else do I need to say? I am for the -- I am
10 for the project if you don't realize that. And if -- if
11 they would like a comment from me or that like to contact
12 me, I would be happy to talk to anybody that would like to
13 talk to me, pros or -- I guess that's -- that's all.
14 My address is 819 Wellington, Wichita Falls,
15 76305. My phone number is 940-855-4455.
16 (No comments were made during the Public Meeting
17 at Durant High School, Durant, Oklahoma, on the 25th day of
18 July, 2002)
19
20
21
22
23
24
25

1 STATE OF TEXAS)
2) SS.
3 COUNTY OF WICHITA)
4 I, MARY A. CANTRELL, CSR, RPR, Certified
5 Shorthand Reporter in Wichita County, State of Texas, do
6 hereby certify that the deposition proceedings were
7 transcribed as a true and correct transcription of my
8 original stenographic notes.
9 I FURTHER CERTIFY THAT I am neither attorney or
10 counsel for, nor related to or employed by any of the
11 parties to the action; and furthermore, that I am not a
12 relative or employee of any attorney or counsel employed by
13 the parties hereto or financially interested in the action.
14 IN WITNESS WHEREOF, I have hereunto set my hand
15 this the 29th day of July, 2002.
16
17 Mary A. Cantrell
18 MARY A. CANTRELL, CSR, RPR
Certified Shorthand Reporter
19 within and for the State of Texas
Certification Number: 5083
20 Date of Expiration: 12/31/03
21
22
23
24
25

PUBLIC COMMENTS TO DRAFT SES

Red River Authority of Texas

Nathan J. (Jim) Bell, IV • President, Paris
Cliff A. Skiles, Jr., DVM • Vice President, Hereford
Carol C. Gunn, Ph.D., Secretary • Wichita Falls
William K. (Bill) Daniel, Assistant Secretary • Wichita Falls
George W. Arrington • Canadian
Lisa C. Brent • Amarillo
Janie Matteson • DeKalb
Patricia C. Peale • Lake Kiowa
W.F. (Bill) Smith, Jr. • Quanah

RONALD J. GLENN, General Manager
SHARON A. FAVER, Executive Assistant
CURTIS W. CAMPBELL, Asst. General Manager
JAMES D. HAWKINS, Controller

September 20, 2002

Mr. Stephen Nolen
U.S. Army Corps of Engineers
Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Wichita River Basin Portion of the Chloride Control Project

Dear Mr. Nolen:

The Board of Directors of Red River Authority of Texas met together in a regularly scheduled meeting on Wednesday, September 18, 2002. After discussion of the Wichita River Basin portion of the Red River Chloride Control Project, the Board unanimously agreed to continue full support for the completion of the project.

A copy of the Resolution passed by the Board Members is enclosed for your review and file. It is my hope that you received several letters and resolutions in support of the project.

We look forward to the possibility of visiting with you at the Water Resource Conference to be held on October 11, 2002 in Wichita Falls, Texas jointly sponsored by the Red River Valley Association and Red River Authority of Texas.

Sincerely,

RED RIVER AUTHORITY OF TEXAS

Sharon A. Faver

Sharon A. Faver
Executive Assistant

Enclosure

copy: Rich Brontoli, Red River Valley Association

Hamilton Building, Suite 520 • 900 8th Street • Wichita Falls, Texas 76301-6894
Telephone: (940) 723-8697 **E-Mail:** info@rra.dst.tx.us **Fax:** (940) 723-8531

RED RIVER AUTHORITY OF TEXAS

RESOLUTION

STATE OF TEXAS §

COUNTY OF WICHITA §

A RESOLUTION OF THE Board of Directors of the Red River Authority of Texas directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the Board of Directors of Red River Authority of Texas hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the 18th day of September, 2002.

President

Secretary

Pl Nolen

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Post Office Box 649
Albuquerque, New Mexico 87103

IN REPLY REFER TO:

August 5, 2002

ER 02/588

Larry D. Hogue, P.E.
Chief, Planning Environmental and
Regulatory Division
U.S. Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Hogue:

This is in reference to our telephone conversation today to discuss the Draft Supplement to the Final Environmental Impact Statement for the Authorized Red River Chloride Control Project, Wichita River Only Portion. As we discussed, this Office received correspondence from the U.S. Army Corps of Engineers with two different dates for which you requested comments from the U.S. Department of the Interior. This resulted in confusion and, as the result, we provided you a "no comment" response on August 2, 2002; unfortunately, this response did not reflect the views of all of the Bureaus within the Department of the Interior and, in this regard, we again ask that you please disregard this letter.

Also, as we discussed, we ask for an extension of time in order that we may provide you a consolidated Department of the Interior letter on the subject document that reflects the views of all our Bureaus from their areas of jurisdiction and/or special expertise. You should expect to receive this letter on or before August 26, 2002.

Thank you for your consideration. If you need additional information or have questions, please feel free to telephone us at (505) 766-3565.

Sincerely,

Glenn Sekavec

Glenn B. Sekavec
Regional Environmental Officer

Congress of the United States

Washington, DC 20515

March 22, 2002

The Honorable Sonny Callahan, Chairman
U.S. House of Representatives
Appropriations Subcommittee on Energy and Water Development
2362 Rayburn HOB
Washington, D.C. 20515-6021

Dear Chairman Callahan,

We are writing in support of an important Army Corps of Engineers project that is finally nearing its construction phase after a period of review. We respectfully request that $2 million be appropriated to the Wichita River Basin chloride control project.

As you know, the Corps began a reevaluation of the Wichita River Basin project in 1998. This reevaluation is rapidly nearing completion, and the Corps states in its Fiscal Year 2003 fact sheet that $2 million could be used in the coming year to initiate the final design plans and specifications for the construction phase of the project.

The project's goal is somewhat different from the Corps' basic mission, in that it is a water quality operation. The Corps undertook this project years ago as part of the federal government's effort to manage the nation's flood-plains and provide nearby communities with better, more abundant water for municipal, industrial and agricultural use.

The chloride control activities in the Wichita River Basin would not only provide area towns and cities with vitally needed water supplies, but it would enhance the water quality of the entire Red River system, well downstream into Arkansas and Louisiana. Please feel free to contact either one of us or Trey Bahm in Congressman Thornberry's office at x67072 with any questions.

Once again, we respectfully ask for your inclusion of this construction funding in the Fiscal Year 2003 Energy and Water Appropriations Act.

Sincerely,

Mac Thornberry
Member of Congress

Jim McCrery
Member of Congress

Max Sandlin
Member of Congress

Mike Ross
Member of Congress

PRINTED ON RECYCLED PAPER

RESOLUTION
BY THE
BOARD OF DIRECTORS OF
WICHITA COUNTY WATER IMPROVEMENT DISTRICT # 2

A RESOLUTION of the Wichita County Water Improvement District # 2 directing the U. S. Army Corps of Engineers to continue the development and complete construction of the Wichita River Basin Chloride Project as planned and authorized by Congress.

WHEREAS, the Chloride Control Project for the Red River Basin was initiated in 1957 and subsequently authorized by the Flood Control Act of 1966 (PL 89-789), the Flood Control Act of 1970 (PL 91-611), the Water Resources Development Act of 1974 (PL 93- 251) and the Water Resources Development Act of 1986 (PL 662) which authorized 100 % federal funding to complete the remaining Chloride Control Projects; and

WHEREAS, the U. S. Army Corps of Engineers has repeatedly represented the project to be technically and economically feasible and proposes no known adverse impacts to the environment or the ecosystems; and

WHEREAS, the U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department have opposed the completion of the Chloride Control Project due to their own unsubstantiated allegations of potential harm to the environment, unless mitigation demands are met for the entities behalf; and

WHEREAS, the Wichita County Water Improvement District # 2 is an eighty year old entity that has worked for over forty years to secure a desirable quality of water for all citizens of the Red River Valley; and

THEREFORE BE IT RESOLVED by the Board of Directors of Wichita County Water Improvement District # 2 that the U. S. Army Corps of Engineers be directed to progress without further delays to complete the Wichita River Basin portion of the Red River Chloride Control Project as currently planned in order that our citizens can depend on a safe, useable quality of water.

PASSED AND APPROVED, this, the 9th day of October, 2001

John Staber

John Staber, Vice-President

ATTEST:

Jesse Flick

Jesse Flick, Secretary

Red River Authority of Texas

Nathan J. (Jim) Bell, IV • President, Paris
Cliff A. Skiles, Jr., DVM • Vice President, Hereford
Carol C. Gunn, Ph.D., Secretary • Wichita Falls
William K. (Bill) Daniel, Assistant Secretary • Wichita Falls
George W. Arrington • Canadian
Lisa C. Brent • Amarillo
Janie Matteson • DeKalb
Patricia C. Peale • Lake Kiowa
W.F. (Bill) Smith, Jr. • Quanah

RONALD J. GLENN, General Manager
SHARON A. FAVER, Executive Assistant
CURTIS W. CAMPBELL, Asst. General Manager
JAMES D. HAWKINS, Controller

September 4, 2002

Mr. Stephen L. Nolen
Chief, Environmental Analysis and Compliance Branch
U.S. Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Additional Letters of Support for the Wichita River Basin Chloride Control Project

Dear Mr. Nolen:

Enclosed are copies of several comment sheets we have received at Red River Authority of Texas conveying their support of the continuation of the Wichita River Basin Chloride Control Project. The names of those with favorable comments include Michael A. Isbell (NRCS), Wayne Kuse (City of Sherman), Charles Morton (Wichita SWCD #538), Randy Rush (U.S. EPA), Wilson Scaling (Clay County Commissioner), and Pat Yarmoski (private citizen). Resolutions included are from the Board of Directors of Red River Authority of Texas and the Board of Directors of Wichita County Water Improvement District #2. Also enclosed is a letter of support from four members of Congress including Mac Thornberry, Jim McCrery, Max Sandlin, and Mike Ross.

The Authority has received copies of letters of support and/or resolutions from the following: Archer County Municipal Utility District #1, Rich Brontoli (RRVA), William B. Brooks, City of Byers (Clay County), Texas Senator Craig Estes, Clay County Commissioner's Court, Texas Representative David Farabee, Sharon A. Faver, Wichita County Judge Woodrow W. Gossom, Jr., City of Henrietta (Clay County), City of Iowa Park (Wichita County), Joe L. Johnson, Jr., City of Nocona (Montague County), City of Quanah (Hardeman County), Texas Water Development Board, and the City of Vernon (Wilbarger County). Please advise if you have not received some of these and I will forward you a copy.

If you have any questions or need additional assistance, please do not hesitate to contact me.

Sincerely,

RED RIVER AUTHORITY OF TEXAS

Sharon A. Faver

Sharon A. Faver
Executive Assistant

copy: Rich Brontoli – Red River Valley Association

Enclosures

Hamilton Building, Suite 520 • 900 8th Street • Wichita Falls, Texas 76301-6894
Telephone: (940) 723-8697 **E-Mail:** info@rra.dst.tx.us **Fax:** (940) 723-8531

BASIN ADVISORY COMMITTEES
RED RIVER BASIN
THE RADISSON HOTEL – WICHITA FALLS, TEXAS
THURSDAY, MAY 30, 2002

COMMENTS

The Clean Rivers Program guidance, as approved by the Texas Natural Resource Conservation Commission, requires that Basin Advisory Committee Meetings are held to receive comments regarding the Texas Clean Rivers Program. Please take a moment to give us your comments.

Do you feel that the Basin Highlights Report adequately provided you with an informative update of your area of the State? ☒ Yes ☐ No Please provide your comments on the report:

After review and discussion of the Coordinated Monitoring Schedule, do you have any suggestions to enhance the program and stay within the CRP budget? ☒ Yes ☒ No

Inland sources besides springs are chlorides (areas where vegetation has been loss).

Do you have any comments regarding nonpoint source initiatives? ☒ Yes ☐ No

Chloride Control Project? ☒ Yes ☐ No

Convince EPA ~~area~~ chlorides pollutant. Go back closer to the source (Not just springs). Bring the oil field industry under control on pollution with chlorides + control existing sources so the (over)

State's Well Plugging Initiative? ☒ Yes ☐ No

We do not need to bankrupt our independent oil producers but these wells need to all be plugged. This would alleviate part of the source of chlorides that destroy the (2 over)

Noxious Brush Management? ☒ Yes ☐ No

Support the statewide brush management program that currently exist + encourage legislators to continue to fund the program. Watershed above Lake Arrowhead is currently being studied. (3

Name: Michael A. Ispell DC-Wichita, Archer, Clay Co. Date: 5-30-02

BASIN ADVISORY COMMITTEES
RED RIVER BASIN
THE RADISSON HOTEL – WICHITA FALLS, TEXAS
THURSDAY, MAY 30, 2002

COMMENTS

The Clean Rivers Program guidance, as approved by the Texas Natural Resource Conservation Commission, requires that Basin Advisory Committee Meetings are held to receive comments regarding the Texas Clean Rivers Program. Please take a moment to give us your comments.

Do you feel that the Basin Highlights Report adequately provided you with an informative update of your area of the State? ☒ Yes ☐ No Please provide your comments on the report:

Excellent vehicle for communicating with basin stakeholders. Please continue these efforts.

After review and discussion of the Coordinated Monitoring Schedule, do you have any suggestions to enhance the program and stay within the CRP budget? ☒ Yes ☐ No

As monitoring costs and regulatory requirements continue to spiral upward, it will become increasingly important to expand the number of participants in the monitoring effort. Please continue your efforts at involving more of us.

Do you have any comments regarding nonpoint source initiatives? ☐ Yes ☒ No
Chloride Control Project? ☐ Yes ☒ No

Interesting approach to TMDL assessment

Good update on chloride control project.

State's Well Plugging Initiative? ☐ Yes ☒ No

Informative.

Noxious Brush Management? ☒ Yes ☐ No

Sounds like a good program.

Name: Wayne Kuse, City of Sherman Date: 30 May 02

BASIN ADVISORY COMMITTEES
RED RIVER BASIN
THE RADISSON HOTEL – WICHITA FALLS, TEXAS
THURSDAY, MAY 30, 2002

COMMENTS

The Clean Rivers Program guidance, as approved by the Texas Natural Resource Conservation Commission, requires that Basin Advisory Committee Meetings are held to receive comments regarding the Texas Clean Rivers Program. Please take a moment to give us your comments.

Do you feel that the Basin Highlights Report adequately provided you with an informative update of your area of the State? ☑ Yes ☐ No Please provide your comments on the report:

After review and discussion of the Coordinated Monitoring Schedule, do you have any suggestions to enhance the program and stay within the CRP budget? ☐ Yes ☒ No

Do you have any comments regarding nonpoint source initiatives? ☐ Yes ☒ No
Chloride Control Project? ☐ Yes ☒ No

This program seems to be achieving favorable results, and has improved plant production.

State's Well Plugging Initiative? ☐ Yes ☒ No

Noxious Brush Management? ☒ Yes ☐ No

I would suggest cooperation/information exchange with the USDA; NRCS & SWCD. Our office is very involved in brush and Nutrient management practices. We are very familiar with the Wichita County area (over)

Name: [illegible], Wichita SWCD #538 Date: 5/30/02

BASIN ADVISORY COMMITTEES
RED RIVER BASIN
THE RADISSON HOTEL – WICHITA FALLS, TEXAS
THURSDAY, MAY 30, 2002

COMMENTS

The Clean Rivers Program guidance, as approved by the Texas Natural Resource Conservation Commission, requires that Basin Advisory Committee Meetings are held to receive comments regarding the Texas Clean Rivers Program. Please take a moment to give us your comments.

Do you feel that the Basin Highlights Report adequately provided you with an informative update of your area of the State? ☒ Yes ☐ No Please provide your comments on the report:

After review and discussion of the Coordinated Monitoring Schedule, do you have any suggestions to enhance the program and stay within the CRP budget? ☐ Yes ☒ No

Just curious about border coordination efforts with Oklahoma?

Do you have any comments regarding nonpoint source initiatives? ☒ Yes ☐ No

Great coverage on All topics

Really appreciate Ron Glenn's focus on partnerships & watersheds.

Chloride Control Project? ☒ Yes ☐ No

what about reverse osmosis to make water usable for biological or human consumption rather than wait for evaporation,

State's Well Plugging Initiative? ☒ Yes ☐ No

Noxious Brush Management? ☐ Yes ☐ No

Name: Randy Rush

Date: 5/30/02

BASIN ADVISORY COMMITTEES
RED RIVER BASIN
THE RADISSON HOTEL – WICHITA FALLS, TEXAS
THURSDAY, MAY 30, 2002

COMMENTS

The Clean Rivers Program guidance, as approved by the Texas Natural Resource Conservation Commission, requires that Basin Advisory Committee Meetings are held to receive comments regarding the Texas Clean Rivers Program. Please take a moment to give us your comments.

Do you feel that the Basin Highlights Report adequately provided you with an informative update of your area of the State? ☑ Yes ☐ No Please provide your comments on the report:

After review and discussion of the Coordinated Monitoring Schedule, do you have any suggestions to enhance the program and stay within the CRP budget? ☑ Yes ☐ No

– Keep it Simple & Based on Sound Science –

Do you have any comments regarding nonpoint source initiatives? ☑ Yes ☐ No
Chloride Control Project? ☑ Yes ☐ No

Non Point – Be Sure Samples are Accurate & Non Biased
Same As Above – Simple & Sound Science –
Chloride Project – Finish Project – No More Studies –

State's Well Plugging Initiative? ☐ Yes ☐ No

It's Time to finish the job –
Keep Surface Owner informed of Project –
– Treat All Operators Equal –

Noxious Brush Management? ☑ Yes ☐ No

It will work to improved Quality & Quantity –

Name: Wilson Scarborough Date: 5/30/02

BASIN ADVISORY COMMITTEES
RED RIVER BASIN
THE RADISSON HOTEL – WICHITA FALLS, TEXAS
THURSDAY, MAY 30, 2002

COMMENTS

The Clean Rivers Program guidance, as approved by the Texas Natural Resource Conservation Commission, requires that Basin Advisory Committee Meetings are held to receive comments regarding the Texas Clean Rivers Program. Please take a moment to give us your comments.

Do you feel that the Basin Highlights Report adequately provided you with an informative update of your area of the State? ☑ Yes ☐ No Please provide your comments on the report:

After review and discussion of the Coordinated Monitoring Schedule, do you have any suggestions to enhance the program and stay within the CRP budget? ☐ Yes ☑ No

Do you have any comments regarding nonpoint source initiatives? ☐ Yes ☑ No

Chloride Control Project? ☐ Yes ☑ No

Chloride Control Project could be a source of salt for cities using an Ion Exchange Method of processing water for municipal water systems

State's Well Plugging Initiative? ☐ Yes ☑ No

Noxious Brush Management? ☐ Yes ☑ No

Name: PAT YARNOSKI

Date: 05/30/02

RESOLUTION

STATE OF TEXAS §

COUNTY OF WICHITA §

A RESOLUTION of the Board of Directors of the Red River Authority of Texas directing the Assistant Secretary of the Army for Civil Works and the U.S. Army Corps of Engineers to proceed with the construction of Wichita River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and order a release of the Supplemental to the Final Environmental Impact Statement for public review and comment without further delays proposed by the natural resource agencies, and

WHEREAS, a suitable quality of water is essential and a need has been demonstrated to sustain our present and future way of life and insure positive economic growth of our communities; and

WHEREAS, the reclamation of the Lakes Kemp, Diversion and Texoma are a viable solution to meet the future water resource and economic development needs for the entire region of the Wichita and Red River Basins; and

WHEREAS, no scientific evidence has been presented to conclude that the Chloride Control Project will cause harmful or adverse damage to the environment or its ecosystem beyond that which has already been mitigated, and

WHEREAS, the U.S. Army Corps of Engineers has provided their professional assurance that should an adverse impact develop during the life of the Chloride Control Project, the Corps will by all legitimate means develop an alternate plan to prevent any pernicious impact to the environment or ecosystem from occurring, and

WHEREAS, the Red River Authority of Texas, as designated Local Cooperating Sponsor for the Chloride Control Project, also represents that the project is technically and economically feasible, and that it currently proposes no known adverse impacts to the environment or the ecosystems.

NOW THEREFORE BE IT RESOLVED that the Board of Directors hereby pledges its continued support of the Chloride Control Project which is believed to reclaim the waters of the Wichita River, Red River and their tributaries as a useful natural resource for all beneficial purposes of the people within the four state region of Texas, Oklahoma, Arkansas, and Louisiana.

PASSED AND UNANIMOUSLY APPROVED this the 19th day of September, 2001.

Nathan J. (Jim) Bell, IV, President

ATTEST:

Carol C. Gunn, Ph.D., Secretary

August 20, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed is a Resolution from the City Council of the City of Nocona, Texas indicating our full support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water as well as adequate supply are key issues that directly impact the growth and stability of our community. Without it we may be faced with a grievous situation in just a few years.

The City is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U. S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be a tremendous benefit to our city and its growth. The project has been delayed for far too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely,

Paul S. Gibbs
Mayor

copy: Red River Authority of Texas
Senator
Representative

RESOLUTION #509

CITY/COUNTY OF Montague §

STATE OF TEXAS §

A RESOLUTION OF THE City of Nocona directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the City of Nocona hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the 20th day of August, 2002.

P. Hill

Mayor/~~Judge/General Manager~~

ATTEST:

Revell Hardison

City Secretary/etc.

WOODROW W. "WOODY" GOSSOM, JR.
COUNTY JUDGE
Wichita County Courthouse, 900 7th Street, Room 202
Wichita Falls, Texas 76301
Phone: (940) 766-8101 Fax: (940) 766-8289
county.judge@co.wichita.tx.us

August 22, 2002

Mr. Stephen Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, OK 7128-4609

Subject: Wichita River Basin Chloride Control Project

Dear Mr. Nolen:

The Wichita River Basin Chloride Control Project has undergone productive years of study while scientific advancement has significantly increased the feasibility of this project. From the published information, the project has now overcome cost ratio considerations and has addressed other ecological issues to the satisfaction of most.

I strongly urge the adoption and implementation of this project. Its agricultural, recreational, wildlife enhancement, socioeconomic, and overall quality of life and water issues are significantly favorable.

Sincerely,

Woodrow W. Gossom, Jr.
County Judge

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I am in favor of completing the Chloride Control Project on the Wichita River to improve the water quality. I am a land owner in the Wichita Water Irrigation District. I also serve on the board for the Wichita Water Improvement District II.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: Bobby G Rowland

Address: 2140 Horseshoe Lake Road

City: Iowa Park State: Texas Zip Code: 76367

E-mail: bobby@rowland-donnell.com

Thank you for your time!

Date August 13, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed is a Resolution from the City Council of the City of Byers indicating our full support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water as well as adequate supply are key issues that directly impact the growth and stability of our community. Without it we may be faced with a grievous situation in just a few years.

The City is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U. S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be a tremendous benefit to our city and its growth. The project has been delayed for far too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely, W. A. Landrum

W. A. LANDRUM, Mayor
City of Byers, Texas

copy: Red River Authority of Texas

THE CITY OF BYERS
P.O. BOX 265
BYERS, TX 76357
940-529-6149

RESOLUTION 8802-3

CITY/COUNTY OF BYERS/CLAY §

STATE OF TEXAS §

A RESOLUTION OF THE CITY OF BYERS, CLAY COUNTY directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the CITY OF BYERS hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the 8th day of August, 2002.

W. A. Landrum

Mayor/Judge/General Manager

ATTEST:

Michael Nelms

City Secretary/etc.

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I am in favor of completing the Chloride Control Project on the Wichita River to improve the water. I am a land owner in the Wichita Irrigation District. The land would be a lot more productive if this was completed. Thank.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: BILL J. ROWLAND

Address: 4422 TOBAGO

City: WICHITA FALLS State: TEXAS Zip Code: 76308

E-mail:

Thank you for your time!

Arkansas Red River Commission
305 E. 5th Street – Suite 800
Texarkana, AR 71854

ARRC

Phone: (870) 774-4413
Fax: (870) 774-7604
e-mail: ARKANSASRRC@aol.com

August 12, 2002

U.S. Army Corps of Engineers - Tulsa District
Mr. Stephen L. Nolen
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Wichita River Basin Reevaluation Report

Dear Mr. Nolen:

This is in regards to the reevaluation study for the Chloride Control Project Wichita River phase. Agriculture is a primary industry in our area and the growing of crops requires large amounts of quality water for irrigation. The Red River is a great source of water, but, the quality is not good due to the high content of chloride.

Using surface water for irrigation rather than ground water is certainly the best option; however, the main growing months of June, July and August, are also the driest months of the year and is when chloride levels are at their highest. Constant testing of the water for chloride is necessary to make sure the soil is not contaminated by excessive chloride content.

We certainly support the continuation of the environmental monitoring plan to ensure the ecosystem does not experience disruptive changes. Reducing chloride and improving water quality would be a great benefit to our region and would increase irrigation in the Red River Valley. We must reduce our dependence on ground water for agriculture purposes. The Red River could become the water source we need; although at present, due to chloride, it cannot be used to its full potential. We are in full support of the efforts of the Corps of Engineers and this project.

We appreciate the opportunity to comment on this project.

Sincerely,

Bob Tullos
Executive Director

Office of the Mayor

BOSSIER CITY, LOUISIANA

GEORGE DEMENT
MAYOR

620 BENTON ROAD
POST OFFICE BOX 5337
BOSSIER CITY, LA 71171-5337
(318) 741-8501

August 12, 2002

U.S. Army Corps of Engineer
Tulsa District
Attn: Mr. Stephen L. Nolen
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Re: Wichita River Basin Reevaluation Report

Dear Mr. Nolen:

I wish to comment on the reevaluation study for the Chloride Control Project, Wichita River Phase. Bossier City, Louisiana, with a population of almost 60,000, obtains 100% of its municipal water from the Red River. We are in full support of this project and the benefits Bossier City would realize from it.

Water quality is a key issue that impacts the operation of our water treatment facility. Not only will reduced chlorides make treatment easier, but also less expensive. In these times of great demands on our City budget any reduced expense is welcomed.

We are in full support of continuation of the environmental monitoring plan to ensure the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor so that the project operates as designed and according to studies that have been conducted.

Reducing the chlorides and increasing water quality would be of great benefit to Bossier City and we enthusiastically support the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this important subject.

Sincerely,

George Dement
Mayor

SAF
102 Shoreline Drive
Lakeside City, Texas 76308-5801

Mr. Stephen Nolen
U.S. Army Corps of Engineers
Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Wichita River Basin Portion of the Chloride Control Project

Dear Mr. Nolen:

It is my understanding that the Reevaluation Study and the Supplement to the Environmental Impact Statement have both been completed and that they have proven once again that the Chloride Control Project will not be harmful to the environment. Therefore, let's get the ball rolling forward. The Corps has spent millions of dollars in the last few years at the whim of the U.S. Fish and Wildlife and other natural resource agencies to prove that it will not devastate the ecosystem. The project could have already been completed with the time and money wasted on these over-zealous environmental groups.

I am very proud to be a fifth generation Texan, and most of my ancestors have lived in this part of North Texas, therefore, I only want what is best for my beloved state and its environment. I have also been an avid supporter of the Chloride Control Project since 1988 and would like to see it completed before my lifetime is over.

I hereby pledge my continued support of the Chloride Control Project to its full completion, and will persistently work toward that end. If there is anything that I can do personally, please feel free to call on me.

Sincerely,

Sharon A. Faver

Sharon A. Faver

copy: Congressman Mac Thornberry
Senator Kay Bailey Hutchison
Senator Phil Gramm

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

August 12, 2002

Mr. Stephen L. Nolan
Project Manager
Tulsa District
U.S. Army Corps of Engineers
Tulsa, OK 74128

Dear Mr. Nolan:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality Regulations (CEQ) for Implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Supplement Information to the Final Environmental Impact Statement (DSEIS) for the Red River Authorized Red River Chloride Control Project Wichita River Only Portion. The supplement was prepared to address project design changes.

EPA has no further comments to offer. We appreciate the opportunity to review the supplemental information.

Sincerely yours,

Michael P. Jansky, P.E.
Regional EIS Coordinator

Oklahoma Historical Society *Founded May 27, 1893*

State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441
Telephone 405/521-6249 • Fax 405/947-2918

August 9, 2002

Mr. Larry Hogue
Chief of Operations, CESWT-OD
Tulsa District Corps of Engineers
1645 South 101 East Avenue
Tulsa, OK 74128-4609

RE: File #2064-02; Red River Chloride Control Project, Wichita River Drainage Basin, Texas

Dear Mr. Hogue:

We have reviewed documentation provided on the above project. It appears that all ground modifying actions occur within Texas, consequently there is little, if any anticipated impact to historic resources in Oklahoma. Environmental impacts for Oklahoma relate to water quality and fish and wildlife issues along the Red River in Oklahoma (Reaches 5 & 6) and Lake Texoma. Consequently, we have no comment on this project.

If you have any questions, please call me at 405/521-6381. Thank you.

Sincerely,

Charles S. Wallis Jr

Charles Wallis, RPA
Historical Archaeologist

CW:pm

CADDO/BOSSIER PORT COMMISSION

P.O. BOX 52071 ~ SHREVEPORT, LOUISIANA 71135-2071

(318) 524-2272 ~ FAX (318) 524-2273

August 9, 2002

U.S. Army Corps of Engineer District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Ave.
Tulsa, OK 74128-4609

RE: Wichita River Basin Reevaluation Report -Chloride Control Project

Dear Mr. Nolen:

Economic development is important to the growth and success of our region. One of the critical needs is an adequate supply of quality water. We have a great source of water in the Red River; however, at times the quality is questionable, due to the chlorides. It becomes more important as we try to use surface water and reduce our dependency on ground water.

Water quality is a key issue that impacts the operation of certain types of industries with high water use for processing or operations. Examples would be the timber industries or power plants of which our Port is permitting for at this time.

When trying to recruit these industries, water quality and quantity become issues that may cause them to locate elsewhere. High chlorides mean additional operating costs due to treatment, even if it is seasonal, and companies will not consider our region as a favorable location.

Water has been an issue we deal with on a continual basis in regards to paper, steel, and chemical manufacturing plants.

We are in full support of continuation of the environmental monitoring plan to ensure the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor, so that the project operates as designed and according to the studies conducted by the Corps of Engineers.

Reducing the chlorides and increasing water quality would be of great benefit to our region and increase our ability to recruit industry into the Red River Valley. As we attempt to become less dependent on ground water and look toward surface water the Red River becomes a great source for industry, although it currently cannot be utilized to its full potential. We are in full support of the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this most important project.

Sincerely,

John W. Holt, Jr., CED, PPM
Executive Port Director

cc: Commissioner Michael H. Wainwright, President
Mr. Richard Brontoli, Executive Director, Red River Valley Association

*MEMBERS: **Michael H. Wainwright**, President; **Steve Watkins**, Vice President; **Frank R. Pernici**, Secretary-Treasurer; **Lynn Austin; A.K. Busada; Duncan McRae; Maxine E. Sarpy; Lorenz J. Walker***

THE PARISH OF CADDO
ADMINISTRATION

W. T. Hanna, Jr.
ADMINISTRATOR/CEO

Randy M. Lucky
ASSISTANT ADMINISTRATOR

Telephone • 318.226.6900
Fax • 318.429.7630
GOVERNMENT PLAZA
505 Travis Street • Suite 800
P.O. Box 1127
Shreveport, Louisiana 71163-1127

August 9, 2002

Mr. Stephen L. Nolen
U. S. Army Corps of Engineer District, Tulsa
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Nolen:

Re: Wichita River Basin Reevaluation Report

I understand that the Reauthorization Study and Supplement to the EIS for the Chloride Control Project has been completed for the Wichita River Basin phase within the Red River Valley Basin.

The Red River provides the best surface water source for agriculture and industry in Northwest Louisiana; however, the quality of the water is affected by the high chloride content. Therefore, the reduction of chlorides in the Red River would have a tremendous positive impact on increased irrigation use for our area farmers and industry, as well.

We are in full support of continuation of the environmental monitoring plan to insure the Red River eco system does not experience drastic changes. Also, this will insure that the project operates as designed by the Corps of Engineers.

Thank you for the opportunity to comment on this important project.

Sincerely,

W. T. Hanna, Jr.

W. T. Hanna, Jr.
Administrator & CEO

WTHjr/kb

C: Red River Valley Association

Caddo Soil and Water Conservation District
1402 Hawn Avenue - P.O. Box 7278 - Shreveport, LA 71107 - Phone: (318) 676-3333, Ext. 3

August 9, 2002

U.S. Army Corps of Engineers – Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Avenue
Tulsa OK 74128-4609

Dear Mr. Nolen,

For over 63 years the Caddo Soil and Water Conservation District has served the citizens of Caddo Parish, Louisiana by working to help solve a wide variety of soil and water related problems through education, technical assistance and, in some cases, financial assistance. While our help is given to all land users, there is no doubt that agricultural and wildlife lands receive the lion's share.

It has only been in the past decade of the 1990's that crop irrigation with water from the Red River, was considered a viable option by local farmers. This was primarily because of the concentration of dissolved salts in the water. We feel that the COE's **Chloride Control Project** has been a major contributor to the dramatic improvement in the water quality of the Red River. Both agriculture and the environment have benefited.

We are presently attempting to bring to fruition a demonstration project that will help to educate while assisting many of the producers in northern Caddo Parish. This project, called the **Red Bayou Irrigation Demonstration Project**, will utilize water for the river during peak times of need for crop irrigation; thereby helping to protect sensitive aquifers while helping to ensure a successful crop harvest and the economic benefits that it brings.

We fully support the efforts of the Corps of Engineers and the Chloride Control Project.

Sincerely,

Garland P. Colvin, Chairman

Cc: Richard Brontoli, Executive Director, RRVA
Bradley E. Spicer, Asst. Commissioner/LA Office of Soil & Water Conservation

LUGERT-ALTUS IRRIGATION DISTRICT

P.O. BOX 520
1421 W. RIDGECREST
ALTUS, OK 73522
580-482-4734

August 12, 2002

U.S. Army Corps of Engineers District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Ave.
Tulsa, OK 74128-4609

RE: Wichita River Basin Reevaluation Report

Dear Mr. Nolen:

I wish to comment on the reevaluation study for the Chloride Control Project, Wichita River Phase. Agriculture is an important industry to the growth and success of our region. One of the critical needs is an adequate supply of quality water for the irrigation of crops. We have a great source of water in the Red River; however, at times the quality is questionable, due to the chlorides. Our Irrigation District has installed almost 200 miles of underground perforated drainage pipe because of chlorides in most of our 46,000 acres of irrigated cropland.

Adequate water quality and supply is a key issue that directly impacts the success of our agricultural community. The productivity of most crops depends on the ability to insure they get adequate water during the months of July and August. Since these are normally the driest months of the year, irrigation must be considered to insure acceptable yields. The best option is to use surface water, rather than ground water. The Red River is a great source of water for irrigation and our District intends to use this source. Even though the chlorides may impact certain crops, testing the soil must be conducted to monitor chloride accumulations. Reduction of chlorides in the Red River would have a great positive impact to increase irrigation use.

We are in full support of continuation of the environmental monitoring plan to insure the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor, so that the project operates as designed and according to the studies conducted by the Corps of Engineers.

Reducing the chlorides and increasing water quality would be of great benefit to our region and increase irrigation in the Red River Valley region. As we attempt to become less dependent on ground water and look toward surface water, the Red River becomes a great source for agriculture, although it presently cannot be utilized to its full potential. We are in full support of the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this most important project.

Sincerely,
Lugert-Altus Irrigation District

Donna Kirby

Donna Kirby
Manager

TEXAS HOUSE OF REPRESENTATIVES

August 1, 2002

DAVID FARABEE

Mr. Stephen L. Nolen
USACE, Tulsa District
1645 S. 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Nolen:

Please accept this letter as my strong support of the Chloride Control Project which is extremely vital to our area of Texas because of on-going drought conditions. This Project has now undergone numerous studies since its inception in 1957 to control the flow of naturally occurring salt downstream to Lake Kemp, Lake Diversion, and on to Lake Texoma. In fact, several millions of dollars have been spent in studies to prove that adverse impacts will not harm the environment. In order for North Texas to have and maintain an adequate water supply, this project must go forward as soon as possible.

At the recent public meeting in Wichita Falls on the Wichita River only portion of the authorized Red River Chloride Control Project, information was made available outlining several alternatives. I want to respectfully register my disagreement with the alternative to pump collected brine from the upper Wichita River drainage basin to Beaver Creek, Paradise Creek, or Raggedy Creek in the Red River watershed. This alternative would convert freshwater streams to brine streams and I do not believe that it makes sense to contaminate good, useable water with contaminated water that has been diverted from the naturally salty Wichita River. The better solution is to pump to the Truscott Brine Reservoir.

Again, since this Project is so vital to our area of Texas in maintaining an adequate water supply, I strongly support and highly encourage the USACE to move toward completion of the Red River Chloride Control Project.

Sincerely,

David Farabee

DF:bkc
cc: Ron Glenn, General Manager
Red River Authority of Texas

CAPITOL OFFICE:
P.O. BOX 2910
AUSTIN, TEXAS 78768-2910
(512)-463-0534
FAX (512) 463-8161

DISTRICT OFFICE:
900 EIGHTH STREET, SUITE 115
WICHITA FALLS, TEXAS 76301
(940) 322-4122
FAX (940) 322-4117

Joe L. Johnson, Jr.

2405 Essex
Wichita Falls, Texas 76308
(940) 692-6737 Home
(940) 723-2166 Work

August 7, 2002

Mr. Stephens L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Nolen:

As a concerned citizen of North Texas, I would like to convey my support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water, as well as adequate supply, are key issues that directly impact the growth and stability of our community. Without it, we may be faced with a grievous situation in just a few years.

I am also in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U.S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be a tremendous benefit to this region of the State of Texas. The project has been delayed for far too many years due to extremely expensive studies. It is critical that the project moves forward and is completed as planned without any more delays.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely,

Joe L. Johnson, Jr.

copy: Red River Authority of Texas
Senator Kay Bailey Hutchison
Representative Mack Thornberry

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I feel very strongly that The cobride removal will project will help All of north Texas & southern OKLA.

THANKS

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: BEN KIRKLAND

Address: 1249 Horseshoe Lake Rd

City: Town Park State: TX Zip Code: 76367

E-mail:

Thank you for your time!

August 19,2002

Mr. Stephen L. Nolen
U. S. Army Corps of Engineers, Tulsa District
1645 South 101st. East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

As a concerned citizen of North Texas and a resident of a County bordering the Red River, I want to tell you that I strongly support the completion of the Chloride Control Project. I know - and am sure that you do too - that there is a tremendous source of water in the Red River and it's many tributaries that contain a high level of chlorides that make this water unusable for most purposes. An improvement of this water through the elimination of excessive chlorides, as well as an adequate supply, are indeed key issues that will affect the growth and stability of - not only our communities - but the entire region.

I understand that there is a plan to continue the Red River Chloride Control Project that is operational. This program has been delayed for far too long by expensive studies. It is very critical that the project be completed as planned and as soon as possible.

Sincerely,

Wm. B. Brooks

Wm. B. Brooks
4475 Choctaw Ln.
Paris, Texas 75460

Copies: Red River Authority of Texas
Senator Kay Bailey Hutchinson
Representative Max Sandlin

ARCHER COUNTY MUNICIPAL UTILITY DISTRICT #1
15198 FM 1954
Wichita Falls, Texas 76310

August 14, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed is a Resolution from the Archer County Municipal Utility District #1 indicating our full support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water, as well as adequate supply, are key issues that directly impact the growth and stability of our community. Without it we may be faced with a grevious situation in just a few years.

The Water District is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem doe not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U.S. Army Corps of Engineers current operational plan.

Reducing the chlorid es, thereby improving the quality of the water, would be a tremendous benefit to our Water District and its growth. The project has been delayed for too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely,

Larry Hardin

Larry Hardin, President
Board of Directors

cc: Red River Authority of Texas

RESOLUTION

COUNTY OF ARCHER)

STATE OF TEXAS)

A RESOLUTION OF THE Archer County Municipal Utility District #1 directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW, THEREFORE BE IT RESOLVED that the Archer County Municipal Utility District #1 hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this 13th day of August, 2002.

Larry Hardin

Larry Hardin, President
Board of Directors

ATTEST:

Mary Ann Cook

Mary Ann Cook, Secretary

Box 218
Ryan, OK 73565
August 27, 2002

Department of the Army
Tulsa District, Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Corps of Engineers:

Thank you for sending me the Draft Supplement to Final Environmental Impact Statement for the Authorized Red River Chloride Control Project Wichita River Only Portion. I have reviewed it, and would like to make this comment:

I grew up by the Red River, just downstream from the mouth of the Big Wichita River, so I am very concerned about these matters. I love the river. I spent, and continue to spend, much time exploring and studying the river. I even collected a series of oral histories of local people's experiences with the Red River. I have always found the river perfect just as it is.

I am alarmed by the prospect of making the Red River more desirable for economic use. What I never saw adequately addressed in this voluminous study was an estimate of what will or might be the END RESULT of making the Wichita and Red Rivers more "useful." Your study demonstrates that simply taking the salts out of the water won't have too much adverse effect, except upon some salt-tolerant species, and that the restoration of the native grasses might be good. But when you get these rivers all tidied up, how much water is going to be taken out of them for Wichita Falls and Dallas and irrigation and so forth? I have seen the end result of "economic usefulness" of the Rio Grande and of the Colorado--it means that downstream there is NO water. I have seen the dry riverbed and the ghost communities along the stretch of the Rio Grande from El Paso to Presidio.

I am opposed to this project unless I could feel assured that the Red River will continue to FLOW as the southern boundary of my native Jefferson County.

Sincerely,

Jon Harris

Jon Harris

Thank you for the opportunity to comment on this extremely vital project.

Sincerely,

Tom Coker

Tom Coker, President
Board of Directors

TC/cf

Copy: Red River Authority of Texas
Hamilton Building
900 8th Street, Suite 520
Wichita Falls, Texas 76301-6894

Senator Kay Bailey Hutchison
Room 284 Russell Senate Office Building
Washington D C 20510

Senator Phil Gramm
Room 370 Russell Senate Office Building
Washington D C 20510

Representative Mac Thornberry
Room 131 Cannon House Office Building
Washington D C 20515

RESOLUTION

COUNTY OF BAYLOR §

STATE OF TEXAS §

A RESOLUTION OF THE BAYLOR WATER SUPPLY CORPORATION directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water source needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project, has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the Baylor Water Supply Corporation hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the 13th day of August, 2002.

Tom Coker

Tom Coker, President
Board of Directors

ATTEST:

Gerald Chandler

Gerald Chandler, Vice-President
Board of Directors

BAYLOR WATER SUPPLY CORPORATION
P. O. BOX 426 210 SOUTH MAIN STREET
SEYMOUR, TEXAS 76380
(940) 888-3800 (940) 889-4048 (fax)

Tom Coker, President
Gerald Chandler, Vice-Pres.
Stanley Neal, Secretary

Phil Holub, Director
B. R. Alexander, Director
Tommy Holub, Operator

August 19, 2002

Mr. Stephen Nolen
U. S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed is a Resolution from the Baylor Water Supply Corporation indicating our full support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water, as well as adequate supply, are key issues that directly impact the growth and stability of our community. Without it we may be faced with a grievous situation in just a few years.

The Baylor Water Supply Corporation Board of Directors is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U. S. Army corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be a tremendous benefit to our water supply corporation and its growth. The project has been delayed for far too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Red River Development Council

P.O. Box 3688, NSU
Natchitoches, Louisiana 71497-0018
(318) 357-3226
FAX (318) 357-3224

E-Mail 1scoggins@cp-tel.net

Leland Scoggins, Ph.D.
Executive Director

Bienvenu Hall, NSU
Room 205 and Room 207

September 3, 2002

U.S. Army Corps of Engineer District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Ave.
Tuksa, Oklahoma 74128-4609

RE: Witchita River Basin Reevaluation Report

Dear Mr. Nolen,

I wish to comment on the reevaluation study for the Chloride Control Project, Witchita River Phase. Economic development is important to the growth and success of the Red River Valley, in Louisiana. One of the critical needs is an adequate supply of quality water. We have a great source of water in the Red River, however, at times the quality is questionable, due to the chlorides. It becomes important as we try to use surface water and reduce our dependency on ground water.

Water quality is a key issue that impacts the operation of certain types of industries, such as, the paper mills, electric power generating plants, agricultural crops, processing plants and the new retirement industry which Louisiana is promoting.

All of the cities and towns and outlying communities along Red River are realizing a greater need for more potable water for human consumption due to increases in population. Shreveport, Bossier, Natchitoches, Alexandria and Pineville are all striving hard to get large, age qualified retirement communities, built to attract and accommodate retirees from out-of-state to move to Louisiana. These towns and cities are also trying hard, through the planning and consulting of age qualified communities to keep the Louisiana retirees from moving out of the State of Louisiana.

A good supply of ground water is not available to keep up with the demand. All of these cities are looking for above ground sources and the Red River is the alternative source. A very high quality water source is greatly needed. Many of the parishes are planning for the future by trying to install a water line around and through the parish which would unite all of the local water districts and provide a permanent and dependable source of water for domestic use fire protection and industrial use.

We are in full support of continuation of the environmental monitoring plan to ensure the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor, so that the project operates as designed and according to the studies conducted by the Corps of Engineers.

Reducing the chlorides and increasing water quality would be of great benefit to our region and increase our ability to recruit industry into the Red River Valley. As we attempt to become less dependent on ground water and look toward surface water the Red River becomes a great source for industry, although it currently cannot be utilized to its full potential. We are in full support of the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this most important project.

Sincerely,

Leland Scoggins

LELAND SCOGGINS, Ph.D
Executive Director
Red River Development Council

LS/gj

Red River Development Council

P.O. Box 3688, NSU
Natchitoches, Louisiana 71497-0018
(318) 357-3226
FAX (318) 357-3224
E-Mail 1scoggins@cp-tel.net

Leland Scoggins, Ph.D.
Executive Director

Bienvenu Hall, NSU
Room 205 and Room 207

September 3, 2002

U.S. Army Corps of Engineer District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Aven.
Tulsa, Oklahoma 74128-4609

RE: Witchita River Basin Reevaluation Report

Dear Mr. Nolen,

I wish to comment on the reevaluation study for the Chloride Control Project, Witchita River Phase. Agriculture is an important industry to the growth and success of our region. One of the critical needs is an adequate supply of quality water for the irrigation of crops. We have a great source of water in the Red River, however, at times the quality is questionable, due to the chlorides.

Adequate water quality and supply is a key issue that directly impacts the success of our agricultural community. The productivity of most crops depends on the ability to insure they get adequate water during the months of July and August. Since these are normally the driest months of the year, irrigation must be considered to insure acceptable yields. The best option is to use surface water, rather than ground water. The Red River is a great source of water for irrigation and our District intends to use this source. Even though the chlorides may impact certain crops testing the soil must be conducted to monitor chloride accumulations. Reduction of chlorides in the Red River would have a great positive impact to increase irrigation use.

We are in full support of continuation of the environmental monitoring plan to ensure the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor, so that the project operates as designed and according to the studies conducted by the Corps of Engineers.

Reducing the chlorides and increasing water quality would be of great benefit to our region and increase irrigation in the Red River Valley region. As we attempt to become less dependent on ground water and look toward surface water the Red River becomes a great source of agriculture, although it presently cannot be utilized to its full potential. We are in full support of the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this most important project.

Sincerely,

Leland Scoggins

Leland Scoggins, Ph.D
Executive Director
Red River Development Council

LS/gj

RED RIVER VALLEY ASSOCIATION

629 SPRING STREET
P.O. BOX 709
SHREVEPORT, LA. 71162-0709
(318) 221-5233

September 3, 2002

U.S. Army Corps of Engineer District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Ave.
Tulsa, OK 74128-4609

RE: Wichita River Basin Reevaluation Report

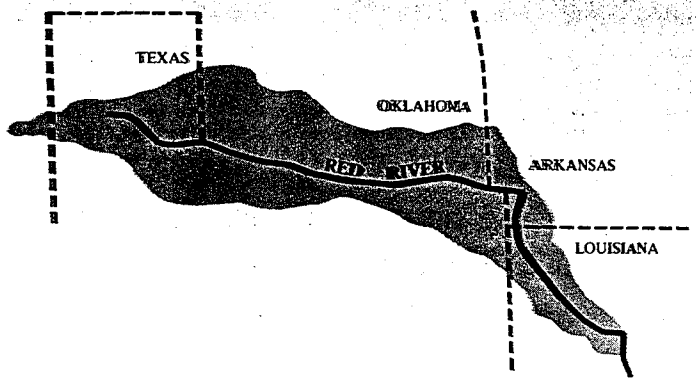
Dear Mr. Nolen:

The Red River Valley Association would like to comment on the referenced project. We are a four state, non-profit organization that represents over 250 members, which includes individuals, municipalities, agencies and industries. Our membership truly represents the whole Red River Valley region and the many needs for its water resources.

We want to make it clear that we are **in favor** of this project as proposed by the Corps of Engineer reevaluation report. The USFWS Coordination Act report lists a number of objections, which the Corps of Engineers has answered and we agree with the Corps responses. Instead of addressing each of the issues individually we wish to make a few observations about the comments from USFWS and the State Resource Agencies on this project.

First, any reference to impacts on stripped bass in Lake Texoma must be disregarded. This is a non-native species, introduced by man. Continuing to promote fisheries of non-native species violates the Endangered Species Act (ESA) and continues to alter the natural eco-system. Who is to say that this species is not destroying the native fish population? The point is that USFWS uses the ESA when it suits their agenda and not for the good of the native eco-system.

Recreation is not considered a 'national benefit'; therefore it is not appropriate for the recreation at Lake Texoma to be considered as a negative impact to this project. It appears that the resource agencies are using the 'value' of recreation as an excuse to block this project. Corps studies demonstrate minimum impacts to the recreation industry and this must be compared to the increase in 'value' for municipal, agricultural and industrial uses. Even after this last round of scrutiny the Benefit to Cost Ratio remains at 1.38 to 1.0!



Most important is the question of credibility. For over nine years the Corps of Engineers has completed multiple, independent studies on every issue raised by the critics of this project. Every study has the same outcome – Minimum Impacts. Neither USFWS nor the state resource agencies have yet to produce one study, of any kind, that shows the 'devastating' impacts they claim will occur. In the past they have referred to other ecosystems in the United States, but any credible scientist or engineer knows that every river system is difference and cannot be compared to each other.

The RRVA looks at these projects in an objective manner. In this case we have numerous Corps studies demonstrating minimum impacts and all we have from USFWS and the State Resource Agencies is their 'opinion', with no scientific backup. We believe in the Corps studies, which the resource agencies requested be conducted, yet these agencies refuse to accept the results. We do not believe the resource agencies have any credibility in their objections toward this project.

There is no doubt that this project has the best environmental monitoring program of any Corps project we have been associated with. We strongly support the proposed ecosystem monitoring plan as outlined in this project, as we have supported the ongoing monitoring over the past ten years. Not only will it continue to collect base line data, but will serve to monitor the impacts of the project after it is operational. This is an example of the stewardship and responsibility the Corps has taken toward our ecosystem. It also demonstrates the faith they place in their engineering and science in their recommendation to implement this project.

Our nation has reached a crisis in water conservation and needs. Part of that issue is the depletion of our ground water and the serious impacts associated with that. This project will greatly increase the usability of Red River water for all four states. It provides us the ability to change from ground water to surface water dependency for many of our needs.

We want to thank the Corps of Engineers for the opportunity to comment on this important project. It is a project that will have great benefits for our four state, Red River Valley region. We believe the resource agencies are unfounded in their objections and this project must proceed to construction immediately. Should there be continued doubt, by the Administration, we request that the RRVA be allowed to express our views in writing or by testimony.

Please contact this office if you require additional information or clarification on any comments provided.

Sincerely,

Richard Brontoli

Richard Brontoli
Executive Director

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
P. O. Box 94245
Baton Rouge, Louisiana 70804-9245

M. J. "MIKE" FOSTER, JR.
GOVERNOR

KAM K. MOVASSAGHI
SECRETARY

August 26, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers
1645 South 101st East Ave.
Tulsa, Oklahoma 74128-4609

Subject: Wichita River Basin Reevaluation Report

Dear Mr. Nolen:

The Louisiana Department of Transportation and Development is pleased to be able to comment favorably on the Wichita River Basin Reevaluation phase of the Chloride Control Project. This Department has long been an active proponent of improving the quality of water in the Red River, as it is a critical surface water resource upon which our industrial agricultural interests depend. An adequate supply of quality water is vital to the sustained growth and prosperity of the Red River Valley region in Louisiana.

The Red River waterway provides a bountiful flow of surface water but at times the quality is below acceptable levels due to undesirable concentrations of chlorides. A regional strategy for conserving our ground water resources includes the use of alternative surface water sources such as the Red River for agricultural and industrial users. The maintenance of water quality in the Red River will facilitate the intake of more river water by industrial and agricultural users, thus conserving irreplaceable ground water reserves. Ground water conservation achieved through providing alternative surface water sources will insure the availability of high quality drinking water for future generations. The continuance of water quality monitoring and reduction of chloride constituents through the implementation of the Chloride Control Project, Wichita River Phase is an important step in achieving these goals.

We are in full support of the efforts of the Corps of Engineers and this project. We look forward to the anticipated improvements in Red River water quality. Reducing chlorides and improving water quality will be of great benefit to our region particularly our agricultural community and will provide better quality surface water as an alterative industrial supply.

If you have any further questions, please contact Mr. Zahir "Bo" Bolourchi, Chief, Water Resources Programs at (225) 379-1434.

Sincerely,

Edmond J. Preau, Jr., P.E.
Assistant Secretary
Public Works & Intermodal Transportation

cc: Mr. Richard Brontoli
Red River Valley Association

BOSSIER PARISH POLICE JURY

P.O. BOX 70
PH. 318-965-2329 FAX 318-965-3703
BENTON, LOUISIANA 71006
www.mybossier.com

BILL ALTIMUS
PRESIDENT

JIMMY COCHRAN
VICE PRESIDENT

DISTRICT 1
HENRY D. "HANK" MEACHUM
430 SHADYWOOD LANE
HAUGHTON, LA. 71037
RES. 949-0110

DISTRICT 2
JEFF ROGERS
2320 HIDDEN COVE
HAUGHTON, LA. 71037
RES. 949-4934

DISTRICT 3
JESSE WILLIAMS
312 VANCE ROAD
BENTON, LA. 71006
RES. 965-2100

DISTRICT 4
WINFRED R. JOHNSTON
258 HIGHWAY 537
PLAIN DEALING, LA 71064
RES. 326-4279

DISTRICT 5
HENRY MITCHELL
2606 SWAN LAKE ROAD
BOSSIER CITY, LA. 71111
RES. 742-2605

DISTRICT 6
RICK AVERY
524 WEDGEWOOD
BOSSIER CITY, LA. 71111
RES. 747-4185

DISTRICT 7
JIMMY COCHRAN
2420 DOUGLAS DRIVE
BOSSIER CITY, LA. 71111
RES. 742-8174

DISTRICT 8
J. BRAD CUMMINGS
2709 OLD MINDEN ROAD
BOSSIER CITY, LA. 71112
RES. 746-7316

DISTRICT 9
BILL ALTIMUS
3002 JUNE LANE
BOSSIER CITY, LA. 71112
RES. 742-7216

DISTRICT 10
JEROME L. DARBY
1441 WILLIAMSBURG DR.
BOSSIER CITY, LA. 71112
RES. 747-3489

DISTRICT 11
WAYNE HAMMACK
4008 WAYNE AVENUE
BOSSIER CITY, LA. 71112
RES. 746-6297

DISTRICT 12
EDWIN T. SHELL
3416 LESSIE LANE
BOSSIER CITY, LA. 71112
RES. 746-0517

August 26, 2002

U. S. Army Corps of Engineers District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Re: Wichita River Basin Reevaluation Report

Dear Mr. Nolen:

The Bossier Parish Police Jury wishes to comment on the reevaluation study for the Chloride Control Project, Wichita River Phase. Economic development is important to the growth and success of our parish. One of the critical needs is an adequate supply of quality water. We have a great source of water in the Red River; however, at times the quality is questionable, due to the chlorides. It becomes more important as we try to use surface water and reduce our dependency on ground water.

Water quality is a key issue that impact the operation of certain types of industries with high water use for processing or operations. Examples would be the timber industries or power plants. When trying to recruit these industries, water quality and quantity become issues that may cause them to locate elsewhere. High chlorides mean additional operating costs due to treatment, even if it is seasonal, and companies will not consider our region as a favorable location.

We are in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor so that the project operates as designed and according to the studies conducted by the Corps of Engineers.

DENNIS E. WOODWARD, P.E.
ADMINISTRATOR/ENGINEER

PATRICK R. JACKSON
PARISH ATTORNEY

CHERYL G. MARTIN
SECRETARY-TREASURER

Reducing the chlorides and increasing water quality would be of great benefit to our region and increase our ability to recruit industry into the Red River Valley. As we attempt to become less dependent on ground water and look toward surface water the Red River becomes a great source for industry, although it currently cannot be utilized to its full potential. We are in full support of the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this most important project.

Sincerely,

Dennis E. Woodward, P.E.
Parish Administrator

DEW:cd

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
P. O. Box 94245
Baton Rouge, Louisiana 70804-9245

M. J. "MIKE" FOSTER, JR.
GOVERNOR

KAM K. MOVASSAGHI
SECRETARY

August 26, 2002

DRAFT SUPPLEMENT TO
FINAL ENVIRONMENTAL IMPACT STATEMENT
AUTHORIZED RED RIVER CHLORIDE CONTROL PROJECT
WICHITA RIVER ONLY PORTION

Mr. Larry D. Hogue, P.E.
U.S. Army Corps of Engineers,
Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Subject: DRAFT SUPPLEMENT TO FINAL ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Hogue:

We have reviewed the Draft Supplement to the Final Environmental Impact Statement for the Authorized Red River Chloride Control Project, Wichita River Only Portion. At this time we have no questions or comments, but are supportive of the project. We look forward to the completion of this project and expect that no features will be added that will adversely affect the benefits that this project is expected to provide.

If you have any questions, please do not hesitate to call James McMenis at (225) 274-4355.

Sincerely,

Clyde P. Martin, Jr., P.E.
Chief, Federal Programs

James R. McMenis, E.I
Design Engineer

cc: Edmond J. Preau, Jr.

AN EQUAL OPPORTUNITY EMPLOYER
A DRUG-FREE WORKPLACE

2074 Bell Rd. S.
Iowa Park, Texas 76367

August 28, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen,

I am writing to express my full and utmost support for the Red River Chloride Control Project. I am one who has seen the project from the first shovel of dirt to its present stage. I had hoped by this time we could have enjoyed the fruits of that beginning.

I have paid my own expenses and have gone to Washington, D.C. at least fifteen times in support of the project. I feel like I know what the effect of the project will be when finished as much as any Wichita County citizen. My husband and I lived at Lake Kemp from 1961 until 1977 and used the water from Lake Kemp as our only water source. In 1964, I washed diapers and they would break the baby out in a rash that even the Dr. would not believe. For that reason we drove eighteen miles to the nearest town and washed our children's clothes. The blue jeans also were testimonies of much needed improved water. They looked tie-dyed long before tie-dyed was in. That, of course, was due to salt water rings showing up on them after they had dried.

The hot water heater would start a sound that became all too familiar and we knew it was salt and settlement boiling in the bottom and a reminder to look for a new one. The salt had done its ugly duty once again.

While we were living at Lake Kemp, the Wichita Falls area had to use water from the lake because they were in such a drought in 1971 and 1972. We had many friends living in Iowa Park, Texas at that time. Many are still putting salt in their coffee because they got so used to drinking it with the salty taste.

I do in depth research in genealogy and from the earliest times, the most prosperous places have water. People traveled by way of stream because of ample water supply. Without water, areas that would have developed went by the way side.

I feel water is a necessity, not a luxury. The studies that have been done and redone may have all been necessary to please everyone in all agencies involved but I think it is time to put aside any more studies. It is time to finish the project for the sake of all people in the Red River Chloride Control Project area who are going to benefit from it so very much.

Sincerely,

Shirley Banks

The Senate of The State of Texas

Senator Craig Estes
District 30

August 29, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Nolen:

Thank you for allowing me this opportunity to express my support for the Wichita River Basin portion of the Red River Basin Chloride Control Project.

This project is very important to the good people of Senate District 30 and our neighbors across North Texas as everyone is concerned about future water supplies for our agriculture producers and residents and the impact on growth and stability for this region.

As a member of the Senate Committee on Natural Resources and the Senate Subcommittee on Agriculture, this project receives my full support and encouragement.

I would appreciate you giving the Wichita River Basin portion of the Red River Basin Chloride Control Project its due consideration and offer my services toward any additional assistance you desire in moving this request forward.

Sincerely,

Craig Estes

CLE:lms

cc: Red River Authority of Texas

CAPITOL OFFICE:
P.O. Box 12068
Austin, Texas 78711
512/463-0130
FAX: 512/463-8874
TDD: 1-800-735-2989

DENTON DISTRICT OFFICE:
2220 San Jacinto Blvd., Ste. 318
Denton, Texas 76205
940/898-0331
Fax: 940/898-0926

SHERMAN DISTRICT OFFICE:
1117 Gallagher, Ste 340
Sherman, Texas 75090
903/868-2347
Fax: 903/808-9666

WICHITA FALLS DISTRICT OFFICE:
4245 Kemp Blvd., Ste. 306
Wichita Falls, Texas 76308
940/689-0191
Fax: 940/689-0194

DIRECTORS
JESSE FLICK, PRESIDENT
BOBBY ROWLAND, VICE-PRESIDENT
M.E. (EDDIE) HUFFMAN, SECRETARY
BEN KIRKLAND
JOHN STABER

JIMMY BANKS, GENERAL MGR.
ELIZABETH A. PEIRCE, AUDITOR
TAX COLLECTOR

WICHITA COUNTY WATER IMPROVEMENT DISTRICT No. 2

402 E. SCOTT
Wichita Falls, Texas 76301
(940) 767-6721

August 27, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen,

Enclosed is a resolution passed unanimously by the Wichita County Water Improvement District # 2 Board of Directors on August 13, 2002. The District has supported this project for over forty years and has worked so diligently to improve the water quality for our citizens' use.

This Reevaluation Study and the Supplement to the Environment Impact Statement for the Wichita River Basin as completed should be the last study done on the project. It is time to compete the project as planned. We appreciate all of the efforts of the Corps of Engineers to finish a project that is so critical to our area's water needs.

Sincerely,

Jimmy Banks
General Manager

RESOLUTION
BY THE
BOARD OF DIRECTORS OF
WICHITA COUNTY WATER IMPROVEMENT DISTRICT #2

A RESOLUTION of the Wichita County Water Improvement District #2 directing the U.S. Army Corps of Engineers to continue the development and complete construction of the Wichita River Basin Chloride Project as planned and authorized by Congress.

WHEREAS, the Chloride Control Project for the Red River Basin was initiated in 1957 and subsequently authorized by the Flood Control Act of 1966 (PL89-789), the Flood Control Act of 1970 (PL91-611), the Water Resources Development Act of 1974 (PL93-251) and the Water Resources Development Act of 1986 (PL99-662) which authorized 100% federal funding to complete the remaining Chloride Control Projects; and

WHEREAS, the U.S. Army Corps of Engineers has repeatedly represented the project to be technically and economically feasible and proposes no known adverse impacts to the environment or the ecosystems based on the U.S. Army Corps of Engineers Supplement to the Environment Impact Statement dated June 2002; and

WHEREAS, the Wichita County Water Improvement District #2 is an eighty year old entity that has worked for over forty years to secure a desirable quality of water for all citizens of the Red River Valley; and

THEREFORE BE IT RESOLVED by the Board of Directors of Wichita County Water Improvement District #2 that the U.S. Army Corps of Engineers be directed to complete without further delays the Wichita River Basin portion of the Red River Chloride Control Project as currently planned in order that our citizens can depend on a safe, useable quality of water.

PASSED AND APPROVED, this, the 13 day of August ,2002

Jesse Flick

Jesse Flick, President

ATTEST:

M. E. Huffman

M. E. (Eddie) Huffman

2074 Bell Rd. S.
Iowa Park, Texas 76367
August 28, 2002

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen,

We have reached the conclusion of another study on the Chloride Control Project. With the completion of Wichita River Basin Reevaluation Study, it is imperative that the project be completed as planned.

All studies done over the past forty years have not concluded any serious effects on the environment or basin ecosystem. These studies have been done with the most qualified Corps of Engineers, professionals, along with independent contracted scientist specializing in their field of expertise. The project has never been declared a non-beneficial one that should not be built. Study after study showed the project viable with the final recommendation to complete the project.

The drought of the last four years has shown us the need for more municipal water. Lake Kemp could have supplied that need if the quality was improved. Along with municipal needs, improved water to be used for irrigation in agricultural production would change crops grown and increase yields tremendously. Irrigation in the past has been used on a limited basis. The irrigated valley with improved water could respond with high quality yields of fruits and vegetables.

I was born sixty years ago and raised on an irrigated farm. With supplemental irrigation, that farm produced alfalfa, cotton, livestock and vegetables for the home. After marriage, I was employed by the Wichita County Water Improvement District # 2 and for two years worked on the system. I then moved to Lake Kemp to operate the outlet gates and dam. Following sixteen years at Lake Kemp, I have been the General Manager for twenty-five years. My family has worked with this water; used it for drinking, washing, bathing, and irrigating crops. We have known what Lake Kemp water produces but when the good Lord lets it rain, we see what Lake Kemp could produce.

It is time to complete the project as planned without any more delays. We have lived up to our part of the agreement to clean up the man made pollution; now, it is time to complete the Federal portion of the agreement to clean up the natural pollution.

I fully support this project and believe with all my heart it is a sound one that would prove beneficial to all the citizens of the four-state area.

Sincerely,

Jim Banks

Alexandria
LOUISIANA

08/27/2002

U.S. Army Corps of Engineer District, Tulsa
Attn: Mr. Stephen L. Nolen
1645 South 101st East Ave.
Tulsa, OK 74128-4609

RE: Wichita River Basin Reevaluation Report

Dear Mr. Nolen:

I want to comment on the reevaluation report for the Chloride Control Project, Wichita River Basin Phase. Alexandria, Louisiana, has a population of approximately (51,000) people. Currently we (do not) use the Red River as a source for our water supply.

Water quality is an issue that impacts the potential for our community to grow. It will be needed not only for municipal use, but also for economic development and industries with high water use that may want to locate in our region. In the future we must become less dependent on ground water and look for surface water. The Red River is a great source of water that we could use, assuring good quality requiring little to no treatment.

We are in full support of the continuation of the environmental monitoring plan to ensure the Red River ecosystem does not experience drastic changes. It is to the benefit of all concerned to monitor, so that the project operates as designed and according to the studies conducted by the Corps of Engineers.

Reducing the chloride levels to increase water quality would be a great benefit to Alexandria in our efforts to preserve our ground water and consider using the Red River as a source for our water needs. We support the efforts of the Corps of Engineers and this project.

Thank you for the opportunity to comment on this important project.

Sincerely,

Edward G. Randolph, Jr.

Edward G. Randolph, Jr. Mayor
City of Alexandria

Office of the Mayor
Post Office Box 71
Alexandria, Louisiana 71309-0071
Tel (318) 449-5000·Fax (318) 449-5229
E-Mail Mayor@cityofalex.com

City of Vernon

1725 Wilbarger
Vernon, Texas 76384-4741
(940) 552-2581

August 27, 2002

Mr. Stephen Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Wichita River Basin Chloride Control Project

Dear Mr. Nolen:

I am writing to you to express the City of Vernon's full support for the completion of the Chloride Control Project. Please find enclosed a resolution passed by the City Commission of Vernon showing our continued support of this project. This area has great sources of water in the Wichita, Pease and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water and as well as adequate supply are key issues that directly impact the growth and stability of our community. Without it this region of Texas may be faced with a grievous situation in just a few years.

The City of Vernon, looks toward this surface water supply as a potential long-term source for drinking water. Other municipalities, i.e., Wichita Falls, Burkburnett, Iowa Park, and Olney, in this area also depend on Lake Kemp as a potential drinking water supply.

The City is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U.S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of water, would be a tremendous benefit to my city and its growth. The project has been delayed for far too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely valuable project.

Sincerely,

Kelly Couch

Kelly Couch
Mayor

Enclosure

Cc: City Commission, w/o enclosure
Red River Water Authority of Texas, w enclosure
The Honorable Mac Thornberry, w enclosure
The Honorable Phil Gramm, w enclosure
The Honorable Kay Bailey Hutchison, w enclosure

RESOLUTION NO. 765

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF VERNON, TEXAS, WILBARGER COUNTY, RED RIVER AUTHORITY OF TEXAS DIRECTING THE UNITED STATES ARMY CORPS OF ENGINEERS TO CONTINUE THE DEVELOPMENT AND CONSTRUCTION OF THE WICHITA RIVER BASIN PORTION OF THE RED RIVER BASIN CHLORIDE CONTROL PROJECT AS PLANNED AND AUTHORIZED BY CONGRESS THROUGH PUBLIC LAWS 89-789, 91-611 WITH CONTINUED FEDERAL FUNDING; AND PROVIDING FOR RECORDING AN EFFECTIVE DATE.

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF VERNON, TEXAS:

SECTION 1. That they hereby pledge its continued support of the Red River Basin, including the Wichita and Pease Rivers, Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas

SECTION 2. This Resolution shall not be recorded in length in the minutes of the City Commission, but shall be filed for permanent record in the office of the City Secretary.

SECTION 3. This Resolution shall be in full force immediately upon passage by the City Commission.

PASSED and APPROVED on this the 27th of August 2002.

/s/ Kelly Couch
Kelly Couch, Mayor

ATTEST:

/s/ Pat Quisenberry
Pat Quisenberry, City Secretary

APPROVED AS TO FORM:

/s/ Douglas C. Jeffrey, III
Douglas C. Jeffrey, III, City Attorney

CITY OF QUANAH

August 21, 2002

Mr. Stephen L. Nolen
U. S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed is a Resolution from the City Council of the City of Quanah indicating our full support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water as well as adequate supply are key issues that directly impact the growth and stability of our community. Without it we may be faced with a grievous situation in just a few years.

The City is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to endure that it operates as designed and according to the U. S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be tremendous benefit to our city and its growth. The project has been delayed for far too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely,

Danny Felty

Danny Felty
City Administrator

Copy: Red River Authority of Texas
Senator
Representative

220 Mercer / P.O. Box 629 Quanah, Texas 79252-0629 (940) 663-5336 Fax (940) 663-6241

RESOLUTION NO. 14-02

CITY OF QUANAH

STATE OF TEXAS

A RESOLUTION OF THE City of Quanah directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the City of Quanah hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the 21st day of August, 2002.

Ann Sparkman
Ann Sparkman
Mayor

ATTEST:

Danny Felty
Danny Felty
City Administrator

CITY OF IOWA PARK

(940) 592-2131
103 N. WALL - P.O. BOX 190 IOWA PARK, TX 76367-0190

TIMOTHY W. HUNTER, MAYOR

August 30, 2002

Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Red River Chloride Control Project

Dear Mr. Nolen:

As Mayor of a small community in North Texas, I want to take the opportunity to express my support of the completion of the Chloride Control Project within the Red River Basin of North Texas and Southern Oklahoma. Iowa Park's water sources are two reservoirs that periodically fall behind in their ability to meet the area's water needs. Furthermore, for the last three years, Iowa Park has continually operated under drought response measures that have drastically restricted the water uses of our citizenry. We have great sources of water in both the Wichita and Red Rivers however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. The improvement of the quality of this water, along with its adequate supply is a key issue that directly impacts the growth and stability of our community. Without it, our area may be faced with a grievous situation in just a few years.

I am also in support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts from the chloride project. It is beneficial to all concerned that we continue to monitor the chloride project to ensure that it operates as designed and according to the U. S. Army Corps of Engineers' current operational plan.

Reducing the chloride levels in the Red River Basin, thereby improving the quality of the water, would be a tremendous benefit to this region of Texas. The project has been delayed far too many years due to extremely expensive studies and it is my opinion that it is critical to the North Texas area that the chloride project moves forward and is completed as planned without any more delays.

Thank you for the opportunity to comment on this vital project.

Respectfully,

Timothy W. Hunter
Mayor

TEXAS WATER DEVELOPMENT BOARD

Wales H. Madden, Jr., *Chairman*
William W. Meadows, *Member*
Dario Vidal Guerra, Jr., *Member*

J. Kevin Ward
Executive Administrator

Jack Hunt, *Vice Chairman*
Thomas Weir Labatt III, *Member*
E. G. Rod Pittman, *Member*

August 15, 2002

Mr. Stephen L. Nolen
Chief, Environmental Analysis and Compliance Branch
U.S. Army Engineer District, Tulsa
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Review comments on the Supplement to the Final Environmental Statement for the Red River Chloride Control Project—Wichita River Portion

Dear Mr. Nolen:

Thank you for sending us a copy of the Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project (RRCCP). As per your request, staff of the Texas Water Development Board (TWDB) have reviewed the document, and we are submitting review comments on the Wichita River portion only. The RRCCP on the Wichita and Pease Rivers is a water management strategy with high regional support. The project is included in the Region B Regional Water Plan and the State Water Plan (Water for Texas- 2002). Regional Water Planning Group B anticipates that the Wichita River Basin Chloride Control Project will effectively remove 362 tons per day of the 429 tons per day of chloride entering the Wichita River system. This improved water quality will allow full utilization of Lakes Kemp and Diversion, according to the Region B Regional Water Plan, which is available on our web site at http://www.twdb.state.tx.us/.

The State approved Region B Regional Water Plan, which supports inclusion of this water management strategy in their plan. According to the regional water plan, the successful completion of the RRCCP should result in an increase in the volume of water available for municipal and industrial purposes in the region. Additional water supplies could also be available for a broader range of agricultural activities.

P.O. Box 13231 • 1700 N. Congress Avenue • Austin, Texas 78711-3231
Telephone (512) 463-7847 • Fax (512) 475-2053
1-800-RELAYTX (for the hearing impaired)
URL Address: http://www.twdb.state.tx.us
E-Mail Address: info@twdb.state.tx.us
TNRIS - The Texas Information Gateway • www.tnris.state.tx.us
A Member of the Texas Geographic Information Council (TGIC)

TNRIS
The Texas Information Gateway
www.tnris.state.tx.us

There is opposition to the project from the Texas Parks and Wildlife Department (TPWD) and the U.S. Fish and Wildlife Service (USFWS) due to their anticipation of reduced productivity of streams and reservoirs due to the reduced chloride levels and increased turbidity. However, analyses in the Supplemental Environmental Assessment shows that none of the impacts anticipated by TPWD and the USFWS will occur with the proposed plan. There may be an impact to the stripped bass fishery in Lake Texoma. The sport fishery for stripped bass in Lake Texoma is an important economic resource for the state.

With regard to environmental issues, of more concern is the potential for reported Selenium-related impacts to sensitive organisms, such as young or adult birds temporarily residing at the Truscott Brine Disposal Reservoir. Monitoring of resident and migratory wildlife populations is warranted due to the complexity of this chemical constituent in the environment, and the accumulation of waste material in Truscott Brine Disposal Reservoir. However, we believe that the benefits of the project outweigh the potential impacts described in the Supplemental Environmental Assessment.

Thank you for giving us the opportunity to review this important water resource management strategy issue, and allowing us to provide comments on it. If we can be of any further assistance, please feel free to call me at (512) 936-0813.

Sincerely,

Bill Mullican

Bill Mullican
Deputy Executive Administrator
Office of Planning

C: Ron Glenn, Chair, RWPG-B

West Texas Utilities Company
Oklaunion Power Station
12567 FM Road 3430
Vernon, TX 76384
www.aep.com

AEP
WEST TEXAS UTILITIES®

September 4, 2002

Mr. Stephen L. Nolen
U.S. Army Corps Of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

I wish to comment on the reevaluation study for the Wichita River Basin Phase of the Chloride Control Project. Economic development is critical to the growth and success of this region. Perhaps the most critical need is a plentiful supply of good quality water. We have a great source of water in the Red River and the Wichita River, however, due to the high level of chlorides, both are unusable for many purposes.

I am in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U.S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be a tremendous benefit to our region and provide an impetus for growth, jobs, and many other benefits. Therefore, I am in full support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely,

Mark Barton
General Manager, Oklaunion Power Station

PMB/sgm

Copy: Red River Authority of Texas
Senator Kay Bailey Hutchison
Representative Mac Thornberry

City of Crowell

P O Box 250
101 East California Street
Crowell, Texas 79227-0250

September 5, 2002

Mr. Stephen L. Nolen
US Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed please find a resolution by the City of Crowell, Texas, supporting the Wichita River and Red River Chloride Control Project.

These proven chloride control methods have resulted in an easing of the municipal water reserves and supply for the City of Wichita Falls. An additional resource, the Pease River water-shed as well as the entire length of the Brazos River system should well be addressed.

We thank everyone who has had a part in this noble effort.

Sincerely,

Robert Kincaid, Mayor

Enclosure

Cc: Mr. Ronald J. Glenn, General Manager
Red River Authority of Texas

Honorable Kay Bailey Hutchinson
US Senator-District of Texas

Honorable Mack Thornberry
US Representative-District of Texas

COPY FOR YOUR INFORMATION

RESOLUTION

CITY OF CROWELL ~

STATE OF TEXAS ~

A RESOLUTION OF THE City of Crowell directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the US Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the City of Crowell hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its' tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the **20th** day of **August, 2002.**

Robert Kincaid, Mayor

ATTEST:

Tiffni Herena, City Secretary

L.D. (JACK) JONES, JR.
3006 MCNIEL • SUITE 202
WICHITA FALLS, TEXAS 76309

TEL. (940) 889-3115
TEL. (940) 692-7721
FAX (940) 692-7740
FAX (940) 889-5321

REAL ESTATE CONSULTANT
STATE CERTIFIED GENERAL
REAL ESTATE APPRAISER
TX-1323069-G

July 24, 2002

Mr. Stephen L. Nolen
USACE, Tulsa, PE-E
1645 S 1015 E AVE
Tulsa, OK 74128

Dear Sir,

I attended the Corps meeting in Wichita Falls, Texas, last evening. It was most informative. I especially appreciate Mr. Marc Masnor explaining the various exhibits and the issues involved.

I have lived in the Lake Kemp area all my life. About 1927 I started fishing there with my dad. Later, there were picnics, water skiing, hunting and exploring.

When the dam was raised I was employed by the City of Wichita Falls and Wichita Water District #2 to appraise all of the cabins that were to be moved. After appraising about 50 and acquiring about 5, the word was passed to quit and that the cabins would stay there for 30 years. I was also employed by the W. T. Waggoner Estate to appraise the flood easement to the elevation of the "Country Spillway" at the south end of the dam. I did the appraisal work for the owner of the land where the Truscott Lake is now located.

I am strongly in favor of the program promulgated by the Corps of Engineers. I am strongly against putting any salt water in any fresh water streams such as Beaver or Paradise Creeks. The benefits of the Corps plan far outweigh any supposed disadvantages dreamed up by the opposition.

Thank you for this informative meeting. Let me know if any of the observations I have made over the years would be of any assistance to you. With kind regards, I am,

Yours very truly,

Jack Jones

L. D. "Jack" Jones, Jr.

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

SEE ENCLOSED LETTER.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name:_____

Address:_____

City: _____ State:_____ Zip Code:_____

E-mail: _____

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I am in favor of cleaning up the water & this looks like a good program to do so.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: Mike Hensch

Address:

City: State: Zip Code:

E-mail:

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

Looks as if you are on the right track, but if the dam would hold the top of the pool could be raised to 1150 and the bottom raised to 1120.

The Texas Parks & Wildlife idea of transferring the salt ~~Be~~ brine to creeks in the area would defeat part of the purpose of the project.

(Feel free to use the back of this page or add additional pages)

J.S. (Jim) Stright, Vernon TX

P.S. Forget the striped Bass - they are not fit to eat!!!

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

E-mail: _____

Thank you for your time!

RESOLUTION

CITY/COUNTY OF Jolly §

STATE OF TEXAS §

A RESOLUTION OF THE Jolly *(city / county / water district / water supply corp)* directing the United States Army Corps of Engineers to continue the development and construction of the Wichita River Basin portion of the Red River Basin Chloride Control Project as planned and authorized by Congress through Public Laws 89-789, 91-611, and 99-662 with continued federal funding; and

WHEREAS, a good quality of water is essential to sustain our present and future way of life and the economic growth of our communities; and

WHEREAS, the reclamation of the Wichita River and its tributaries presents a viable solution to meet the future water resource needs and economic development for the entire region of the Wichita River Basin; and

WHEREAS, the Red River Authority of Texas, as the designated Local Cooperating Sponsor for the Chloride Control Project; has represented that the project is technically and economically feasible, and poses no adverse impact to the environment or the ecosystem based on the U.S. Army Corps of Engineers Supplement to the Final Environmental Impact Statement dated June 2002.

NOW THEREFORE BE IT RESOLVED that the Jolly *(city / county / water district / water supply corp)* hereby pledges its continued support of the Wichita River Basin Chloride Control Project which has demonstrated through good science to reclaim the waters of the Wichita River and its tributaries as a useful natural resource for all beneficial purposes of the people of North Texas.

PASSED AND APPROVED this the 10 day of Sept, 2002.

Danny A Murphy

Mayor/Judge/General Manager

ATTEST:

Lisa Murphy

City Secretary/etc.

Sample Letter for a Municipality

Date

Mr. Stephen L. Nolen
U.S. Army Corps of Engineers, Tulsa District
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Dear Mr. Nolen:

Enclosed is a Resolution from the City Council of the City of Jolly indicating our full support of the completion of the Chloride Control Project. We have great sources of water in both the Wichita and Red Rivers, however, due to the high levels of chlorides, they are unusable without extremely expensive treatment processes. An improvement in the quality of this water as well as adequate supply are key issues that directly impact the growth and stability of our community. Without it we may be faced with a grievous situation in just a few years.

The City is in full support of continuation of the environmental monitoring plan to ensure that the Red River ecosystem does not experience any adverse impacts. It is beneficial to all concerned to continue to monitor the project to ensure that it operates as designed and according to the U. S. Army Corps of Engineers' current operational plan.

Reducing the chlorides, thereby improving the quality of the water, would be a tremendous benefit to our city and its growth. The project has been delayed for far too many years. It is critical that the project moves forward and is completed as planned without any more delays. We continue to maintain our support of the efforts of the Corps of Engineers and the completion of the Chloride Control Project.

Thank you for the opportunity to comment on this extremely vital project.

Sincerely, Danny Murphy

Name/Signature Danny Murphy

copy: Red River Authority of Texas
Senator
Representative

Public Information Workshop

Wichita River Only Portion of the Red River Chloride Control Project

QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

Marc Masnone explanation of the project was confident and seemed to benefit to the greatest number with best interests of all parties involved. I support the project and don't think any major problems will occur to the environment. It seems to me that the Corps has taken every concern into account & produced test results that back ~~their~~ its claims that the Red R. Chloride Control Project is safe, economical & environmentally sound.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: John Fonville

Address: 331 W. Woodard

City: Denison State: TX Zip Code: 78020

E-mail: jfonville@herald-democrat.com

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I believe it's time we get on with controlling the chlorides in the Wichita River Basin. I ~~think~~ the impact on the wildlife is minimal in comparison to benefit derived by our population have water to drinking, irrigation and recreational ~~pu~~ purposes. The time for study is over ~~tett~~ lets put our tax dollars to work for ~~A~~ the citizens of Wichita Falls.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: Lawrence R. Krugle

Address: 5000 Rock Point St.

City: Wichita Falls State: TX Zip Code: 76310

E-mail:

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

We need to Clean up Lake Kemp
for Water Purposes, Irrigation, and
Drinking Water for the future
I support the Chloride Project
Thank You
Jesse Fluk
Board of Directors Wichita Co Water Imp
District

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name:_____

Address:_____

City: _____ State:_____ Zip Code:_____

E-mail: _____

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I am a livestock farmer located NW of Burkburnett and have always been a strong supporter of the chloride control project on Red River. In years past when the river flooded it would accumulate in lower areas. As a result I have about 5-6 acres of bottom land in the pasture that is salted out. During the extended drought in 2000 I completely ran out of water for my livestock. I ended up constructing an alley so they could drink off out of Red River which they did. We were thankful the water was satisfactory for the cattle.

(Feel free to use the back of this page or add additional pages)

This has been one of the best projects the Corps could undertake. We sincerely hope Congress will provide adequate funding so more salt can be removed from the water sources here in North Texas especially Wichita Falls

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: JAMES LUDEKE

Address: 3326 Bohner Rd

City: Burkburnett State: TX Zip Code: 76354

E-mail:

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I think the Chloride Control Project is vital to the agricultural community in this area. Pure water is needed and we need this to help our farmers in the irrigation district. The City of Wichita Falls will also benefit from this study. We are 100% for it!

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: M. E. Huffman

Address: 1 Retta Terrace

City: Wichita Falls State: TX Zip Code: 76309-4125

E-mail:

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I am very much in favor of finishing the Red River Chloride Control Project. We have seen improvements in the quality of water with the operation of the Area VIII collection dam and pipeline. It is very important to finish this project so we can put the water to more use. I believe it is time to finish this project. Thank You.

(Feel free to use the back of this page or add additional pages)

James Briley

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name:_____

Address:_____

City: _____ State:_____ Zip Code:_____

E-mail: _____

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I am in favor of finishing the Chloride control project. DRINKING water is more important than other issues involved. It needs to be done as soon as possible.

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: ELIZABETH A. PEIRCE

Address: 229 PIUTE

City: WICHITA FALLS State: TX Zip Code: 76310

E-mail:

Thank you for your time!

Public Information Workshop
Wichita River Only Portion of the Red River Chloride Control Project
QUESTIONS & COMMENTS

Please write down any questions or comments you may have about the Corps of Engineers evaluation and leave the completed sheet with one of the Corps representatives. Alternately, you may take this form with you and return it using the postage-paid envelopes provided at this table.

I fully support this project. The benefits to the citizens of North Central Texas are almost immeasurable. The recent drought has shown the need for additional water sources for the City of Wichita Falls. This project over time will save the citizens of Wichita Falls money in reduced operational costs at the Cypress Water Treatment Plant. I believe that the proposal is balanced and does not impact the environment. It is a win-win for all parties

(Feel free to use the back of this page or add additional pages)

We are eager to answer your questions. If you wish to have a response to your question mailed or e-mailed to you, please provide your name and the appropriate information:

Name: Scott Taylor

Address: PO Box 1431

City: Wichita Falls State: TX Zip Code: 76307

E-mail: staylor@cwftx.net

Thank you for your time!

TEXAS PARKS & WILDLIFE

COMMISSIONERS

KATHARINE ARMSTRONG IDSAL
CHAIRMAN, SAN ANTONIO

ERNEST ANGELO, JR.
VICE-CHAIRMAN, MIDLAND

JOHN AVILA, JR.
FORT WORTH

JOSEPH B.C. FITZSIMONS
SAN ANTONIO

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HOUSTON

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DONATO D. RAMOS
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KELLY W. RISING, M.D.
BEAUMONT

MARK E. WATSON, JR.
SAN ANTONIO

LEE M. BASS
CHAIRMAN-EMERITUS
FORT WORTH

ROBERT L. COOK
EXECUTIVE DIRECTOR

July 18, 2002

Mr. Mark Masnor
U.S. Army Corps of Engineers
1645 South 101st E. Ave
Tulsa, Oklahoma 74128

Mr. Masnor:

The Texas Parks and Wildlife Department (TPWD) is requesting that the Corps fund the design and construction of improvements to the Dundee State Fish Hatchery. The improvements would not only ensure continued operation of the hatchery to the benefit of all Texas anglers, but would provide the water district with additional water and operating flexibility. The proposed improvements should include relocation of the hatchery intake in Lake Diversion to a minimum elevation of 1043' msl, installation of a water treatment system for the incoming water supply to reduce turbidity and construction of a system to collect and return hatchery effluent back to Lake Diversion.

We request that the Corps consider this request as part of the mitigation for the proposed Wichita River Chloride Control Project and work collaboratively with TPWD, the Wichita County Water Improvement District No. 2 and the City of Wichita Falls to develop a scope of work and cost estimates for the project.

Sincerely:

Phil Durocher

Phil Durocher
Director, Inland Fisheries Division
Texas Parks and Wildlife Department

PD:JW:nn

cc: Kevin Mayes

Give Thanks for the Memories...

Lone Star Legacy

Give to the Lone Star Legacy Endowment Fund

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512-389-4800
www.tpwd.state.tx.us

TEXAS WATER DEVELOPMENT BOARD

Wales H. Madden, Jr., *Chairman*
William W. Meadows, *Member*
Dario Vidal Guerra, Jr., *Member*

J. Kevin Ward
Executive Administrator

Jack Hunt, *Vice Chairman*
Thomas Weir Labatt III, *Member*
E. G. Rod Pittman, *Member*

August 15, 2002

Mr. Stephen L. Nolen
Chief, Environmental Analysis and Compliance Branch
U.S. Army Engineer District, Tulsa
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Review comments on the Supplement to the Final Environmental Statement for the Red River Chloride Control Project—Wichita River Portion

Dear Mr. Nolen:

Thank you for sending us a copy of the Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project (RRCCP). As per your request, staff of the Texas Water Development Board (TWDB) have reviewed the document, and we are submitting review comments on the Wichita River portion only. The RRCCP on the Wichita and Pease Rivers is a water management strategy with high regional support. The project is included in the Region B Regional Water Plan and the State Water Plan (Water for Texas- 2002). Regional Water Planning Group B anticipates that the Wichita River Basin Chloride Control Project will effectively remove 362 tons per day of the 429 tons per day of chloride entering the Wichita River system. This improved water quality will allow full utilization of Lakes Kemp and Diversion, according to the Region B Regional Water Plan, which is available on our web site at http://www.twdb.state.tx.us/.

The State approved Region B Regional Water Plan, which supports inclusion of this water management strategy in their plan. According to the regional water plan, the successful completion of the RRCCP should result in an increase in the volume of water available for municipal and industrial purposes in the region. Additional water supplies could also be available for a broader range of agricultural activities.

Our Mission
Provide leadership, technical services and financial assistance to support planning, conservation, and responsible development of water for Texas.

P.O. Box 13231 • 1700 N. Congress Avenue • Austin, Texas 78711-3231
Telephone (512) 463-7847 • Fax (512) 475-2053
1-800-RELAYTX (for the hearing impaired)
URL Address: http://www.twdb.state.tx.us
E-Mail Address: info@twdb.state.tx.us
TNRIS - The Texas Information Gateway • www.tnris.state.tx.us
A Member of the Texas Geographic Information Council (TGIC)

TNRIS
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There is opposition to the project from the Texas Parks and Wildlife Department (TPWD) and the U.S. Fish and Wildlife Service (USFWS) due to their anticipation of reduced productivity of streams and reservoirs due to the reduced chloride levels and increased turbidity. However, analyses in the Supplemental Environmental Assessment shows that none of the impacts anticipated by TPWD and the USFWS will occur with the proposed plan. There may be an impact to the stripped bass fishery in Lake Texoma. The sport fishery for stripped bass in Lake Texoma is an important economic resource for the state.

With regard to environmental issues, of more concern is the potential for reported Selenium-related impacts to sensitive organisms, such as young or adult birds temporarily residing at the Truscott Brine Disposal Reservoir. Monitoring of resident and migratory wildlife populations is warranted due to the complexity of this chemical constituent in the environment, and the accumulation of waste material in Truscott Brine Disposal Reservoir. However, we believe that the benefits of the project outweigh the potential impacts described in the Supplemental Environmental Assessment.

Thank you for giving us the opportunity to review this important water resource management strategy issue, and allowing us to provide comments on it. If we can be of any further assistance, please feel free to call me at (512) 936-0813.

Sincerely,

Bill Mullican

Bill Mullican
Deputy Executive Administrator
Office of Planning

C: Ron Glenn, Chair, RWPG-B

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Post Office Box 649
Albuquerque, New Mexico 87103

IN REPLY REFER TO:

August 23, 2002

ER 02/588

Larry D. Hogue
Chief, Planning Environmental & Regulatory Division
Department of the Army
Tulsa District, Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Hogue:

As discussed in our telephone request of August 5, 2002 regarding comment period extension, and reiterated in our subsequent letter on the same date, the U.S. Department of the Interior (DOI) has reviewed the Draft Supplement to Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River Only Portion (Draft Supplement). In this regard, the following comments are provided for your consideration as you develop the final document.

General Comments

The preferred alternative, as presented in the Draft Supplement, is to add pumping from brine sources at Area VII and Area X to the existing Wichita River Basin portion (WRB Project) of the Red River Chloride Control Project (RRCC Project). The Draft Supplement includes adequate mitigation for terrestrial impacts. The Draft Supplement also includes monitoring and, potentially, some undetermined mitigation for some aquatic impacts during implementation of the preferred alternative. We object to the latter approach and believe the necessary environmental studies should either be completed prior to construction or that adequate mitigation for foreseeable worst case analysis of and impacts to aquatic resources be developed and implemented. Proposed future monitoring alone provides no information for analyses that could implement project changes to avoid or reduce project impacts when necessary.

Numerous project impacts could not be adequately mitigated with implementation of the preferred alternative. For example: 1) reduced flows and associated aquatic impacts in the upper Wichita River could not be replaced in-kind; 2) reduced salinity and associated aquatic impacts in the upper Wichita River could not be replaced in-kind; 3) reduced inflows, increased water withdrawals and increased turbidity would impact all aspects of the reservoir aquatic environment at Lake Kemp, primarily by reducing the quantity of water stored and primary productivity, ultimately reducing the carrying capacity of the reservoir, all of which would be

difficult to mitigate in-kind; and 4) similarly, reduced water clarity could impact all aspects of the reservoir's aquatic environment in Lake Texoma, primarily by reducing primary productivity, and ultimately reducing the carrying capacity of the reservoir for all aquatic life.

We assert that the proposed project, as currently designed, should not be implemented as proposed due to the many and significant, unmitigated environmental impacts. Initially, 14 alternatives involving several collection and disposal methods were evaluated by the U.S. Army Corps of Engineers (Corps). The U.S. Fish and Wildlife Service (FWS) and Texas Parks and Wildlife Department provided 12 other environmentally preferable alternatives that involved elimination of brine pumping from one site (Area X) or reduced pumping from a combination of sites which were considered. Other alternatives to pump from salt sources to other tributaries or directly to the Wichita River downstream of Lake Diversion (rather than piping brines to Truscott Brine Reservoir) also were suggested. However, the proposed project described in the Draft Supplement is potentially the most environmentally damaging alternative.

In terms of geographical effect, the potential impacts of the WRB Project affect most of the Wichita River system and the Red River from Estelline Springs in the Prairie Dog Town Fork in Hall County, Texas, downstream to at least Lake Texoma. The Draft Supplement describes water quality changes and benefits as far downstream as Shreveport, Louisiana. Predicated on this description, the FWS conservatively estimates that over 500 miles of river would be impacted assuming these effects extend only as far downstream as to Lake Texoma.

Considering most of the comments and recommendations in the FWS's (May 2002) Fish and Wildlife Coordination Act (FWCA) Report (CAR) for the WRB Project have not been incorporated into the Draft Supplement, the DOI is resubmitting all comments or recommendations provided in the CAR. In accordance with the FWCA, we strongly recommend that the Corps give full consideration to the FWS and State natural resource agency findings and recommendations to the point that wildlife conservation is given equal consideration with other project features.

Specific Comments

Low flow impacts:

The magnitude of the effect of the WRB Project on low flows is concealed by a flawed analysis. The analysis reveals an apparent bias towards maximizing economic benefits and discounting environmental impacts. For example, the effects of brush control in Reach 10 are reported to actually reduce the number of zero flow days by 45.7-61.1 percent as compared to the proposed alternative without brush control. This is a direct comparison of the total number of zero flow days with and without brush control.

However, when the total number of zero flow days for Reach 10 are compared with and without the project, a direct comparison is no longer used. Instead, the aquatic impact analysis relies on the number of zero flow days as a percentage of the total number of days in the 37-year period of record (10/61 - 9/98, 37 years, or 13,505 days). When the reduction in zero flow days due to brush control in Reach 10 is spread out over the entire period of record, brush control only decreases the number of zero flow days by about 4 percent. Based on stream flow observations over the 37-year period of record, only 2 days of zero flow occurred. With the proposed project in operation this would increase to 1,131 days.

Should brush control be effective, the number of zero flow days still would exceed 600 days (614 predicted with brush control). The Draft Supplement presents this change as only a 2.3 percent increase by using the percentage of the zero flow days in the 37-year period of record. The increase actually represents a 3 order of magnitude increase in zero flow days without brush control and a 2 order of magnitude increase with brush control. On average, the number of zero flow days would essentially increase by 30 days per year. Even with brush control, the number of zero flow days is increased from 2 days in 37 years to 614, or an average of over 16 days per year with zero flow. The Draft Supplement fails to fully recognize the severity of the impact and misleads the public by expressing the number of zero flow days over the entire period of record (37 years).

The number of days with zero flow is greatly increased in the North Fork Wichita River by any alternative incorporating pumping from Areas VII or X (U.S. Army Corps of Engineers 2001b, as cited in the CAR). The effect on flows is significant. Assuming the average increase in zero flow is about 30 days per year, during periods of drought, Reach 10 will experience much greater lengths of time with no flow. Data provided by the Draft Supplement demonstrates that there would have been 205 zero flow days during the drought of 1964 and six other years having over 100 zero flow days if the preferred alternative was implemented. During the most extreme drought, the Draft Supplement analysis predicts 221 continuous days of zero flow between October 1970 and May 1971.

Most fish and other aquatic life could not be expected to survive with 221 continuous days of zero flow. Individuals of most fish species in Reach 10 are short lived, with life spans generally of no more than 4 years. Averaging stream flows over the 37-year period of record becomes irrelevant if even two consecutive years have severe enough conditions to eliminate most or all of a particular fish species. Extended periods of zero flows will affect abundance and species composition of the fish community and these impacts should be avoided or adequately mitigated.

The preferred alternative proposal would pump about half of the average flow in the Middle and North Forks of the Wichita River to Truscott Reservoir. The 7-day, 2-year, low flow frequency in Reach 10, as measured at the Truscott Gage (North Fork Wichita River), would be reduced by about half (from 41 cubic feet per second (cfs) to 22 cfs) with implementation of the proposed WRB Project (U.S. Army Corps of Engineers 2001b). However, the Draft Supplement indicates

that "... flow impacts are not anticipated to adversely impact fish communities..." and "... no mitigation is recommended ..." (as stated in the Draft Mitigation Plan). The Draft Supplement supposes that the fish production/biomass currently supported during existing low flow periods would persist when these flows are reduced by about 50 percent. This is not a realistic expectation and violates basic ecological principles. Aquatic habitat quantity, and potentially quality, would certainly be reduced by the projected alterations of low flow periods. Even if the species composition doesn't change, the abundance of these species likely would decline. We consider this a significant adverse impact. Reducing stream flow by as much as one half of the existing levels during stressful low flow periods is certain to adversely alter the abundance and, possibly, species composition of the fish populations in the North Fork Wichita River.

The State of Texas brush management program is a trial project to increase water yields and improve range conditions. Funding is not allocated or assured at the present time. There is no firm commitment by the State nor the Corps to fund brush control for the life of the WRB Project and no firm commitment by landowners to participate in this program. Inclusion in the Region B Water Plan, or in any regional plan for that matter, does not assure implementation of a project. Water plans, per se, do not fund construction or operation of recommended projects. Regional water plans developed under Senate Bill 1 recommended 17 billion dollars of water development projects throughout the State of Texas. Funding sources for many of these projects have not been identified. Despite questionable funding, the Draft Supplement assumes that brush control will be initiated on at least 50 percent of the watershed. The analysis assumes that brush control will increase flows by 27.6 percent to 38.9 percent. The Draft Supplement also assumes that brush control will be maintained for the entire 100-year project life. The Draft Supplement's position is that brush control is a without-project condition and will involve no Corps funding or involvement. Without some assurances from the Corps and/or the State of Texas, we believe that the assumptions used in the economic analysis concerning stream flow are not valid.

Water Quality:

Golden Algae, *Prymenesium parvum* - The Draft Supplement correctly presumes that a change in the nitrogen to phosphorous ratio may be a governing factor for toxicity in *P. parvum*. The predicted increase in nitrogen and phosphorous in the Wichita and Red rivers due to project related increased irrigated agriculture could increase the risk of fish kills from toxic algal blooms in these rivers.

Reduction in chloride levels, Rivers - The Draft Supplement uses Oscar Creek in Oklahoma to justify anticipated fluctuations in salt tolerant and intolerant species in the Wichita River. However, Oscar Creek is not a suitable example. We recognize that populations of salt tolerant and intolerant species fluctuate with changes in salinity. Fluctuations at Oscar Creek occur under natural conditions and invasions of less tolerant species are infrequent. The proposed brine removal is not a natural occurrence and the anticipated chloride concentrations would never return to pre-project conditions. Consequently, we doubt anticipated increases in abundance of

less salt tolerant species in Reaches 10 and 11 would be limited to short-term pulses, as described in the Draft Supplement. The proposed reduction of chlorides by 75 percent would be relatively continuous over the life of the WRB Project.

Research by Echelle et al. (1972), as cited in the CAR, indicates Red River pupfish are usually only abundant in waters with salinity greater than 10,000 ppm. The Draft Supplement (Figure 4-2 in Volume I) documents that salinity in Reach 10 will no longer reach or exceed 10,000 ppm when the preferred alternative is implemented. Salinity fluctuations in Reach 11 also are drastically reduced compared to without project conditions and would rarely exceed 10,000 ppm. The Draft Supplement incorrectly states impacts to the salt tolerant species would not be long-term. Salinity levels cannot be reduced by over 70 percent without adversely impacting salt tolerant species.

The South Fork example also is misleading. Although salt tolerant fish still persist, the Draft Supplement does not provide evidence to support statements that these populations will not be impacted by project implementation. We believe salt tolerant species would be likely to survive near salt springs and immediately below the dams at brine sources. However, the mere occurrence of these species cannot be used to infer that the abundance and distribution of salt tolerant species would not be altered. The Draft Supplement also fails to consider other potential project related impacts to species composition in the affected streams. Even within the group of fish species considered less salt tolerant, there are differences in tolerances or competitive advantages related to salinity. Echelle et al. (1972) identified three different complexes of species related to salinity concentrations in Upper Red River tributaries. It is highly unlikely that salinity can be artificially reduced by over 70 percent and not influence the distribution or abundance of some fish species or complexes of species.

The Draft Supplement inappropriately focuses on the continued existence or survival of certain fishes and ignores potentially large impacts to their abundance. As you are aware, Section 1500.1(c) of the Council on Environmental Quality (CEQ) Regulations for Implementing the National Environmental Policy Act (NEPA) of 1969, as amended, states "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." The Draft Supplement fails to demonstrate how impacts related to salinity and flow reductions would be avoided or minimized and proposes no mitigation for the unavoidable impacts. It is extremely difficult, if not impossible, to mitigate (in kind) for the impacts to flow and salinity. The aquatic resources that would be impacted are a public resource and it is inappropriate for the project to proceed in the absence of adequate compensation for project related impacts.

Selenium Concerns at Truscott Reservoir:

We are concerned about the predicted Selenium (Se) concentrations in Truscott Reservoir that would result from implementation of the preferred alternative. Selenium concentrations would not only exceed the minimum threshold for impacting sensitive wildlife by more than three times, they also would exceed current U.S. Environmental Protection Agency (EPA) chronic criteria and Texas State water quality standards. These standards and criteria are established to protect aquatic life and human health and are based on research that demonstrates deleterious effects can occur at or above these levels. We agree that the extremely complex nature of selenium dynamics in aquatic systems makes predicting any project related impacts to birds or any other animals or plants in the project area very difficult. However, we take issue with the Draft Supplement's statement "that the potential for Se-related impacts associated with this project is not excessive" and that risks are reasonable. The limited quantity and high variability of data collected to date lead us to conclude that Draft Supplement claims are extremely optimistic and cannot be supported over the life of the project. Despite conservative assumptions, the Draft Supplement model is based on only 3 years of data and any projections over the 100-year or more project life are highly speculative. The Draft Supplement concludes, as presented in paragraph 3, page ii, of the Corps 2001b report (as cited in the CAR), that:

> "Results of monitoring at Truscott Brine Lake are applicable for the monitoring period only and should not be interpreted to represent current or future conditions. The potential for increasing Se concentrations as the WRB Project progresses and complexities involved with Se dynamics are justification for continued monitoring of a variety of environmental media at Truscott Lake. This is particularly true if additional brine sources are added as input to the impoundment."

The model may represent the best available information, but it cannot strongly support any long-term conclusions about Se-related risks to wildlife. We agree that Se-related impacts to wildlife could develop over the life of the project and recommend that additional data be collected and analyzed before drawing conclusions about the risks.

We cannot support any potential remedial measures which would involve elimination of populations of organisms such that Se-impacts to higher trophic levels would be avoided. We also cannot support remedial measures that propose to haze birds or destroy nesting habitat without mitigation. The purpose of the Selenium Action Plan is to avoid project-related adverse effects to wildlife, and intentionally destroying populations or habitat could cause more harm than elevated Se concentrations. Remedial actions presented in the Draft Supplement should focus on measures that preclude Se concentrations from reaching "Action levels." Unfortunately, many of the proposed measures appear to simply treat the symptoms rather than the cause.

The Draft Supplement fails to acknowledge that the potential adverse effects of the proposed action are long lasting and difficult to control or eliminate after they develop. The impacts of Se at the WRB Project may continue long after the end of the anticipated 100-year WRB Project life. The costs associated with closing the WRB Project and safely dealing with the accumulations of salts and Se are likely to increase with time and should be factored into the economic analysis and feasibility study. Monitoring alone is not an acceptable means of addressing such a potentially serious problem.

From the standpoint of Se contamination the Corps has inferred, as the preferred alternative (proposed action), the most damaging alternative instead of the least. The proposed WRB Project has the potential to violate both State water quality standards and the Migratory Bird Treaty Act.

Dundee State Fish Hatchery:

The Dundee State Fish Hatchery could be affected by project related impacts to water supplies and water quality at Lake Kemp and Lake Diversion. Drought contingency plans presented in the Draft Supplement discontinue water deliveries to the hatchery when Lake Kemp elevations fall to levels that would rarely, if ever, occur without the proposed project. Corps studies confirm that turbidity at Lakes Kemp and Diversion would be increased if the proposed WRB Project is implemented; this turbidity would increase water treatment costs for the hatchery.

Mitigation for adverse impacts to the Dundee State Fish Hatchery's water supply should be in addition to mitigation for impacts to the fishery at Lake Kemp and Lake Diversion. Mitigation recommendations to adequately replace the hatchery capabilities that would be lost at the Dundee hatchery have been provided to the Corps. The Draft Supplement fails to adequately address project related impacts at the Dundee State Fish Hatchery. Present alternatives involve relocating the intake for the hatchery, pump back of hatchery discharge to Lake Diversion, and installation of a water treatment system for the incoming water supply to reduce turbidity.

Lake Texoma:

In a separate document, the "Wichita River Basin Project Reevaluation, Red River Chloride Control Project," the Corps states that Area V has reduced chloride loads to Lake Texoma by 7 percent and Area VIII has reduced chloride loads to Lake Texoma by 5 percent. Yet later in that same document, and in the Draft Supplement, the Corps indicates only about a 10 percent reduction in chloride levels will occur with Areas V, VII, VIII, and X in operation. We request a clarification of what the total reduction in chloride and total salinity is predicted to be for the entire WRB Project (based on the selected alternative) at Lake Texoma.

The Draft Supplement discusses potential project related impacts to Lake Texoma at great length and states that survival of larval striped bass would not be impacted, and increases in turbidity would be very slight. The Draft Supplement indicates that striped bass successfully spawn in

other waters with less salinity and the "small effects on the turbidity levels in Lake Texoma would not be expected to have a detectable effect on the sport fishery (including striped bass) of the Lake."

We agree that striped bass successfully spawn in other waters with less salinity than would exist post-project in the Red River. Our concerns involve project-related impacts on larval survival, not spawning. Native coastal stocks of striped bass generally spawn in fresh water. The eggs are buoyant and float downstream where the larval striped bass complete development in estuaries. Virtually all published literature shows a reduction in larval striped bass survival at salinity levels below those at Lake Texoma. The fact that successful inland striped bass fisheries exist under less saline conditions does not mean that larval striped bass survival is unaffected by reduced salinities. None of the arguments presented in the Draft Supplement demonstrates that larval striped bass survival would not be affected. The best available information suggests that their survival would be reduced by implementation of the proposed WRB Project. Any reductions in survival of larval striped bass should be offset by appropriate mitigation if the impact cannot be avoided.

The Draft Supplement attempts to minimize the potential effects of increases in turbidity at Lake Texoma. Although Corps studies show relatively small increases in turbidity (0.11 to 0.15 NTU) related to project induced reductions in salinity, the settling rates developed in the lab in these studies are unlikely to accurately reflect actual turbidity levels in Lake Texoma. We anticipate that even a very small reduction in the depth of light penetration and primary productivity can have a considerable impact on fish production in a reservoir the size of Lake Texoma. A half inch reduction in light penetration at Lake Texoma is equivalent to eliminating productivity in about 1,810 acres of water 1 foot deep. In a reservoir with nearly 87,000 surface acres, even if only a very small percentage of the fish population in Lake Texoma is impacted, thousands of fish would be affected. Other forms of aquatic life in the area are also dependent on the productivity of the river and reservoir. Considering the life of the proposed WRB Project is proposed for at least 100 years, the annual impacts could add up to very large losses to public resources. Although the increase in turbidity appears to be small, the fish and other aquatic life are public resources. Mitigation for impacts to this resource should be provided by the Corps or, at a minimum, impacts should be fully analyzed–primary, secondary, and cumulative–and provided in the final document.

Lake Kemp:

The Draft Supplement predicts that chloride levels in Lake Kemp would be reduced by 76 percent, accompanied by greatly increased demands for water. Consequently, water levels would fluctuate more, often would be at much lower elevations for extended periods of time, and would experience increased turbidity. Although the reservoir would have less water and be more turbid, the Draft Supplement states such alterations would have no impact on the fishery and no mitigation is required.

The Draft Supplement only partially addresses potential impacts to spawning and recruitment, and the proposed reduction in water quantity affects more than just spawning and recruitment. Cover is not the only thing that affects recruitment and adding brush to a much smaller body of water does not make up for the loss of water. Figure 4-9 in Volume one of the Draft Supplement shows that the proposed WRB Project could reduce water surface elevations in Lake Kemp by over 15 feet and 2/3 of its volume in some years. For example, modeling of the preferred alternative over the period of record demonstrates that in 1980 the proposed WRB Project would have reduced Lake Kemp from about 157,247 acre-feet or 8,010 surface acres, to only 46,701 acre-feet and 3,513 surface acres. These reduced elevations are likely to persist for at least 4 months in most years before runoff may replenish reservoir levels. While the effects of the proposed WRB Project are not always this severe, the Draft Supplement predicted at least 10 foot reductions for nearly 10 years during the 1970s. It cannot be reasonably expected that the same biomass of fish can be supported in a much smaller body of water for any length of time. However, the Draft Supplement predicts that there will be no significant effects to the fishery if brush is added for mitigation.

The Draft Supplement also unrealistically assumes that recreational benefits at Lake Kemp would not be affected by the proposed WRB Project. Reductions of 10-20 feet in elevation, reduced surface area (less than half), reductions in sport fish production, and increases in turbidity are very likely to reduce recreational use of the reservoir. Large areas of exposed mud flats will regularly occur and boat ramps and docks would be difficult to maintain in a usable condition with such fluctuations in elevation. Boating use would be greatly impaired at the lower elevations.

Benefits Analysis:

After 15 years of operating the existing chloride removal project, irrigated agriculture in the WRB Project area has declined. However, the Draft Supplement predicts irrigated agriculture will increase by more than 43,000 acres within 5 years following implementation of the preferred alternative. The projection is supposedly based on similar water quality improvement projects in Texas. In our opinion, the Wichita River basin (Reach 7) is the most appropriate project to use for this comparison. Using other "similar projects" seems unrealistic. It is unclear why a chloride reduction of 20-30 percent in Reach 7 has not induced an increase in irrigated agriculture in 15 years, yet a 6 percent reduction in Reach 5 would induce farmers to begin irrigation on 9,295 acres of land within 5 years; an obvious disparity exists requiring additional analysis. A 4 percent reduction in chloride levels has supposedly already occurred in Reaches 5 and 6 of the Red River due to existing WRB Project operations and has not induced any increase in irrigated agriculture.

The projected increases in irrigation within economic Reaches 5 and 6 seem unrealistic or relatively unrelated to the proposed WRB Project. An additional 6 percent reduction in chloride levels is not likely to be enough incentive for farmers to invest in irrigation equipment when most of the same crops can be grown in this area without irrigation. Texas A&M University

studies included in the Draft Supplement agree that the effects of the WRB Project on agriculture in Reaches 5 and 6 along the Red River should likely be ignored. The FWS provided the Corps information on predicted chlorides, sulfates, and total dissolved solids to experts at Oklahoma State University and the Natural Resource Conservation Service and these entities have both agreed that a 6-11 percent reduction in chlorides was unlikely to have any significant impact on the amount of irrigated agriculture in Reaches 5 and 6. The predicted change in chloride levels is not likely enough incentive to convert many farming operations from dryland to irrigated farming.

The benefit analysis repeatedly relies on potential benefits which have not been actually demonstrated to occur. Conversely, anticipated environmental impacts, and associated mitigation needs, are summarily dismissed. Instead, the Draft Supplement relies on a process where environmental impacts would be monitored, with no mitigation measures implemented until impacts were actually documented. For example, the Draft Supplement assumes brush control will occur (and will be effective in increasing stream flows) in counting benefits for water yields but is unwilling to assume any potential costs related to brush control or mitigation for impacts to aquatic resources from low flows. Brush control has not been funded by the State of Texas and its actual level of effectiveness has not been proven. Even if effective at reducing low flow impacts, brush control does not completely compensate for predicted reductions in flows.

Another example is the potential industrial benefits in Shreveport, LA. Industrial benefits are assumed to occur in Shreveport due to a predicted less than 1 percent decline in chloride levels. The predicted chloride reductions were developed with only a plus or minus 10 percent accuracy. The ability to demonstrate a project related reduction of 1 percent in a highly variable system is questionable. Such benefits are questionable and the assumptions are extremely optimistic. If the analyses contained in the Draft Supplement utilized the same approach with economic benefits as they propose for determining environmental impacts, they would monitor industrial benefits and chloride levels at Shreveport and only count the benefits when or if they were documented.

Relatively minor benefits, such as industrial benefits at Shreveport and increased life span of household appliances, are indicated, but even potentially significant impacts to natural resources are ignored, avoided, or dismissed in the Draft Supplement. Such an approach is contrary to the intent of the FWCA and NEPA. The Final Supplement should include an impartial analysis of the potential for environmental impacts and present such in a comparative format with other aspects of the WRB Project.

The Draft Supplement benefit analysis is based on the position that all existing features, including mitigation features, of the project should not be included in the evaluation because they are considered "sunk costs." Sunk costs are costs that are already incurred and are assumed to be independent of the current decision making process. The Draft Supplement states that they will continue to operate the existing portions of the project and consider it the no action alternative or base condition. We have serious objections to this position. The existing and proposed

components of the project are interrelated and interdependent. The preferred alternative could not operate without some of the existing features, including Truscott Reservoir. Benefits from the proposed project should not be claimed without factoring in at least a portion of the costs of building and maintaining the reservoir and associated mitigation costs. Eliminating these "sunk costs" eliminates a major portion of the proposed project's costs and falsely improves the project's cost benefit ratio. Mitigation for all of the existing and operational portions of the project has not been provided despite the fact that it has been operational for over 15 years.

The benefits analysis did not reevaluate the feasibility or viability of the entire WRB Project and the feasibility of the existing portion of the WRB Project has not been evaluated since 1993 (almost 10 years). The validity of assumptions made at the time has also not been evaluated with current information. The benefits analysis only examined the feasibility of adding components to the existing portion of the WRB Project. The operational portion of the WRB Project has provided relatively few benefits to date. The City of Wichita Falls has only used the water from Lake Kemp once and irrigated agriculture, as previously discussed, has actually declined since the initial project became operational. The existing portion of the WRB Project may be relatively effective at removing chlorides, but after investing millions of dollars and operating the project for 15 years, it has not yet demonstrated the predicted benefits. The feasibility of the existing portion of the WRB Project should be reexamined before investing more Federal funds in the project. At a minimum, the entire proposed project, including the existing portions, should be evaluated. As recommended by the recent National Academy of Sciences (Panel on Peer Review, Committee to Assess the U.S. Army Corps of Engineers Methods of Analysis and Peer Review for Water Resources Project Planning. In Press. Review procedures for water resources planning. National Research Council.) study of Corps economic assessments, we strongly recommend an independent economic review of the entire WRB Project.

Conclusion

The proposed WRB Project is a significant component of the previously proposed RRCC Project. Until the RRCC Project is deauthorized, all of the potential effects of the larger project must be comprehensively analyzed. It would be inappropriate and not in conformance with NEPA to 'piecemeal' the RRCC Project in attempts to avoid addressing associated impacts and conflicts. The Draft Supplement's failure to consider the cumulative effects and costs of previously constructed portions of the RRCC Project is, again, not in conformance with NEPA and is misleading to the public. We will continue to object to any attempt to implement the RRCC Project in piecemeal stages without the benefit of a comprehensive, cumulative impact analysis.

One of our goals concerning the WRB Project is that fish and wildlife resources and the habitats upon which they depend be maintained and/or appropriately mitigated through balanced project planning and full consideration of long-term and cumulative impacts. The WRB Project could result in unmitigable and long-term losses to important fish and wildlife habitats, particularly terrestrial and aquatic resources of the Wichita River, and recreational fishing opportunities at Lakes Texoma, Kemp, and Diversion. In addition, the Truscott Brine Storage Reservoir may

become a contaminant sink to the detriment of resident and migratory wildlife populations; Se concentrations would ultimately reach levels known to adversely affect reproduction in migratory birds. Se concentrations are predicted to exceed the minimum threshold for potential impacts to nesting birds by more than three times. Additionally, the predicted concentrations would exceed current EPA chronic criteria and Texas State water quality standards. Proceeding with the proposed WRB Project in light of these significant adverse environmental impacts would conflict with the spirit and intent of the FWCA. The FWCA requires equal consideration of fish and wildlife resources with other features of water resource development projects, but the proposed WRB Project frequently considers potential impacts to natural resources as insignificant, while claiming questionable benefits within that same portion of the project area. The WRB Project, as presently formulated, does not give equal consideration to fish and wildlife resources.

The position presented in the Draft Supplement is to propose mitigation for project related impacts in only two instances: 1) for losses of terrestrial habitat resulting from construction and operation of Truscott Brine Storage Reservoir; and 2) spawning and nursery habitat losses for fish at Lake Kemp. While the proposed mitigation for terrestrial impacts is appropriate, the proposed mitigation for aquatic habitat at Lake Kemp is inadequate. In the absence of site-specific information on the possible environmental impacts of the WRB Project, the Draft Supplement dismisses or minimizes the remainder of the FWS's CAR recommendations. Consequently, the Draft Supplemental did not analyze nor recommend mitigation for these additional environmental impacts to be warranted. Instead, this Draft Supplement, as considered during planning for the Upper Mississippi River–Illinois Waterway Study, uses an adaptive mitigation strategy in accordance with principals of adaptive management. Under this proposal, only when environmental impacts are actually proven would mitigation for these impacts occur. Thus, the Draft Supplement fails to explain how these environmental effects might be mitigated or to provide costs associated with implementation of necessary mitigation.

This approach is highly dependent upon future, and not current, project-specific Congressional appropriations. Such an approach would preclude an adequate cumulative effects analysis, as the Draft Supplement supposes no environmental impacts would occur until actual monitoring demonstrates an impact has occurred. In contrast, many of the projected economic benefits also are highly speculative, yet the Draft Supplement does not propose a similar adaptive strategy to confirm actual existence of economic benefits. Although the Corps has proposed, through adaptive management, to modify or even cease operation of the project, if necessary, expending public funds for construction of a project feature which might be removed in the near future demonstrates poor project planning. Considering the project features proposed are long-lasting, delaying mitigation until some future point denies the public the opportunity to fully evaluate the full environmental and operational costs associated with this project. The National Academy of Sciences (Committee to Review the Upper Mississippi River–Illinois Waterway Navigation System Feasibility Study. 2001. Inland navigation system planning–The Upper Mississippi River–Illinois Waterway. National Academy Press. Washington D.C. 130 pp.) in 2001 considered a similar adaptive mitigation strategy to be inadequate because the environment is simply treated as a planning constraint rather than a resource equal with project features.

We recommend the WRB Project not go forward as proposed in the preferred alternative. Little effort is made to avoid impacts and mitigation is minimized while attempting to maximize the economic benefits of the WRB Project. This project appears to take the most expedient route to remove chlorides to the unacceptable detriment of fish and wildlife habitats and resources within the upper Wichita River system. The Draft Supplement makes assumptions in evaluating the feasibility of the proposed project that inappropriately avoid or mask costs, promote questionable benefits, and mislead the public. We would prefer a modified project that combines some of the proposed control measures with other alternatives which would not result in water shortages for the Dundee State Fish Hatchery, reduced flows in the Wichita River, reduced productivity at reservoirs, and the creation of a long-term selenium threat to wildlife at Truscott Brine Storage Reservoir. Other alternatives, such as dropping Areas VII or X, and adding or returning chlorides below Lake Diversion, would allow most of the WRB Project goals to be achieved and reduce potential impacts and long-term costs. While the impacts of such a modified project to fish and wildlife resources would not be eliminated, they could be much reduced in scope. Any of the proposed alternatives will require mitigation that effectively minimizes the negative effects to the unique aquatic community of the Wichita and Red Rivers. These mitigation measures should have the approval of the State natural resource agencies and be incorporated into the Environmental Operational Plan for the WRB Project

To reiterate, the Draft Supplement did not reevaluate the feasibility of the entire project, or the existing portion of the WRB Project. Instead the incomplete analysis considers only the feasibility of constructing and operating the remainder of the WRB Project. An alternative to close the existing portion of the WRB Project was not considered, and of the alternatives that were considered, the preferred alternative is, without doubt, the most environmentally damaging proposal. Selecting the most environmentally deleterious alternative does not indicate a willingness to give equal consideration to wildlife conservation or the draft Se action plan, which states that the objective of the plan is to "avoid, minimize, or compensate for (in that order) impacts" resulting from the operation of any feature of the WRB Project.

As stated in our letter of June 30, 1995, to the District Engineer in response to the *Draft Supplement I to the Final Environmental Statement Red River Chloride Control Project Texas and Oklahoma*, we had concerns with the piecemeal approach of conducting environmental studies and monitoring to develop measures to mitigate adverse environmental impact to a tolerable level; after review of this Draft Supplement we still possess the same concerns. Our June 30, 1995 letter also suggested that in the event myriad issues could not be resolved, we would initiate the referral process to the CEQ as described in 40 CFR Part 1504. The current proposal, as elucidated in this Draft Supplement, has the propensity to result in adverse environmental impacts that may exceed National standards and that are severe in consequence, geographic scope and duration. In addition, it is our opinion that other environmentally preferable alternatives exist and should be considered. Our intent, obviously, is to communicate and coordinate with the Corps to resolve the above issues and to develop a document that will

provide decision makers and the public an array of reasonable alternatives which would avoid or minimize adverse impacts. Failing this endeavor, we are still committed to proceeding with the CEQ referral process.

However, in order to preclude the necessity of any referral action, we would propose yet another meeting with the Corps to continue discussion and attempt to bring final resolution to the above issues. In this regard, we would like to meet with the Corps in Tulsa, OK in early or mid-October 2002 or at your earliest possible convenience. We will telephone you in the very near future to arrange such meeting.

Thank you for the opportunity to review this Draft Supplement. We trust our comments will be of use during future proposed project development and environmental documentation. If we can be of further assistance, or should you require additional information, please feel free to contact us at the above address or by telephone at (505) 766-3565.

Sincerely,

Glenn B. Sekavec
Regional Environmental Officer

cc: Division Engineer, U.S. Army Corps of Engineers, Dallas, TX
Director, Office of Environmental Policy & Compliance, U.S. Department of the Interior, Washington, DC

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1801 N. Lincoln P.O. Box 53465 Oklahoma City, OK 73152 PH. 521-3851

6 September 2002

Larry D. Hogue
Chief, Planning, Environmental and Regulatory Division
Department of the Army
Tulsa District, Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128

Dear Mr. Hogue:

The Oklahoma Department of Wildlife Conservation (ODWC) has reviewed the U.S. Army Corps of Engineers (COE) Draft Supplement to Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River Only Portion (Draft Supplement) and provides the following comments.

In correspondence dated 17 August 1994 and 25 April 2002, the ODWC outlined objections to the Red River Chloride Control Project and the Wichita River Basin Project Reevaluation (Project). While none of the chloride control structures are currently proposed for construction in Oklahoma, the ODWC remains concerned about adverse impacts to Texoma Reservoir. The COE has downplayed the impacts of reduced chlorides on Texoma turbidity, primary productivity and sport fisheries but the ODWC believes these impacts will be significant and must be mitigated.

The COE prediction of a 10% project related reduction in Texoma chloride levels fails to consider effects attributed to operation of Area V which currently removes 240 tons (7%) of Texoma chlorides. The ODWC believes Area V impacts must be included in the overall evaluation of the Project. This "piecemeal" approach does not provide a thorough assessment of total impacts of the Project and circumvents the NEPA process. Until such time as the COE begins procedures to de-authorize remaining components of the original Project, the ODWC can only assume the COE will pursue construction of those components with similar findings of negligible impacts.

Additional doubt surrounding actual impacts to Texoma surfaced when the U.S. Fish and Wildlife Service (USFWS) recently determined the COE had based above referenced Texoma chloride reduction estimates on baseline chloride loads from more than 20 years ago (prior to an 85% reduction of man-made sources). This fact, in combination with the COE's failure to include impacts of Area V, in our opinion, grossly underestimates actual impacts to Texoma. USFWS calculations using the revised baseline and COE data, indicate reduction of chlorides in Texoma would approach 29%. Removal of nearly one-third of naturally occurring chlorides from Texoma can hardly be characterized as insignificant and impacts to the fishery must be properly and accurately quantified and mitigated.

The COE has repeatedly ignored comments from the resource agencies and refuses to consider environmentally preferable Project alternatives. The ODWC supports the USFWS position on the Draft Supplement as outlined in their 23 August 2002 correspondence and recommends review of environmental and economic data by an outside agency and/or proceeding with the CEQ referral process described in 40 CFR Part 1504.

The ODWC appreciates the opportunity to review this Draft Supplement. Please reference previous correspondence and contact Barry Bolton at (405) 521-3721 if you have additional questions.

Sincerely,

Greg D. Duffy

cc: Robert L Cook, Director, Texas Parks and Wildlife
Field Supervisor, Fish and Wildlife Service, Tulsa, OK

TNRCC

Protecting Texas by Reducing and Preventing Pollution

FAX TRANSMITTAL

DATE: ~~August~~ Sep. 11, 2002

NUMBER OF PAGES *(including this cover sheet)*: 3

TO:

Name	Marc Mansor
Organization	USACE
FAX Number	918-669-7546

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name	Debbie Miller
Division/Region	WATER PERMITS & RESOURCE MANAGEMENT DIVISION
Telephone Number	(512) 239-1703
FAX Number	(512) 239-4420

NOTES:

Wichita River Chloride Control Project Reevaluation comment letter attached. Please fax other public and/or resource agency comments to my fax number listed above.

Thanks-
Debbie Miller
Water Quality Standards Team
TNRCC

TEXAS PARKS & WILDLIFE

September 10, 2002

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Mr. Larry D. Hogue
Chief, Planning Environmental and Regulatory Division
Department of the Army
Tulsa District, Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Hogue:

The Texas Parks and Wildlife Department (TPWD) has reviewed the U.S. Army Corps of Engineers (Corps) Draft Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River only Portion (Draft Supplement) dated June 2002.

The Corps' proposed project, as presented in the Draft Supplement, is to divert flows from brine sources at Area VII and Area X to Truscott Brine Lake and to continue diversions from Area XIII. These three source areas are located on the North, Middle, and South forks of the Wichita River, which provides inflows to lakes Kemp and Diversion and then, after joining the Red River, to Lake Texoma.

The Fish and Wildlife Coordination Act Report recommended, among other alternatives, dropping the Middle Fork component (Area X) in order to reduce impacts to fish and wildlife due to severe low flow conditions in the Middle Fork and the North Fork downstream of their confluence and elevated selenium concentrations at Truscott Brine Lake. The Tulsa District has clearly established that it intends to proceed with implementation of the full project including Area X. TPWD continues to strongly suggest dropping Area X.

TPWD also encouraged development of an adequate Environmental Operational Plan (EOP) to include a full range of pre-emptive and remedial measures to protect fish and wildlife resources *and* include the Corps' commitment to act upon steering committee (or panel) recommendations. That commitment was not found but needs to be included in the final EOP. The EOP does not contain several elements as discussed below that TPWD believes should be included. The draft EOP contains numerous inconsistencies and should be thoroughly reviewed and corrected. It also sets a tone that indicates parts may not be implemented. This is concerning. For example, words such as "if feasible" clouds the intention to implement the EOP in whole. Use of the word "would" in nearly every sentence of the EOP raises doubt about the intention of the Corps. An unambiguous approach would be to use the word "will" and strike the words "if feasible".

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As recommended in previous communications, the EOP should include an element to address golden algae at the brine collection facilities. The current draft EOP does not contain this element. Components would include limnological monitoring of the impounded waters at the collection facilities (nutrient levels, algal composition, etc.) and an assessment of relationships between salinity levels, algal composition, and hydrology before, during, and after releases from inflatable weirs. TPWD suggests that this critical element be included in the EOP and that changes in golden alga densities and associated fish kills be included in the threshold conditions that would trigger actions to alter or halt project elements. Further, the Draft Supplement does not accurately characterize concerns about golden alga associated with this project. The Draft Supplement only addressed possible impacts of blooms in Lake Kemp and Diversion Lake and those associated with the Dundee State Fish Hatchery. Since golden alga blooms are already present in Diversion Lake this is not the main concern over this issue. The issue is that the collection facilities may become sites at which the golden alga will have an advantage over typical algal species and release of waters from these dams may well inoculate downstream areas (i.e., rivers and lakes). Given the predicted changes in nutrient concentrations due to irrigation return flows, a greater risk exists that toxic blooms of golden algae will lead to additional, perhaps more extensive, fish kills in the Wichita River system.

The draft EOP includes a limnological monitoring program for Lake Kemp. Because there are many uncertainties regarding the expected effects of the project on chloride reductions, changes in turbidity and productivity, and consequent effects on sport fisheries, the EOP should also incorporate monitoring programs, threshold decision programs, and preemptive/remedial measures for Lake Kemp, Diversion Lake, and Lake Texoma. These EOP elements must not be limited to monitoring of water quality parameters and plankton (i.e. productivity) but must also include expanded biological parameters to include sport fish populations. Although the Draft Supplement indicates that chloride reductions due to the project would be small it is now understood, after reviewing calculations not supplied in the Draft Supplement, that changes in chloride loads relative to baseline could be more substantial than reported. If those changes lead to more turbid conditions in Lake Texoma then impacts to sport fisheries could be significant. To that end, the Draft Supplement also needs to accurately and completely characterize the project's effect upon chloride loadings and concentrations in each study reach including Lake Texoma.

TPWD remains concerned that the full implementation of the proposed project would lead to accumulation of selenium at project facilities and pose threats to fish and wildlife resources. TPWD understands the complexities of selenium dynamics and the *serious* risks associated with this contaminant. The proposed project, transporting brine waters from Areas VII, VIII, and X to Truscott Brine Lake, will maximize selenium concentrations in Truscott. Using a conservative approach, the Corps' selenium model predicts that selenium concentrations in Truscott will exceed State Surface Water Quality standards (5 µg/l) within 30 years and exceed risk thresholds within five years after full implementation of the preferred alternative. TPWD believes that a better way to avoid adverse selenium impacts would be for the Corps to select a less damaging alternative. For example, if waters from either Area VII or X were not collected and transported to Truscott, the predicted maximum selenium concentration in Truscott would never exceed the state surface water quality criteria of 5 µg/l. However, projected selenium concentrations would still be above the risk threshold level of 2 µg/l within 15 years.

The selenium action plan, as it exists, is a workable concept, with much potential. However, there is no commitment to implement any findings or recommendations provided by the multi-agency panel. Without a commitment to act upon the panel's findings, the current draft of the EOP including the selenium action plan is inadequate.

On page 4-27, the Draft Supplement suggests that, after 11 years of project operation, low selenium concentrations in Truscott may provide selenium-related benefits to the area by providing a low selenium aquatic resource. TPWD believes this statement to be premature, based in part on information presented in paragraph 3, page ii, of the Corps 2001 report, which states: "Results of monitoring at Truscott Brine Lake are applicable for the monitoring period only and should not be interpreted to represent current or future conditions. The potential for increasing Se concentrations as the project progresses and complexities involved with Se dynamics are justification for continued monitoring of a variety of environmental media at Truscott. This is particularly true if additional brine sources are added as input to the impoundment." On page 4-25, the Draft Supplement suggests that the range of 2-10 ug/l Se for protection of fish and wildlife is misleading, and that the lower end of this range is specifically set to protect fish, rather than birds. The Draft Supplement states, "The only value that could be found restricted exclusively to protection of breeding birds was the 10 ug/l threshold proposed by Skorupa and Ohlendorf (1991)." A limited review of the selenium literature, however, finds Ohlendorf et al. (1993) stating that concentrations of waterborne selenium ranging from 2.6 to 18 ug/l would be sufficient to produce concentrations in avian eggs which result in reproductive impairment. Lemly (1993) states that waterborne selenium concentrations of 2 to 16 ug/l resulted in concentrations in food-chain organisms from 10 to 60 ug/g, which "far exceed" the 3 ug/g dietary threshold for fish and wildlife. Heinz et al. (1987; 1989) specifically reported reproductive failure in mallards when the dietary concentrations of selenium exceeded 4 ug/g. Therefore, TPWD does not concur with the Corps that the minimum threshold concentrations do not apply to birds, nor does TPWD find these values "ultraconservative."

The Draft Supplement does not accurately represent the projects ability to exacerbate low flow impacts to stream fish communities. It is inappropriate to mask hydrological impacts by averaging data over the period of record. In the North Fork (Truscott gage) only two days have historically been zero flow yet the project could create conditions of zero flow that extend continuously for over 200 days. Without statistical manipulation it is clear that that type of effect on flows is severe. Fish and other aquatic organisms need water to live and drying up habitat for long periods of time will severely impact the riverine ecosystem. TPWD does not concur with interpretations found in the Draft Supplement and requests that the hydrological data be presented in more meaningful ways and that the Corps ensure that biological interpretations of that data realistically characterize the potential impacts of this project. The Draft Supplement also claims that there would be little effect on stream fish communities due to changes in water quality and that those effects would be short-term. TPWD does not concur with this interpretation. The basis of the interpretation found in the Draft Supplement strongly hinges on unpublished data. This unpublished data was collected from Oscar Creek in Oklahoma and was used to characterize effects of less tolerant fish invading Oscar Creek during an *assumed* "freshwater pulse." The Supplement then makes the extrapolation to the Wichita River system that water quality-induced effects of the proposed project would be short-term. This extrapolation is faulty because, unlike the upper Wichita River system, Oscar Creek does not have chloride control features that influence both water quantity and quality over long periods of time and secondly, because the Oscar Creek data was not related to water quantity nor water quality; it was assumed. The choice to use Oscar Creek data again illustrates the poor biological judgment used to minimize impacts of the proposed project. In another attempt to minimize potential impacts of the project the Draft Supplement presents data from a study done in 1998 under drought conditions. Data was collected to characterize pools that may serve as refugia for fish and wildlife during low flow conditions. Less than 1% of each study reach was examined and in some cases less than 0.1%. Also, TPWD was not able to locate the data referred to in Table 4-6 in the cited reference, Gelwick et al. 2000. Critical information includes at a minimum the number of pools surveyed and the methodologies for selection of sampled pools and the collection of physical, water quality, and biological

data. Given these limitations, TPWD questions whether this set of data was sufficiently representative of pools in the system to allow broad generalizations to be made from this data as was done in the Draft Supplement.

The Corps' response to CAR recommendation No. 4 seems to confuse causation and correlation. Because the study by Gelwick et al. (2000) appeared to strongly associate pupfish with salt cedar, the Corps states that removal of salt cedar could have adverse impacts on Red River pupfish. This statement is not biologically sound. The presence of non-native, invasive salt cedar is not *causing* the presence of pupfish. Salt cedar is clearly a salinity-related variable; the presence of salt cedar is dependent upon the presence of high salinity water as is the presence of Red River pupfish. Targeted, environmentally conscientious removal of salt cedar should be encouraged in any brush control program implemented in a watershed with salt cedar.

The Draft Supplement includes adequate mitigation for terrestrial impacts. The Draft Supplement indicated that a decision has not been made on which entity would be managing the Crowell mitigation site. If TPWD is not the managing entity we recommend that staff from TPWD be involved in developing the management plan for this site. There are limited opportunities in this area for public recreation, therefore TPWD recommends that the management plan address and implement other public recreation opportunities in addition to hunting, such as equestrian use, camping, and other day-use activities. Copper Breaks State Park is across the river from the mitigation site and is highly used for these same activities. TPWD recommends that you coordinate with David Turner, Park Superintendent for Copper Breaks State Park, to see how best to address access between these properties to allow additional public use opportunities. Mr. Turner can be reached at 940-839-4331.

The Draft Supplement does not include sufficient mitigation for impacts to aquatic resources or the Dundee State Fish Hatchery. The only mitigation proposal related to aquatic resource impact was adding brush rows in Lake Kemp to mitigate for recruitment and shoreline habitat loss. TPWD believes that additional stocking is warranted and that stocking be added as mitigation for impacts to Lake Kemp sport fisheries. All stocking mitigation plans should be coordinated with TPWD Inland Fisheries.

TPWD recognizes that impacts of this project to stream fish communities are difficult to mitigate since the preferred means to control chlorides necessitates stopping flows. Lost or severely altered ecosystems cannot be replaced. An adequate EOP should be developed to ensure that project operations could be sufficiently altered or suspended to prevent significant changes in ecosystem elements. Several mitigation alternatives (e.g., creation and maintenance of perennial pools) were proposed to ensure the conservation of aquatic resources. None of these were incorporated into the Draft Supplement.

TPWD requests that the Corps provide information on how the project will affect lake levels without brush control. The effects of the project on lake levels continue to be masked by inclusion of brush control which may or may not occur or, if implemented, be as effective as stated in the Draft Supplement. Brush control is currently not funded by the State of Texas. If brush control is not implemented, changes in water level in Lake Kemp and Diversion Lake will severely impact operation of the Dundee State Fish Hatchery, without major renovations of the facility. The Corps should take some responsibility for ensuring that implementation of the brush control program will occur for the life of the chloride control project. The Dundee hatchery will be affected by project-induced changes in water quality and lake levels thus affecting its ability to withdraw water and operate effectively. Based upon the potential impacts of the project to the Dundee hatchery, TPWD reiterates our request to the Corps to fund the design and

construction of improvements to the hatchery. These include relocation of the hatchery intake in Diversion Lake to a minimum elevation of 1043' msl, installation of a water treatment system for the incoming water supply to reduce turbidity, and construction of a system to collect and return hatchery effluent back to Diversion Lake. These improvements will not only compensate for project impacts to the hatchery but also provide additional water (up to 10,000 ac-ft/year) and increased operational flexibility to the City of Wichita Falls and the Wichita County Water Improvement District No. 2.

These comments will be included in TPWD's response to the 401 certification process for this project.

If you have any comments or questions related to TPWD's comments as outlined above please contact Mr. Kevin Mayes at (512) 754-6844.

Sincerely,

Robert L. Cook
Executive Director

RLC:KBM:msf

cc: Field Supervisor, U.S. Fish and Wildlife Service, Oklahoma Ecological Services, Tulsa, OK
Executive Director, Oklahoma Department of Wildlife Conservation, Oklahoma City, OK
Executive Director, Texas Commission on Environmental Quality, Austin, TX

Robert J. Huston, *Chairman*
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TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

September 11, 2002

Mr. Marc Mansor
U.S. Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Alternatives for Chloride Control - Wichita River Basin and Truscott Brine Lake

Dear Mr. Mansor:

This letter is in response to the Federal Register Notice dated June 21, 2002, requesting comments regarding the alternate chloride control methods proposed in the United States Army Corps of Engineers (Corps) Draft 2002 "Wichita River Basin Project Reevaluation - Red River Chloride Control Project." In order to improve water quality within Lake Kemp, the Corps has been collecting brine from natural springs within the Lake Kemp watershed and ultimately disposing of the collected brine waters in Truscott Brine Lake. The Corps would now like to expand the project to include three additional areas contributing chloride to the system. Resource agencies have expressed concerns with possible selenium accumulation within Truscott Brine Lake water and sediments and the effect the selenium accumulation could have on aquatic and/or aquatic-dependant avian species which utilize Truscott Brine Lake.

The proposed chloride control project facilities consist of: three low-flow dams for the collection of brine from areas VII, VIII, and X; five evaporation spray fields for brine volume reduction; one brine disposal reservoir (Truscott Brine Lake) for holding concentrated brine solutions; and necessary pumps and pipelines to transport brine solutions from the low-flow dams to Truscott Brine Lake.

The Corps requested comments on aspects of this alternative, including Section 401 Water Quality Certification issues. The Texas Commission on Environmental Quality (TCEQ) requests clarification of when the Corps will initiate a formal request for 401 Certification of this project. The TCEQ has several concerns with the proposed chloride control alternative. These concerns are as follows:

1) Under the "Plan Formulation" section of the document, it is stated that selenium concentrations in Truscott Brine Lake may reach as high as 6.4 micrograms per liter (μg/L). Levels of this magnitude would exceed the chronic aquatic life criterion of 5 μg/L for selenium found in 30 Texas Administrative Code, Chapter 307, Table 1, and would violate State water quality standards. Please provide more detailed information relating to the expected levels of selenium within the lake at the various pumping rates needed to carry out this project.

2) It is stated in Section 1.1 of Chapter 2 in Appendix B of the Volume II Appendices that the Red River Authority, in cooperation with the Texas State Soil and Water Conservation Board, are initiating a study to determine the feasibility of implementing a brush control and management

program to increase water yields. This section goes on to explain that the brush control project is expected to be implemented regardless of the outcome of the Wichita River Basin reevaluation; however, the remainder of the chapter reads as if brush control is a form of mitigation for reduced flows projected to occur from the proposed project. The brush control project has yet to be approved and if approved its implementation is not within the Corps jurisdiction. There is also no suggestion for alternative mitigation for reduced flow (especially to Reach 10) if the brush control project is either not approved or proves unsuccessful. Please clarify how instream habitat mitigation will be provided.

3) Please provide any selenium fish tissue data relating to fish inhabiting Truscott Brine Lake. If no data regarding selenium bioaccumulation has been collected, please provide a sampling plan which will provide this data.

If it can be shown that selenium is not bioaccumulating in fish tissue, it may be possible to conduct a site-specific water effect ratio study for selenium within Truscott Brine Lake to determine if the appropriate chronic aquatic life criterion for the lake is the 5 g/L listed in the Texas Surface Water Quality Standards. This study would need to follow EPA's 1994 "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals." If the study demonstrates to TCEQ's satisfaction that an alternative chronic aquatic life uses is appropriate, it would be sent to EPA for review and approval. If approved, the site specific criteria would be added to Appendix E of the Texas Surface Water Quality Standards upon the next triennial revision. EPA approval of the study will be necessary before TCEQ can issue a 401 certification for this project.

The TCEQ looks forward to receiving and evaluating other agency or public comments as part of the review process. Please provide any comments to Ms. Debbie Miller of the Water Quality Division (MC-150), P.O. Box 13087, Austin, Texas 78711-3087. Ms. Miller may also be contacted by phone at (512) 239-1703, or by e-mail at *demiller@tnrcc.state.tx.us*.

Sincerely,

Mark Fisher, Manager
Water Quality Assessment Section
Water Quality Division
Texas Commission on Environmental Quality

MF/DKM/emh

ccs: Mr. Curtis W. Campbell, Red River Authority of Texas, Hamilton Building, Suite 520, 900 8th Street, Wichita Falls, Texas 76301-6894
Mr. Larry McKinney, Texas Parks and Wildlife Department, Resource Protection Division, 4200 Smith School Road, Austin, Texas 78744
Mr. Todd Chenoweth, Manager, Water Rights Permitting & Availability Section, MC-160

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
222 S. Houston, Suite A
Tulsa, Oklahoma 74127

In Reply Refer To:
FWS/R2/OKES/02-14-02-I-0797

September 17, 2002

District Engineer
U.S. Army Corps of Engineers
ATTN: Environmental Analysis
and Support Branch
P. O. Box 61
Tulsa, Oklahoma 74121-0061

Dear Sir:

The U.S. Department of the Interior including the U.S. Fish and Wildlife Service, by letter dated August 23, 2002 provided comments on the U.S. Army Corps of Engineers' Draft Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River only Portion (Draft Supplement). By this letter, the Service wishes to submit additional comments related to information contained in the "Wichita River Basin Project (WRB Project) Reevaluation, Red River Chloride Control Project" (Reevaluation Report).

In the Reevaluation Report, Area V was reported to have reduced chloride loading in Lake Texoma by 7 percent. Area VIII was reported to have reduced chloride loadings in Lake Texoma by 5 percent. Collectively, operation of the existing portions of the WRB Project would reduce chloride loading by some 12 percent. Subsequently, the Reevaluation Report and the Draft Supplement both claim only about a 10 percent reduction in chloride levels would occur when all project components at Areas V, VII, VIII, and X are in operation. In an attempt to clarify the overall impact of the project on chloride loading at Lake Texoma, we requested additional information which was provided to us in August 2002 (Tomlinson, D.W., 2002. In Lit.). The information we received from the Corps greatly concerns us.

The Corps predictions of a 10 percent reduction in chloride levels at Lake Texoma are very misleading. The Service (and probably others as well) assumed that the Corps predicted a project-related 10 percent reduction in chloride concentrations relative to existing levels at Lake Texoma. In reality, the Corps is basing their percentages on reductions to chloride loads that have probably not occurred in over 20 years. Also, the Corps documents include reductions due to operation of Area V (since1964) as "natural" and do not consider these reductions in the analysis of project impacts. Area V chloride reductions are not "natural" and should not be included in the "natural" load estimates.

Chloride loads in the Red River at Lake Texoma (total of 3,602 tons/day) are apparently based on load estimates prior to any reductions in manmade chloride loads. According to Corps data, the

Draft Supplement, and Reevaluation Report, manmade and minor natural chloride loads collectively account for some 1,119 tons/day. The Draft Supplement and Reevaluation Report estimate that the manmade loads have been reduced by 85 percent. Data from the Corps grouped manmade and minor natural chloride loads together at 1,119 tons/day.

Assuming contributions from minor natural sources would not significantly influence our analysis, an 85 percent reduction would reduce the loading from 1,119 tons/day to 168 tons/day. However, the Draft Supplement does not include the reduction in chloride loading due to control of manmade sources as part of the project baseline. The project baseline also should include operation of Area V, which has reportedly reduced chloride loads from 300 to 60 tons/day, and Area VIII, which has reduced chloride loads from 189 to 24 tons/day (2001 data). Total chloride control, at present, is about 1,356 tons/day (includes reductions in manmade sources and Areas V and VIII). Based on these calculations, the total existing chloride load at Lake Texoma would be 2,246 tons/day. Implementing control at Areas VII and X (reduction of 244 tons/day) would cause an additional 10.9 percent reduction in chloride loads at Lake Texoma.

The Service has never opposed control of manmade chloride loads and supports efforts to control manmade loadings as part of a reduced Federal project. Our concerns have consistently focused on the environmental effects of reducing the natural chloride loading. Assuming 85 percent control of the total loading from manmade and minor natural sources, the total remaining manmade and primarily natural chloride loading (natural chloride loading) would be roughly 2,651 tons/day at Lake Texoma. Operations of the existing and proposed project features would reduce the natural chloride loading by 649 tons/day or about 25 percent. This value seems to more accurately represent the actual effect of the total project on Lake Texoma and the Red River.

Although actual pre-project environmental data are lacking, the Service doubts a 25 percent reduction in chloride levels could occur without influencing species composition and abundance within the aquatic community of the Red River and Lake Texoma. Such a reduction in chloride loads to Lake Texoma would without doubt increase turbidity and reduce primary productivity; and, ultimately could reduce the carrying capacity of the reservoir for all aquatic life. All of these impacts would be difficult or impossible to mitigate and replace in-kind in accordance with the Service's mitigation policy.

The Service anticipates that even a very small reduction in the depth of light penetration and primary productivity would have a considerable impact on fish production in a reservoir the size of Lake Texoma. Data provided by the Corps estimated secchi depth values would be 0.6 feet less, after implementation of the preferred alternative (Areas VII, VIII, and X), with six days of settling and an initial turbidity of eight NTU. This information misrepresents the true impact of the proposed project because it fails to account for the effects of portions of the existing project (Area V).

However, if we ignore Area V impacts, at normal pool or elevation 617 feet, a 0.6 foot reduction in light penetration would affect about 50,722 acre feet of water at the surface of Lake Texoma. The number of fish that would be supported by the top one foot of over 50,000 acres of water at Lake Texoma is unknown, but we can safely assume it is thousands to millions. The Draft Supplement also concentrates on impacts to striped bass, but all fish, including largemouth bass, catfish and others would continue to be impacted long after the reservoir could no longer support striped bass. Other forms of aquatic life and even some terrestrial wildlife in the area are at least partially dependent on the productivity of the river and reservoir. Considering the proposed life of the WRB Project is at least 100 years, the cumulative impacts could be profound.

Based on our evaluation of the existing information on chloride loads and control achieved by project implementation, a predicted10 percent reduction in chloride loading at Lake Texoma appears to be grossly inaccurate. While a 10-11 percent reduction is anticipated with implementation of project features at Areas VII and X, the Draft Supplement only considers the incremental reduction in chloride loading resulting from these components. The document fails to account for environmental impacts resulting from ongoing operation of existing project components. This approach inappropriately masks or downplays relatively large impacts to Lake Texoma and other waters affected by the proposed project. Section 1500.1(c) of the Council on Environmental Quality (CEQ) Regulations for Implementing the National Environmental Policy Act of 1969, as amended, states "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment."

The Draft Supplement also fails to demonstrate how impacts related to chloride reductions would be avoided or minimized and proposes no mitigation for the unavoidable impacts. The Final Supplement should contain adequate mitigation for environmental impacts, although the Service believes it is extremely difficult, if not impossible, to mitigate (in kind) for the impacts to flow and salinity in streams. The aquatic resources that would be impacted are public resources and it is inappropriate for the project to proceed in the absence of adequate compensation for project related impacts.

Please consider these comments in addition to those previously provided by the Department of the Interior and contained in the Service's Fish and Wildlife Coordination Act Report. If you have any questions about these comments, please contact Mr. Kevin Stubbs of the Oklahoma Field Office at (918) 581-7458, extension 236.

Sincerely,

Jerry J. Brabander
Field Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
222 S. Houston, Suite A
Tulsa, Oklahoma 74127

In Reply Refer To:
FWS/R2/OKES/WRB EIS

October 28, 2002

District Engineer
U.S. Army Corps of Engineers
ATTN: Environmental Analysis
and Support Branch
P. O. Box 61
Tulsa, Oklahoma 74121-0061

Dear Sir:

The U.S. Department of the Interior (Department), by letter dated August 23, 2002, and the U.S. Fish and Wildlife Service (Service), by letter dated September 17, 2002, provided comments on the U.S. Army Corps of Engineers' (COE) Draft Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River only Portion (Draft Supplement). By this present letter, the Service wishes to submit additional comments related to the economic information contained in the Draft Supplement. The comments provided in this letter were formulated independently by the Service's Division of Economics and were not available when earlier comments were drafted. Please consider these comments in addition to those previously provided by the Department of the Interior, Service, and contained in the Service's Fish and Wildlife Coordination Act Report, dated May 2002.

Comments on Economic Analysis

Our comments focus on the COE preferred alternative; Plan 7a (also listed as Plan 5, Economic Appendix p. 5-51) and the existing without project or Base Condition alternative, Plan 2 (p. 5-51 in the Economic Appendix). The COE economic analysis estimates project benefits and costs for each alternative in accordance with analytical guidance provided by the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (Principles and Guidelines), U.S. Water Resources Council. March 10, 1983. The preferred plan is the "...alternative plan with the greatest net economic benefit consistent with protecting the nation's environment..." (p. v).

For this project, two types of benefits are identified: (1) municipal and industrial water-related benefits; and (2) agricultural irrigation benefits. Costs are basically construction and operations and maintenance costs. To the extent they occur, environmental costs associated with each alternative, such as habitat loss or destruction, are not explicitly considered in the analysis.

Table 1 below summarizes the economic costs and benefits for the COE preferred alternative and the Service alternative with the highest Benefit/Cost (B/C) ratio. Irrigated agricultural benefits comprise 68 percent of total benefits for the COE preferred plan and 79 percent of the Service plan.

Table 1. Average Annual Net Benefits (millions)						
Alternative	Agricultural Benefits	Municipal and Industrial Benefits	Total Benefits	Total cost	Net Benefits	B / C Ratio
Plan 7a (preferred)	$ 4.511	$ 2.144	$6.655	$ 4.809	$ 2.367	1.38
Plan 4a1 (Service alternative)	$ 2.037	$ 0.534	$2.571	$2.074	$0.497	1.24

source: Tables 6-12 and 6-15.

Overall, the analysis for the municipal and industrial benefits and the construction and operation and maintenance (O and M) costs seems to be rather straightforward. The analyses appear reasonable, except that the COE's treatment of costs is rather limited, considering the analysis does not address the quantification of environmental costs (to the extent these costs exist in a given alternative). The Principles and Guidelines state that both beneficial effects (benefits) and adverse effects (costs) are to be included in the analysis. Further, Section VII, 1.7.2 (a) (3) states that "*adverse effects in the NED (National Economic Development) account are the opportunity costs of resources used in implementing a plan. These adverse effects include: Implementation outlays, associated costs, and other direct costs.*" Further, Section VII, 1.7.2. (g) (3) defines other direct costs as, "... *the costs of resources directly required for a project or plan, but for which no implementation outlays are made. These costs are uncompensated, unmitigated NED losses... . Examples of other direct costs include increased downstream flood damages caused by channel modifications, ...*". The Principles and Guidelines have provisions to include environmental costs in the economic analysis framework (not necessarily quantified in economic terms). However, significant environmental costs are excluded in the present analysis.

Some environmental costs are excluded by considering them "sunk costs" and others are not included because the COE considers them insignificant. As stated in the Department's letter, excluding these costs as "sunk costs" falsely improves the B/C ratio. Additionally, neither the Service nor the Department consider the potential environmental impacts as insignificant.

Agricultural benefits

The analysis of estimated irrigated agricultural benefits has some potential problems. These benefits are based on a model which makes a number of assumptions about a variety of conditions occurring 50 or more years into the future. Relatively small changes in these variables could result in costs that exceed the estimated benefits (assuming costs are not overestimated). For example, some of the main variables used in the benefits estimate include:

- water requirements by crop and percentage of water requirements fulfilled by precipitation. (p. 5-56)

- expected stream flow events (p.5-58)

- water availability (p. 5-62,63)
- yield reduction (because of high saline concentrations) curves by crop (p. 5-64)
- crop budgets (p. 5-65)
- crop prices (p. 5-66)

Apparently, for a number of these variables, point estimates were used as inputs into the model. For most of these variables, there is no indication what the variation around the mean might be, or the range of the 95 percent confidence interval (for example) for each input variable. Consequently, it appears that an adequate sensitivity analysis (adequate in the sense that the irrigated agriculture model was run with the high - low range of each variable) was not completed in estimating the agricultural benefits. This is especially important because, as previously mentioned, overestimating the benefits by a relatively small amount would result in the project having costs greater than benefits for the preferred alternative.

Consider the following example:

Average annual benefits above the Base Condition alternative, Plan 2 (Table 5-38)

COE preferred alternative: Plan 5 = $ 4.511 million

Assume for the 50 year period of the project, the irrigated agricultural benefits are actually 10 percent less than the COE estimate. Then:

(1) $307 million x .9 = $276.3 million

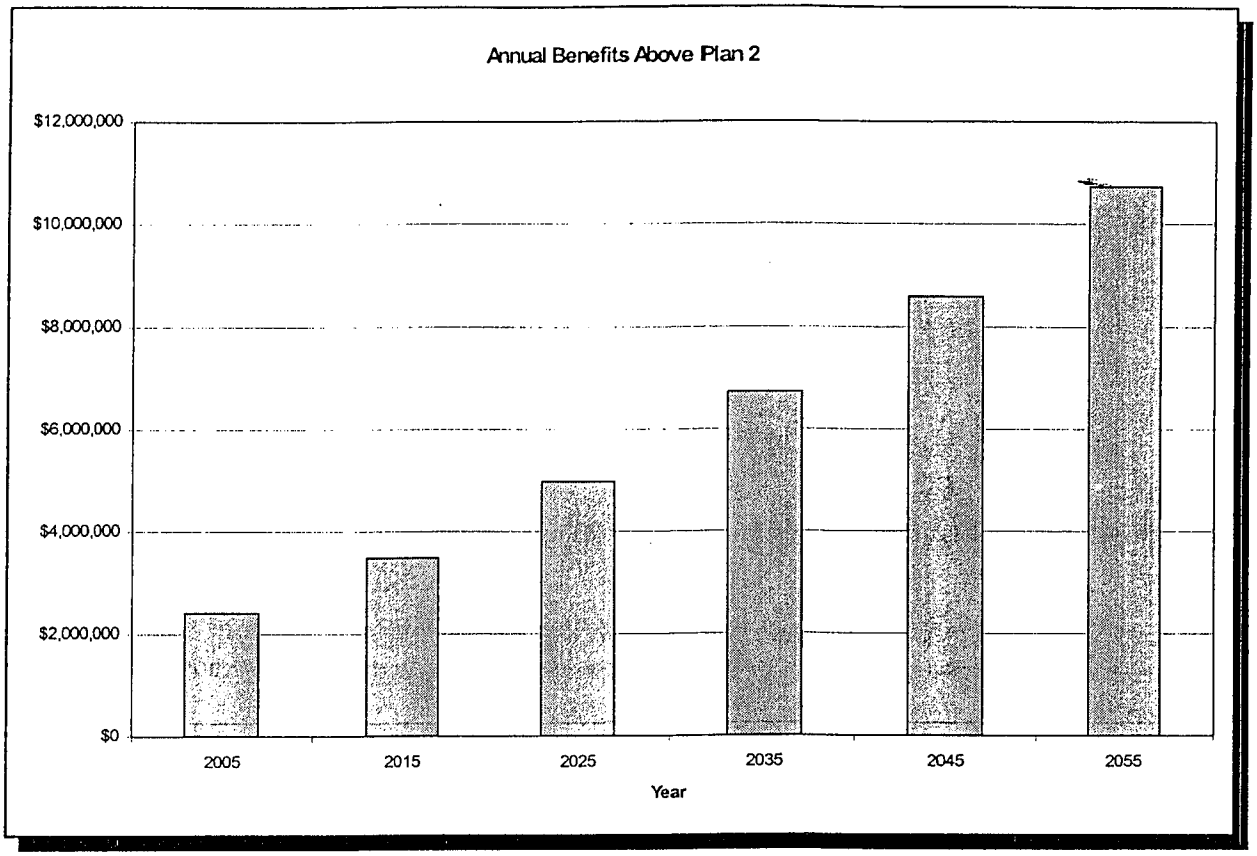
(2) $276.3 million - $236 million = $40.3 million (total present value of net benefits)

(3) Amortized over 100 years at 6.125 % to get average annual benefits: $2,474,858 / year

(4) Recalculating the B/C ratio:

annual municipal benefits (same)	= $ 2,144,000
irrigated agriculture benefits	= $ 2,474,858
total annual benefits	= $4,618,858
Total annual cost	= $4,809,000
net benefits	= - $ 190,142
B/ C ratio	= 0.96

Therefore, other things equal, a 10 percent error over a 50 year time span can result in an economically unviable project.



Examining the distribution of benefits over time, most of the benefits occur 25 to 50 years in the future (see graph below). Given (1) the uncertainty over future events and their impact on the demand and supply of irrigation water for agriculture; and (2) the previous example showing how small percentage changes in total benefits may result in negative net benefits, the validity of the estimates for the preferred alternative is rather tenuous.

A related concern is that the COE benefit estimates are dependent on rather large and likely unrealistic increases in water use and irrigated acres. Tables 2 and 3 compare the number of irrigated acres and water use by plan.

The COE estimates that the preferred alternative would result in a 177 percent increase in irrigated acres compared with base conditions in 2005 and a 593 percent increase in 2055 (Table 2).

Table 2. Acres Irrigated by Plan

Year	Plan 5	Plan 2	Net Increase	% increase
2005	40,491	14,615	25,876	177 %
2055	38,021	5,482	32,539	593 %

source: Table 5-29

Not as dramatic, but still significant are the predicted increases in water use with the preferred alternative (Table 3). Water use increases by 65 percent in the preferred alternative compared with base conditions in 2005. Water use increases by 87 percent in the preferred alternative compared with base conditions in 2055.

Table 3. Water Use (acre-feet)				
Year	Plan 5	Plan 2	Net Increase	% increase
2005	189,754	115,093	74,661	65 %
2055	190,958	102,098	88,860	87 %

source: Table 5-35

Historic trends for the study area have exhibited a large decrease in irrigated acres for 3 of 16 counties in study area, declining from 85,000 acres in the late 1970's to 57,000 acres in 1997, a decrease of 33 percent. The report states, " *This change is apparently not connected very closely to water quality because the water quality in the WCWID canal system has, if anything, slightly improved during the recent 20 years. Other factors, such as urbanization and declining farm incomes, have probably been much more significant considerations when farmers have decided how much land to irrigate.* ***There is no reason to suppose that these other factors will change direction in the near future***" [emphasis added] (p. 5-22). In essence, a 33 percent decline in irrigated acres during the last 20 years apparently did not have much to do with water quality; other factors played a much larger role in determining the number of acres to irrigate. Yet the COE is predicting an almost 600 percent increase in irrigated acres over a 50 year period due to changes in water quality, with most of the benefits coming in the out-years of the project time span.

Benefit estimates that are dependent on such large, future (and uncertain) increases must be evaluated and justified in more detail than is currently available in the COE analysis. If additional information is available for justifying the agricultural benefits, the Service would appreciate the opportunity to review this information. In addition, as stated in the Department's comments, we strongly recommend an independent economic review of the entire Wichita River Basin Chloride Control Project.

If you have any questions about these comments, please contact Dr. James Caudill of the Service's Arlington, VA office at (703) 358-1927, or Mr. Kevin Stubbs of the Oklahoma Field Office at (918) 581-7458, extension 236.

Sincerely,

Jerry J. Brabander
Field Supervisor

cc: Director, Texas Parks and Wildlife Department
Director, Fisheries and Natural Resources Sections, ODWC, Oklahoma City, OK
Field Supervisor, U.S. Fish and Wildlife Service, Arlington, Texas Field Office
Regional Director, Fish and Wildlife Service, Albuquerque, NM
DOI, Regional Environmental Officer
Division Engineer, U.S. Army Corps of Engineers, Dallas, TX
U.S. Army Corps of Engineers Headquarters, Washington DC

Responses to Comments on Draft SES

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July 18, 2002

Mr. Mark Masnor
U.S. Army Corps of Engineers
1645 South 101St E. Ave
Tulsa, Oklahoma 74128

Mr. Masnor:

The Texas Parks and Wildlife Department (TPWD) is requesting that the Corps fund the design and construction of improvements to the Dundee State Fish Hatchery. The improvements would not only ensure continued operation of the hatchery to the benefit of all Texas anglers, but would provide the water district with additional water and operating flexibility. The proposed improvements should include relocation of the hatchery intake in Lake Diversion to a minimum elevation of 1043' msl, installation of a water treatment system for the incoming water supply to reduce turbidity and construction of a system to collect and return hatchery effluent back to Lake Diversion.

Response: Comment noted.

We request that the Corps consider this request as part of the mitigation for the proposed Wichita River Chloride Control Project and work collaboratively with TPWD, the Wichita County Water Improvement District No. 2 and the City of Wichita Falls to develop a scope of work and cost estimates for the project.

Response: Do not concur. The Corps appreciates the offer to participate in the renovation of the Dundee State Fish Hatchery. We have carefully considered your request and find that implementation of the Wichita River Basin chloride control features is expected to cause no detrimental effects to the operation of the Dundee State Fish Hatchery. Therefore, no mitigation measures would be appropriate in connection with the chloride control features.

However, we recognize that the potential benefits of the feature renovations you outlined could aid the city of Wichita Falls, the Wichita County Water Improvement District No. 2, and the state. We have a program available that may be of some assistance. It is the Planning Assistance to States (PAS) program. Through this cost shared partnership, shared 50-50 between the government and a local sponsor, we could evaluate various opportunities to modernize the hatchery water intake and could model various parameters related to the potential operational changes of Lake Kemp and Lake Diversion and potential institutional changes that might be necessary. The objective of the evaluation would be to aid the Texas Parks and Wildlife Department in identifying a best plan of improvement. Design and construction phases are

outside of the PAS program. Having selected a best plan through the PAS program, the Texas Parks and Wildlife Department would need to utilize other resources to complete design and construction. If you would like additional information on the PAS program, please visit our web site at the following link: http://www.swt.usace.army.mil/PROJECTS/civil/planning.cfm.
After carefully considering the request, the Corps finds no indication of potential chloride control impacts to the hatchery. Although TPWD staff have publicly stated the Wichita chloride control features will cut off the supply of water to the hatchery 40% of the time, that is not true. While a potential impact might exist for state required drought contingency plans and water supply contracts, that potential can be eliminated if the TPWD were to cooperate with the water storage owners.

Sincerely:

Phil Durocher

Phil Durocher
Director, Inland Fisheries Division
Texas Parks and Wildlife Department

PD:JW:nn

cc: Kevin Mayes

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August 15, 2002

Mr. Stephen L. Nolen
Chief, Environmental Analysis and Compliance Branch
U.S. Army Engineer District, Tulsa
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Review comments on the Supplement to the Final Environmental Statement for the Red River Chloride Control Project—Wichita River Portion

Dear Mr. Nolen:

Thank you for sending us a copy of the Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project (RRCCP). As per your request, staff of the Texas Water Development Board (TWDB) have reviewed the document, and we are submitting review comments on the Wichita River portion only. The RRCCP on the Wichita and Pease Rivers is a water management strategy with high regional support. The project is included in the Region B Regional Water Plan and the State Water Plan (Water for Texas- 2002). Regional Water Planning Group B anticipates that the Wichita River Basin Chloride Control Project will effectively remove 362 tons per day of the 429 tons per day of chloride entering the Wichita River system. This improved water quality will allow full utilization of Lakes Kemp and Diversion, according to the Region B Regional Water Plan, which is available on our web site at http://www.twdb.state.tx.us/.

Response: Concur.

The State approved Region B Regional Water Plan, which supports inclusion of this water management strategy in their plan. According to the regional water plan, the successful completion of the RRCCP should result in an increase in the volume of water available for municipal and industrial purposes in the region. Additional water supplies could also be available for a broader range of agricultural activities.

Response: Concur.

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There is opposition to the project from the Texas Parks and Wildlife Department (TPWD) and the U.S. Fish and Wildlife Service (USEWS) due to their anticipation of reduced productivity of streams and reservoirs due to the reduced chloride levels and increased turbidity. However, analyses in the Supplemental Environmental Assessment shows that none of the impacts anticipated by TPWD and the USFWS will occur with the proposed plan.

Response: Concur.

There may be an impact to the stripped bass fishery in Lake Texoma.
The sport fishery for stripped bass in Lake Texoma is an important economic resource for the state.

Response: The most recent investigations by the USACE (and presented in the SFES) indicate no impacts are anticipated to the striped bass fishery. This issue is fully discussed in the Comments/Responses to DOI August 23, 2002 and September 17, 2002 letters.

With regard to environmental issues, of more concern is the potential for reported Selenium-related impacts to sensitive organisms, such as young or adult birds temporarily residing at the Truscott Brine Disposal Reservoir. Monitoring of resident and migratory wildlife populations is warranted due to the complexity of this chemical constituent in the environment, and the accumulation of waste material in Truscott Brine Disposal Reservoir. However, we believe that the benefits of the project outweigh the potential impacts described in the Supplemental Environmental Assessment.

Response: Concur.

Thank you for giving us the opportunity to review this important water resource management strategy issue, and allowing us to provide comments on it. If we can be of any further assistance, please feel free to call me at (512) 936-0813.

Sincerely,

Bill Mullican

Bill Mullican
Deputy Executive Administrator
Office of Planning

C: Ron Glenn, Chair, RWPG-B

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Post Office Box 649
Albuquerque. New Mexico 87103

August 23, 2002

IN REPLY REFER TO:

ER 02/588

Larry D. Hogue
Chief, Planning Environmental & Regulatory Division
Department of the Army
Tulsa District, Corps of Engineers
1645 South lO1st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Houge:

As discussed in our telephone request of August 5,2002 regarding comment period extension, and reiterated in our subsequent letter on the same date, the U.S. Department of the Interior (DOI) has reviewed the Draft Supplement to Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River Only Portion (Draft Supplement). In this regard, the following comments are provided for your consideration as you develop the final document.

General Comments

The preferred alternative, as presented in the Draft Supplement, is to add pumping from brine sources at Area VII and Area X to the existing Wichita River Basin portion (WRB Project) of the Red River Chloride Control Project (RRCC Project). The Draft Supplement includes adequate mitigation for terrestrial impacts.

Response: Concur.

The Draft Supplement also includes monitoring and, potentially, some undetermined mitigation for some aquatic impacts during implementation of the preferred alternative. We object to the latter approach and believe the necessary environmental studies should either be completed prior to construction or that adequate mitigation for foreseeable worst case analysis of and impacts to aquatic resources be developed and implemented. Proposed future monitoring alone provides no information for analyses that could implement project changes to avoid or reduce project impacts when necessary.

Response: Do not concur. Largely in response to requests from the USFWS and State resource agencies, the USACE has funded and conducted numerous environmental studies and scientific analyses for this project. These studies have formed the scientific basis for USACE conclusions regarding the most likely environmental impacts of the project and are frequently cited

throughout the draft Supplement to the Final Environmental Statement (SFES). Complete results from these studies were likewise made readily available during the public review period for the DSFES. It should be noted that the USFWS and State resource agencies not only requested many of these studies, but were frequently an integral part of study design through initial development of a project Environmental Operational Plan (EOP) (see discussion in EOP, Appendix A, Volume II of SFES). Accordingly, it is the USACE's opinion that "necessary environmental studies" have not only been completed prior to construction of the project, but that these studies form a science-based foundation for the USACE's best estimate of likely project impacts and reasonably-anticipated mitigation requirements. While the USFWS may disagree with interpretation of study results, the assertion that "proposed future monitoring alone" forms the sole basis for impact assessment and estimation of mitigation requirements grossly misrepresents the intense level of effort and scientific study that has been a part of project development on the part of both the USACE and commenting resource agencies.

Despite the USACE opinion that completion of a reasonable level of scientific study has occurred for the Agency's best estimation of the most likely environmental impacts, the USACE readily acknowledges that many environmental issues associated with this project are extremely complex and involve uncertainties and site-specific issues that could likely never be absolutely and definitively resolved given any level of scientific study or analysis. For this reason, the USACE has proposed to fund and conduct significant environmental monitoring (see EOP, Volume II of SFES) during project implementation for those environmental variables that, in the Agency's opinion, have a reasonable potential for deviating from USACE's best efforts at conclusions regarding potential impacts and associated mitigation requirements. It is the USACE's opinion that reasonable information exists to preclude immediate mitigation for "worst case" conditions, that it would be difficult (if not impossible) to define such conditions and design mitigation features accordingly, and that this suggested approach combines both poor science and a lack of fiscal responsibility. Rather, the USACE maintains that reasonable decision-making based on an appropriate level of study during project design, combined with multi-agency input on scientific monitoring data collected during project implementation and an appropriate level of mitigation features (if warranted) is the most appropriate approach to addressing these complex issues.

Numerous project impacts could not be adequately mitigated with implementation of the preferred alternative. For example: 1) reduced flows and associated aquatic impacts in the upper Wichita River could not be replaced in-kind;

Response: Do not concur. It is the USACE's opinion that these impacts would be insignificant and would therefore not require replacement in-kind. Further detail on this issue is provided later in these responses to comments.

2) reduced salinity and associated aquatic impacts in the upper Wichita River could not be replaced in-kind;

Response: Do not concur. There is no expectation of significant impact to aquatic resources and therefore, mitigation is not applicable. Further detail on this issue is provided later in these responses to comments

3) reduced inflows, increased water withdrawals and increased turbidity would impact all aspects of the reservoir aquatic environment at Lake Kemp, primarily by reducing the quantity of water stored and primary productivity, ultimately reducing the carrying capacity of the reservoir, all of which would be difficult to mitigate in-kind;

Response: Partially concur. Anticipated impacts to the aquatic environment at Lake Kemp were discussed in detail in Section 4 of the DSFES for this project. In addition, specific comments relative to Lake Kemp impacts are addressed under "Lake Kemp" later in this response to DOI comments (see responses in this section). It should be noted that long-term water quality monitoring (including parameters related to turbidity and primary productivity) is proposed as verification of these estimated impacts and that habitat alteration (installation of brush rows) is proposed as mitigation for recruitment and shoreline habitat loss resulting from occasional pool elevation changes with the project. It should also be noted that, if observed, adverse impacts should not be difficult to mitigate in-kind. Supplemental stocking is already practiced on a regular basis on this reservoir.

and 4) similarly, reduced water clarity could impact all aspects of the reservoir's aquatic environment in Lake Texoma, primarily by reducing primary productivity, and ultimately reducing the carrying capacity of the reservoir for all aquatic life.

Response: Do not concur. The USACE does not concur that it is reasonable to anticipate any measurable adverse impacts on Lake Texoma primary productivity, carrying capacity, aquatic life, and certainly not "all aspects of the reservoir's aquatic environment" as a result of implementation of this project. The USACE opinion is based on application of results of site-specific studies aimed at addressing these concerns, professional judgement, and the USACE's long history of limnological investigations for this important reservoir. Specific responses to more detailed comments are provided under "Lake Texoma" later in this response to DOI comments (see this section).

We assert that the proposed project, as currently designed, should not be implemented as proposed due to the many and significant, unmitigated environmental impacts. Initially, 14 alternatives involving several collection and disposal methods were evaluated by the U.S. Army Corps of Engineers (Corps). The US. Fish and Wildlife Service (FWS) and Texas Parks and Wildlife Department provided 12 other environmentally preferable alternatives that involved elimination of brine pumping from one site (Area X) or reduced pumping from a combination of sites which were considered. Other alternatives to pump from salt sources to other tributaries or directly to the Wichita River downstream of Lake Diversion (rather than piping brines to Truscott Brine Reservoir) also were suggested. However, the proposed project described in the Draft Supplement is potentially the most environmentally damaging alternative.

Response: Do not concur. A full evaluation of alternatives, including those proposed by the USFWS and TPWD, was conducted by the USACE. The proposed plan, as described in the SFES, was selected as both environmentally sustainable and economically justified. Implementation of the recommended plan would control natural brine emission from all three Wichita River Basin brine areas (VII, VIII, and X). Controlling the three primary brine areas

in the Wichita River Basin is key to achieving acceptable water quality consistent with project goals that include equal consideration of the environment. Your comment indicating the recommended plan would be the "most environmentally damaging alternative" reflects a limited view of "potential" effects and totally excludes the intent of the Corps, as expressed in the environmental operating plan. Area X remains a component of the recommended plan because that plan provides the greatest level of natural chloride control and the greatest level of net benefits, while providing the greatest opportunities to minimize unforeseen environmental impacts. The opportunity to minimize impacts is provided through the greater versatility of applying adaptive management to the brine collection at three natural brine sources rather than just two, Areas VII and VIII. The ability to manage chloride load reductions at three brine sources increases the opportunities to adapt operations to meet low flow needs and other environmental related conditions, should the need arise. It is because no significant impacts are anticipated that all three collection areas are included in the recommended plan. Eliminating Area X would reduce the opportunity to remove chloride load and would place a greater emphasis on operating Areas VII and VIII to their fullest capacity to maximize chloride load reduction. Should, during a drought condition, low flows below Areas VII or VIII then require a reduced brine pumping schedule, the chloride reduction capability would be further diminished. Please also see detailed responses to this issue in the USACE response to the TPWD letter dated September 10, 2002. It should likewise be noted that several aspects of proposed USFWS and TPWD alternatives make them questionable as "environmentally preferable alternatives."

In terms of geographical effect, the potential impacts of the WRB Project affect most of the Wichita River system and the Red River from Estelline Springs in the Prairie Dog Town Fork in Hall County, Texas, downstream to at least Lake Texoma. The Draft Supplement describes water quality changes and benefits as far downstream as Shreveport, Louisiana. Predicated on this description, the FWS conservatively estimates that over 500 miles of river would be impacted assuming these effects extend only as far downstream as to Lake Texoma.

Considering most of the comments and recommendations in the FWS's (May2002) Fish and Wildlife Coordination Act (FWCA) Report (CAR) for the WRB Project have not been incorporated into the Draft Supplement, the DOI is resubmitting all comments or recommendations provided in the CAR.

Response: Do not concur. The USACE provided seventy-four (74) detailed comments on the draft CAR. These USFWS comments and USACE responses, along with the final CAR, can be found in Volume II of the SFES. While some of the comments and recommendations from the USFWS CAR were incorporated into the Draft Supplement, the USACE does not concur with many of the statements and/or recommendations in the CAR. Detailed technical reasons for non-concurrence are provided in both USACE comments on the CAR and in the SFES.

In accordance with the FWCA, we strongly recommend that the Corps give full consideration to the FWS and State natural resource agency findings and recommendations to the point that wildlife conservation is given equal consideration with other project features.

Response: Concur. In accordance with the FWCA, the USACE has given full consideration to

natural resource agency comments and recommendations. While some have been incorporated, the USACE disagrees with the USFWS and state resource agencies regarding the severity of reasonably-anticipated project-related impacts. It should not be concluded that these issues have not been given due consideration, only that technical disagreements exist between the USACE and these agencies.

Specific Comments

Low flow impacts:

The magnitude of the effect of the WRB Project on low flows is concealed by a flawed analysis. The analysis reveals an apparent bias towards maximizing economic benefits and discounting environmental impacts.

Response: Do not concur. In compliance with both NEPA and the USACE environmental operating principles, the USACE gives equal consideration to the environment. Maximizing economic benefits to the nation is also one of the USACE primary objectives. Chloride control would have a number of primary benefits. These benefits were the object of the Congressional direction to the USACE to implement chloride control measures. As such, they are the intended results. However, benefits are not the only measure of a project; the USACE is concerned about all aspects of a project dealing with costs, benefits, social, or environmental issues, the USACE works to formulate projects for economic development that are environmentally sustainable. In contrast to benefits, the prospective to cause environmental impacts was identified. All negative effects on the natural and human environment are of concern to the USACE and are critical elements in the planning process. As different alternatives were formulated, the USACE identified issue areas by speculating on worst-case situations. Then, as data were evaluated for each specific alternative, the actual risk of there being an impact, potential or unavoidable, was determined. Ecosystems are complex and somewhat adaptive to minor changes. The USACE has carefully evaluated the risks of individual changes and has examined the possibility for those individual changes to "act" together to cause cumulative impacts.

For example, the effects of brush control in Reach 10 are reported to actually reduce the number of zero flow days by 45.7-61.1 percent as compared to the proposed alternative without brush control. This is a direct comparison of the total number of zero flow days with and without brush control.

However, when the total number of zero flow days for Reach 10 are compared with and without the project, a direct comparison is no longer used. Instead, the aquatic impact analysis relies on the number of zero flow days as a percentage of the total number of days in the 37-year period of record (10/61 - 9/98, 37 years, or 13,505 days). When the reduction in zero flow days due to brush control in Reach 10 is spread out over the entire period of record, brush control only decreases the number of zero flow days by about 4 percent. Based on stream flow observations over the 37-year period of record, only 2 days of zero flow occurred. With the proposed project in operation this would increase to 1,131 days.

Response: Do not concur. The presentation consisted of both indicators of the number of zero flow days and the percentage of zero flow days over the 37-year (or 13,505 day)

period of record for Reach 10. Percentages were shown to assist general readers in understanding the average zero flow effects predicted. If percentages were not shown, readers would be forced to evaluate fractions such as 1,131/13,505 (above) or 614/13,505 (below). Another approach would have been to show the average number of days per year, such as 30 days per year or 16 days per year (for the fraction examples above). Either method would have shown that the potential results of brush management in the basin (below the brine collection areas) would reduce the low flow effects by about one half. That was the intent of the presentation.

Should brush control be effective, the number of zero flow days still would exceed 600 days (614 predicted with brush control). The Draft Supplement presents this change as only a 2.3 percent increase by using the percentage of the zero flow days in the 37-year period of record. The increase actually represents a 3 order of magnitude increase in zero flow days without brush control and a 2 order of magnitude increase with brush control. On average, the number of zero flow days would essentially increase by 30 days per year. Even with brush control, the number of zero flow days is increased from 2 days in 37 years to 614, or an average of over 16 days per year with zero flow. The Draft Supplement fails to fully recognize the severity of the impact and misleads the public by expressing the number of zero flow days over the entire period of record (37 years).

Response: Do not concur. The USACE would note that neither the USFWS reference to "a 3 order of magnitude" nor the USACE reference to <u>numbers of days</u> or <u>percentage changes</u> is more than a characterization of the potential change to the zero flow parameter. A parameter's characterization is simply an indicator that would lead to determinations of whether additional environmental evaluations of potential environmental impacts are warranted. The USACE viewed this magnitude of change to zero flow to require further investigation. That investigation concluded the potential magnitude of flow change was characteristic of many tributary streams within the basin and those streams persist in sustaining or reestablishing resident populations of salt tolerant species. In the case of Reach 10, salt tolerant species populations may be occasionally and temporarily reduced by zero flow impacts, but those species are expected to remain in the reach in reasonably similar numbers. Those general findings are presented in the SFES.

The number of days with zero flow is greatly increased in the North Fork Wichita River by any alternative incorporating pumping from Areas VII or X (U.S. Army Corps of Engineers 200lb, as cited in the CAR). The effect on flows is significant. Assuming the average increase in zero flow is about 30 days per year, during periods of drought, Reach 10 will experience much greater lengths of time with no flow. Data provided by the Draft Supplement demonstrates that there would have been 205 zero flow days during the drought of 1964 and six other years having over 100 zero flow days if the preferred alternative was implemented. During the most extreme drought, the Draft Supplement analysis predicts 221 continuous days of zero flow between October 1970 and May 1971.

Most fish and other aquatic life could not be expected to survive with 221 continuous days of zero flow. Individuals of most fish species in Reach 10 are short lived, with life spans generally of no more than 4 years. Averaging stream flows over the 37-year period of record becomes irrelevant if even two consecutive years have severe enough conditions to

eliminate most or all of a particular fish species. Extended periods of zero flows will affect abundance and species composition of the fish community and these impacts should be avoided or adequately mitigated.

Response: Partially concur. The Corps agrees that zero flow days under the preferred alternative will increase in Reach 10 under periods of drought. Historical fish collections from Reach 10 (Wilde et al. 1995) indicate that during the severe drought of the 1950's 17 species of fish were collected throughout this reach and 10 of these species were present in relative abundances greater than 1.0 % including the red shiner, Red River pupfish, plains killifish, and Red River shiner. Operation of Area VII and Area X are not expected to affect medium and high stream flows with impacts expected only during periods of severe drought. Since the 1950's the relative abundance of the Red River pupfish and red shiner have increased while the relative abundance of the Red River shiner and plains killifish have decreased yet these species have been present throughout Reach 10 from the 1950's through the 1990's.

Species dependent on stream flow, such as the speckled chub, plains minnow, and Red River shiner would be expected to be most directly impacted by the predicted increased length of zero flow periods. These species would be subjected to refugia pools during periods of low flow or move to the lower reaches of Reach 10 during periods of severe drought and extreme low flow. During years of average rainfall and flow these species would then be available to repopulate the upper reaches of Reach 10. Species able to effectively compete in restricted or refugia pools, such as the red shiner, mosquitofish, fathead minnow, Red River pupfish, and plains killifish would be impacted but not severely. These species were present in refugia pools during the extremely dry summer of 1998 (Gelwick et al. 2000) throughout the upper Wichita River basin and throughout Reach 10. The increased number of zero flow days in Reach 10 under with-project (preferred alternative) conditions references surface flow only. From observations made by Gelwick et al. (2000) there is adequate subsurface flow to maintain refugia pools during drought conditions. Operation of Areas VII and X would only decrease surface flows downstream of the weirs and not subsurface flows. Furthermore, during periods of extreme drought the Corps is willing to incorporate active management plans that would divert less water to Truscott Lake and/or partially deflate the weirs in order to insure a minimum flow for maintenance of refugia pools.

The preferred alternative proposal would pump about half of the average flow in the Middle and North Forks of the Wichita River to Truscott Reservoir. The 7-day, 2-year, low flow frequency in Reach 10, as measured at the Truscott Gage (North Fork Wichita River), would be reduced by about half (from 41 cubic feet per second (cfs) to 22 cfs) with implementation of the proposed WRB Project (U.S. Army Corps of Engineers 200lb). However, the Draft Supplement indicates that "… flow impacts are not anticipated to adversely impact fish communities..." and "… no mitigation is recommended…" (as stated in the Draft Mitigation Plan). The Draft Supplement supposes that the fish production/biomass currently supported during existing low flow periods would persist when these flows are reduced by about 50 percent. This is not a realistic expectation and violates basic ecological principles. Aquatic habitat quantity, and potentially quality, would certainly be reduced by the projected alterations of low flow periods. Even if the species composition doesn't change, the abundance of these species likely would decline. We consider this a significant adverse impact. Reducing stream flow by as much as one

half of the existing levels during stressful low flow periods is certain to adversely alter the abundance and, possibly, species composition of the fish populations in the North Fork Wichita River.

Response: Do not concur. Basic ecological principles would dictate that at some point in the past events have occurred that resulted in greater than 100 to 200 days of zero flow in the upper Wichita River basin.....the drought of the late 1920's and 1930's (Dust Bowl) or the drought of the 1950's are examples. Unfortunately, gage data for the upper Wichita River basin does not begin until the mid- to late-1950's so the extent to which zero flow during these historic droughts is unknown. In the adjacent Pease River basin, during the period of record 10-4-1970 through 5-25-1971 the USGS recorded zero flow on 230 days of the 234 day POR at gage 07308200 (Pease River near Vernon, TX). The four days of this POR where flow was measured, flow ranged from 0.04 to 1.0 cfs. Again in the early 1980's mainly zero and some extremely low flow days were recorded beginning on 7-27-1980 through 1-8-1981 (166 days) with measurable flow ranging from 0.01 to 27 cfs recorded on 22 of those 166 days. If the assertions of the USFWS are correct, then following these periods of zero flow days, in the 1970's and 1980's, no aquatic life should be present in the upper Pease River basin, obviously this is not the case.

The State of Texas brush management program is a trial project to increase water yields and improve range conditions. Funding is not allocated or assured at the present time. There is no firm commitment by the State nor the Corps to fund brush control for the life of the WRB Project and no firm commitment by landowners to participate in this program. Inclusion in the Region B Water Plan, or in any regional plan for that matter, does not assure implementation of a project. Water plans, per se, do not fund construction or operation of recommended projects. Regional water plans developed under Senate Bill 1 recommended 17 billion dollars of water development projects throughout the State of Texas. Funding sources for many of these projects have not been identified. Despite questionable funding, the Draft Supplement assumes that brush control will be initiated on at least 50 percent of the watershed. The analysis assumes that brush control will increase flows by 27.6 percent to 38.9 percent. The Draft Supplement also assumes that brush control will be maintained for the entire 100-year project life. The Draft Supplement's position is that brush control is a without-project condition and will involve no Corps funding or involvement. Without some assurances from the Corps and/or the State of Texas, we believe that the assumptions used in the economic analysis concerning stream flow are not valid.

Response: Do not concur. The Texas State Soil and Water Conservation Board has provided information in a 2 December 2002 letter that indicates the State Brush Control Program is more than a trial program. In 2001 the Texas Legislature appropriated over $24 million to the program. That same budget amount was requested in 2002 to continue the program implementation. The feasibility studies of eight basin evaluations, based on actual measurements of brush control projects, all showed brush control to be economically feasible and to increase water yields.

The USFWS comment that, "...[USACE] assumes brush control will be initiated on at least 50 percent of the watershed" is incorrect. The USACE assumption was that only one half (50%) of the Red River Authority's planned scope of brush removal would be implemented and only within a portion of the basin - below the three low flow brine dams and above Lake Kemp. The USACE

believes the assumption of brush management to be valid and an appropriately conservative without project condition (meaning it is projected to occur with or without implementation of further chloride control features). While the USACE forecast based on this assumption indicates brush management will significantly contribute to runoff and lake yield, it also suggests that greater flow increase could be realized by fully implementing the Red River Authority's recommended plan.

The USFWS comment on the lack of guarantee is correct. There are no guarantees that State or Federal funds will be allocated to brush management from one year to the next. However, water is a valuable commodity in much of Texas and brush management has proven results in increasing runoff and yield. The USACE and the TSSWCB have discussed cooperating in brush management efforts in Texas as part of the USACE ecosystem restoration mission. That also does not provide a guarantee of implementation, but the USACE plans to pursue the ecosystem restoration opportunity with the cooperation of the TSSWCB, the Red River Authority of Texas, and the Red River Valley Association.

Water Quality

Golden Algae, *Prymenesium parvum* - The Draft Supplement correctly presumes that a change in the nitrogen to phosphorous ratio may be a governing factor for toxicity in *P. parvum.* The predicted increase in nitrogen and phosphorous in the Wichita and Red rivers due to project related increased irrigated agriculture could increase the risk of fish kills from toxic algal blooms in these rivers.

Response: Concur. This comment is reflected in the text of the draft SFES. In Section 4 (l)(1)(d) the draft SFES notes that "This relationship between the degree of eutrophication and population sizes of P. parvum…holds true with many other species of algae which are prone to large, often toxic, blooms" and that "If there is already a trend towards increasing nutrient levels due to run off, then a change in temperature norms, these factors together could favor a bloom of P. parvum over other species due to its tolerance of extremes and competitive nature." The draft SFES addresses potential changes to nitrogen and phosphorous levels: "With the proposed plan, the estimated mean discharge of nitrogen concentrations could increase from 1.42 mg/l to 10.88 mg/l in the Wichita River (in hydrologic reach 8). Similarly, phosphorous concentrations were projected to increase from 0.42 mg/l to 1.64 mg/l. This increase in nutrient levels could potentially impact algal production in receiving waters and increase the potential for dissolved oxygen variability...To address these concerns, a stream water quality monitoring plan has been established for the Wichita River Basin."

Reduction in chloride levels. Rivers - The Draft Supplement uses Oscar Creek in Oklahoma to justify anticipated fluctuations in salt tolerant and intolerant species in the Wichita River. However, Oscar Creek is not a suitable example. We recognize that populations of salt tolerant and intolerant species fluctuate with changes in salinity. Fluctuations at Oscar Creek occur under natural conditions and invasions of less tolerant species are infrequent The proposed brine removal is not a natural occurrence and the anticipated chloride concentrations would never return to pre-project conditions. Consequently, we doubt anticipated increases in abundance of less salt tolerant species in Reaches 10 and 11 would be limited to short-term pulses, as described in the Draft Supplement. The proposed reduction of chlorides by 75 percent would be relatively

continuous over the life of the WRB Project.

Response: Do not concur. In river segments above the current (Area VIII) and proposed (Area VII and Area X) low flow collection areas chloride concentrations will not be reduced as a result of chloride control activities in the basin and therefore impacts to the euryhaline (salt tolerant) fish would be isolated to stream reaches not immediately downstream of the collection areas. Sampling conducted during August 1998 (Gelwick et al. 2000) indicated that chloride concentrations measured in areas where Red River pupfish and plains killifish were observed ranged from 44 mg/l (South Fork Wichita River, King County at Area VIII low flow dam) to 6480 mg/l (North Fork Wichita River, Cottle County at the proposed Area VII low flow dam location). As would be expected, the greatest number of euryhaline fish was directly related to higher chloride concentrations. At locations in the lower reaches of the upper Wichita River basin the assemblage was comprised of Red River pupfish, plains killifish, mosquito fish, and red shiner. At locations in the upper reaches of the upper Wichita River basin the assemblage was comprised of Red River pupfish, plains killifish, and mosquito fish only. Monthly specific conductance measurements made between March 1997 and September 1998 (USACE 2001) above and below the weir at Area VIII reveal that specific conductance of waters downstream of the weir can differ as little as 0.31 % to as much as 14.57 % and on average is 7.5 % lower relative to specific conductance upstream of the weir.

USGS gage data indicates that since Area VIII (Reach 11) became operational, mean specific conductance (POR 7-6-67 to 7-10-86 and 1-8-87 to 9-5-01) has decreased by 33 % and TDS concentrations (POR 10-25-67 to 7-10-86 and 1-8-87 to 5-13-96) by 24 % while the relative abundance of Red River pupfish and plains killifish has remained stable (Wilde et al. 1996). It is therefore reasonable to infer that a similar scenario would occur at Areas VII and X (Reach 10) once they become operational. Reach 11, under natural conditions (without-project), experiences a greater degree of zero flow days relative to Reach 10. The greater degree of zero flow days in Reach 11 is the most likely cause for the lower relative abundance of red shiner noted by Wilde et al. (1996). The Corps recognizes the potential for impacts to total number of pupfish due to decreased flow throughout Reach 10 but does not agree that reduced chloride loadings, as well as reduced chloride concentration under high flow events, in Reach 10 under with-project conditions presents long-term impacts to the continued presence of these species. As loadings and flow decrease it is likely that environmental conditions would mirror those currently exhibited in Reach 11 and would therefore exceed optimal conditions necessary to sustain the historic trend of increasing abundance of the red shiner within Reach 10. Furthermore, the Corps believes that while total numbers of pupfish and killifish would likely decrease in portions of Reach 10 downstream of the proposed weirs, the relative abundance of pupfish and killifish would remain stable and could likely experience an increase due to those species ability to tolerate a broader range of environmental conditions (e.g. temperature, salinity concentrations, oxygen concentrations, less flow) that would exclude other stenohaline and stenothermal species (e.g. red shiner).

Therefore the "Oscar Creek model" is appropriate and applicable to the upper Wichita River basin. Chloride concentrations (as well as the surrogate measure of specific conductance) downstream of the proposed weirs at Areas VII and X would not be significantly less than concentrations (as opposed to loadings) upstream of the weirs. Since Area VIII has been operational there has been ***no significant statistical difference*** *in specific conductance (a*

surrogate measure of salinity, TDS, and/or chloride concentrations) observed between reaches immediately upstream and downstream of the weir. The Corps recognizes the decrease in the long-term average TDS concentration at Area VIII since operations began in 1987. The Corps also acknowledges the potential for similar decreases in the long-term average TDS concentration (as well as specific conductance) at Areas VII and X. However, decreased flows in Reach 10 would tend to exclude stenohaline fish species from moving into Areas VII and X under all but the most extreme flow events. As high flows recede and concentrations return to levels present prior to the high flow event (although not to pre-project conditions) any stenohaline species present would likely experience unsuitable environmental conditions which would exclude them to the benefit of the euryhaline species. The result would be occasional pulses of stenohaline species into Reach 10 under greater than normal flow conditions, as was observed in Oscar Creek in 1994.

Research by Echelle et at. (1972), as cited in the CAR, indicates Red River pupfish are usually only abundant in waters with salinity greater than 10,000 ppm. The Draft Supplement (Figure 4-2 in Volume I) documents that salinity in Reach 10 will no longer reach or exceed 10,000 ppm when the preferred alternative is implemented. Salinity fluctuations in Reach 11 also are drastically reduced compared to without project conditions and would rarely exceed 10,000 ppm. The Draft Supplement incorrectly states impacts to the salt tolerant species would not be long-term. Salinity levels cannot be reduced by over 70 percent without adversely impacting salt tolerant species.

The South Fork example also is misleading. Although salt tolerant fish still persist, the Draft Supplement does not provide evidence to support statements that these populations will not be impacted by project implementation. We believe salt tolerant species would be likely to survive near salt springs and immediately below the dams at brine sources. However, the mere occurrence of these species cannot be used to infer that the abundance and distribution of salt tolerant species would not be altered. The Draft Supplement also fails to consider other potential project related impacts to species composition in the affected streams. Even within the group of fish species considered less salt tolerant, there are differences in tolerances or competitive advantages related to salinity. Echelle et at. (1972) identified three different complexes of species related to salinity concentrations in Upper Red River tributaries. It is highly unlikely that salinity can be artificially reduced by over 70 percent and not influence the distribution or abundance of some fish species or complexes of species.

Response: Do not concur. The Corps agrees that research by Echelle et al. (1972) indicates Red River pupfish are usually only abundant in water with salinity greater than 10,000 mg/l. This statement was included in the draft SFES as well. Basin-wide fish surveys conducted during August 1998 (Gelwick et al. 2000) also support the observations of Echelle et al. (1972) with the greatest numbers of pupfish associated with salinity concentrations greater than 10,000 mg/l. However, observations made by both Echelle (1995) and Gelwick et al. (2000) indicate that the Red River pupfish does occur in abundance in reaches were salinity was less than 10,000 mg/l (Site S5 = 4800 mg/l (Echelle 1995); Site 91 = 5921 mg/l, Site 107 = 1693 mg/l (Gelwick et al. 1998). The Corps, at the request of the USFWS, initiated the studies by Echelle (1995), Wilde et al. (1996), and Gelwick et al. (2000) so that impacts to the salt tolerant species could be assessed. Since Area VIII (Reach 11) became operational mean specific conductance (POR 7-6-

67 to 7-10-86 and 1-8-87 to 9-5-01) has decreased by 33 % and TDS concentrations (POR 10-25-67 to 7-10-86 and 1-8-87 to 5-13-96) by 24 % while the relative abundance of Red River pupfish and plains killifish has remained stable throughout the 1980's and 1990's and has increased substantially since the 1950's (Wilde et al. 1996). It is therefore reasonable to infer that a similar scenario would occur at Areas VII and X (Reach 10) once they become operational. It is important to distinguish here that while total loading of chlorides are being reduced, the chloride concentration below the proposed weirs (Areas VII and X) will not be significantly affected. This is evident from observations made between March 1997 and September 1998 by USACE, Tulsa District personnel. During that time frame specific conductance (a commonly used surrogate measurement for TDS and salinity) was found to not significantly differ between locations upstream and downstream of the Area VIII weir.

The Corps also recognizes the fact the Echelle et al. (1972) identified three different complexes of species related to salinity concentrations in Upper Red River tributaries. Studies performed for the USACE by Echelle, at the request of the USFWS (i.e. Echelle 1995), identified these same three species complexes. The three complexes were as follows:

Complex 1 - red shiner, fathead minnow, Red River pupfish, plains killifish, and mosquito fish. Occasionally gizzard shad, green sunfish, and orange-spotted sunfish were associated with this complex.

Complex 2 - Red River shiner, plains minnow, and speckled chub.

Complex 3 - black bullhead and bluegill sunfish.

The five species comprising complex 1 represented 93.2% of the fish collected during the 1994 survey (Echelle 1995). The Corps agrees with the USFWS that the distribution of assemblages comprised only of the salt tolerant fishes could be reduced as a result of project implementation; however, it is the Corps opinion that the distribution will only be moderately reduced. As a result of this moderate reduction, the West-East filter bridge described by Echelle et al. (1972), would move slightly west effectively reducing the area were one would expect to find assemblages comprised only of salt tolerant fish. Decreased flows specific to Reach 10 would likely result in long-term trends similar to those observed in Reach 11, resulting in a decrease in the relative abundance of some of the more competitive less salt tolerant species (e.g. red shiner) throughout that reach. Less salt tolerant species would then only be able to move above the W-E filter bridge during periods of higher than average flow events or moderate flow events that are above average in duration due to abnormal meteorological conditions.

Echelle et al. (1972) and Echelle (1995) indicate that the five species comprising complex 1 are present in salinities ranging from 400 mg/l to 150,000 mg/l. Echelle et al. (1972) indicates that the increased frequency of Red River pupfish with increased salinities was more an affect of relative abundance and not occurrence. Echelle et al. (1972) go on to state, "[t]he Red River pupfish is one of the most euryplastic fishes, suggesting that physical or chemical characteristics of the environment would not be major limiting factors" affecting distribution or abundance. It is the opinion of the Corps that in reaches upstream of the collection facilities at Areas VII, VIII, and X the assemblage would remain simple and comprised of only 2 to 5 species. Immediately downstream of the collection facilities physical and chemical properties would allow for the salt

tolerant assemblage to remain relatively intact with only occasional interactions with species comprising the less salt tolerant assemblage. In stream segments far downstream of the collections facility (> 10 river miles) past studies indicate that the Red River pupfish would be present in numbers similar to those in middle and upper stream segments of Reaches 10 and 11; however, in the segments far downstream relative abundances would be lower due not to lower salinities but to the greater biodiversity associated with the less salt tolerant assemblage of fishes.

The Draft Supplement inappropriately focuses on the continued existence or survival of certain fishes and ignores potentially large impacts to their abundance. As you are aware, Section 1500.1(c) of the Council on Environmental Quality (CEQ) Regulations for Implementing the National Environmental Policy Act (NEPA) of 1969, as amended, states "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." The Draft Supplement fails to demonstrate how impacts related to salinity and flow reductions would be avoided or minimized and proposes no mitigation for the unavoidable impacts. It is extremely difficult, if not impossible, to mitigate (in kind) for the impacts to flow and salinity. The aquatic resources that would be impacted are a public resource and it is inappropriate for the project to proceed in the absence of adequate compensation for project related impacts.

Response: Do Not Concur. Compliance with the Fish and Wildlife Coordination Act requires the USACE to consult with the USFWS and the agency(s) administering the wildlife resources of the state (s) in which they occur. It also requires that the USACE shall give full consideration to the reports and recommendations of the wildlife agencies, and include justifiable means and measures for wildlife mitigation. The USACE has fully considered the resource agency requests and responded to each recommendation as shown in SFES Volume II. All recommended mitigation measures were fully considered and justifiable mitigation measures have been included in the project and are also discussed in SFES Volume II for the purposes of complying with both the National Environmental Policy Act and the Fish and Wildlife Coordination Act . The recommended mitigation measures not approved for implementation were done so because the scientific evidence with respect to impacts did not support the mitigation recommendation.

Selenium Concerns at Truscott Reservoir:

We are concerned about the predicted Selenium (Se) concentrations in Truscott Reservoir that would result from implementation of the preferred alternative. Selenium concentrations would not only exceed the minimum threshold for impacting sensitive wildlife by more than three times, they also would exceed current U.S. Environmental Protection Agency (EPA) chronic criteria and Texas State water quality standards. These standards and criteria are established to protect aquatic life and human health and are based on research that demonstrates deleterious effects can occur at or above these levels. We agree that the extremely complex nature of selenium dynamics in aquatic systems makes predicting any project related impacts to birds or any other animals or plants in the project area very difficult. However, we take issue with the Draft Supplement's statement "that the potential for Se-related impacts associated with this project is not excessive" and that risks are reasonable

Response: Do not concur. These comments reflect definitive statements and conclusions (as illustrated by the use of "would" three times in above statement) regarding future impacts when, in fact, there is no basis for such certainty. While the USACE has done its best job at estimating potential future selenium concentrations using a conservative approach and the best available information, considerable uncertainty exists as to definitive future Se concentrations in Truscott Reservoir. The complexity and site-specific nature of selenium dynamics in aquatic systems make this a difficult assessment given any level of pre-construction study or effort. Accordingly, USACE studies were conducted using what are believed to be conservative (overprotective) assumptions and methodologies. As a result, these studies were intended to overestimate future concentrations in an effort to partially compensate for complexity and uncertainty for this issue. The conservative nature of this approach is thoroughly detailed and discussed in USACE documents prepared on this issue as well as in the SFES, and has been thoroughly discussed with the USFWS on numerous occasions.

Professional judgment, combined with an understanding of the basis for "threshold" concentrations and study methodology have all been considered by the USACE in Se-related impact assessment for Truscott Brine Lake. It has been concluded that while the potential certainly exists for future development of waterborne selenium concentrations in excess of threshold values for sensitive breeding birds or the current water quality standard under a conservative set of assumptions, these risks are not believed to be excessive given all that is known about this issue. Project implementation would seem reasonable provided that an adequate selenium monitoring program and an interagency process-based action plan aimed at ensuring environmental protection accompany the project over its life. Both have been proposed in the Environmental Operating Plan for the project, as contained in the DSFES.

The limited quantity and high variability of data collected to date lead us to conclude that Draft Supplement claims are extremely optimistic and cannot be supported over the life of the project. Despite conservative assumptions, the Draft Supplement model is based on only 3 years of data and any projections over the 100-year or more project life are highly speculative.

Response: Do not concur. The USACE is of the opinion that a reasonable amount of data has been collected and analyzed for estimation of project impacts. These studies are not designed to convey optimism, rather to reasonably assess potential impacts given our current understanding of the science surrounding this issue. Obviously, any scientific question can be better answered with additional data. However, limits exist as to the amount of temporal-based data that can be collected in planning stages of a project such as this. Through considerable discussion on this topic, the USFWS has never expressed an opinion as to the quantity of data that would be required to address these issues.

The Draft Supplement concludes, as presented in paragraph 3, page ii, of the Corps 2001b report (as cited in the CAR), that:

> "Results of monitoring at Truscott Brine Lake are applicable for the monitoring period only and should not be interpreted to represent current or future conditions.
> The potential for increasing Se concentrations as the WRB Project progresses and complexities involved with Se dynamics are justification for continued monitoring of

a variety of environmental media at Truscott Lake. This is particularly true if additional brine sources are added as input to the impoundment."

Response: Do not concur. This statement is contained in the USACE 1997 – 1998 Truscott Lake monitoring report (actually cited as USACE 2001c in the final CAR) and has nothing to do with predictive modeling efforts or future predictions of selenium-related conditions. No such claim is made in the cited document. This is simply a statement that observed selenium concentrations in environmental media (water, sediment, fish, vegetation, bird eggs) represented conditions in 1997 and 1998 when the data were collected and may change in the future. The relevance of quoting this statement is therefore unclear.

The model may represent the best available information, but it cannot strongly support any long-term conclusions about Se-related risks to wildlife. We agree that Se-related impacts to wildlife could develop over the life of the project and recommend that additional data be collected and analyzed before drawing conclusions about the risks.

Response: Do not concur. The existing studies have involved considerable data collection and effort and represent the USACE's best efforts at providing a reasonable, science-based analysis of this issue. Admittedly, no study is perfect or cannot be improved with increasing levels of data support. However, despite extensive discussion on this issue, the USFWS has never provided any suggestions for improving the current analysis, suggested an alternative science-based approach to this issue, or defined the level of data collection required to draw conclusions about the risks. Until such suggestions are provided and justified, the USACE believes the current studies are reasonable and provide the agency's best efforts at impact prediction.

We cannot support any potential remedial measures which would involve elimination of populations of organisms such that Se-impacts to higher trophic levels would be avoided. We also cannot support remedial measures that propose to haze birds or destroy nesting habitat without mitigation. The purpose of the Selenium Action Plan is to avoid project-related adverse effects to wildlife and intentionally destroying populations or habitat could cause more harm than elevated Se concentrations. Remedial actions presented in the Draft Supplement should focus on measures that preclude Se concentrations from reaching "Action levels." Unfortunately, many of the proposed measures appear to simply treat the symptoms rather than the cause.

Response: Do not concur. As stated in the DSFES, potential remedial measures are simply listed as possible solutions for discussion, if such actions should ever be warranted. As stated in the Selenium Action Plan: "Objectives of the selenium action plan for the Wichita River Basin Project are to: (1) develop a procedural mechanism for monitoring Se-related conditions during project operations, (2) use resulting data for anticipating future conditions prior to expression of adverse impacts, and (3) if required, implement appropriate corrective measures based on input from a multi-agency panel of scientists. Specifically stated, the objective of this plan would be to:

> *Implement a multi-agency, process-based action plan to avoid, minimize, or compensate for (in that order) adverse selenium-related impacts to migratory birds resulting from operation of any project feature of the Wichita River*

Basin Project."

Remedial actions are actions that would be necessitated should adverse concentrations of Se appear reasonably likely to occur. The remedial actions proposed are preliminary in nature and are provided as examples that might be considered by a multiagency panel.

It should also be noted that Truscott Brine Lake was specifically authorized solely for brine disposal. As such, it is not a multipurpose reservoir authorized for maintenance of a diverse assemblage of aquatic organisms. It is also unclear how nesting habitat alteration (e.g. removal of dead snags in standing water) would require mitigation as mitigation for impacts to this habitat has already been provided for the project (Crowell mitigation lands).

The Draft Supplement fails to acknowledge that the potential adverse effects of the proposed action are long lasting and difficult to control or eliminate after they develop. The impacts of Se at the WRB Project may continue long after the end of the anticipated 100-year WRB Project life. The costs associated with closing the WRB Project and safely dealing with the accumulations of salts and Se are likely to increase with time and should be factored into the economic analysis and feasibility study.

Response: Do not concur. The objective of the Selenium Action Plan, as stated above, is to prevent development of such conditions.

The SFES does not fail to acknowledge significant adverse, long lasting, or high future cost requirements. Those conditions presumed by the USFWS to exist in the future are not anticipated. Inclusion of costs for response to unanticipated effects is therefore not applicable.

The statement concerning impacts of selenium and project life contains three errors.

One, conservative (protective) selenium projections presented in the SFES (and discussed with your office) indicate that as Truscott Brine Lake pool elevations achieve an inflow/evaporation balance that selenium concentrations will trend to a relatively constant level (not to continue increasing in concentration). As presented in the SFES Selenium Action Plan, methods of managing both selenium environmental risks and increasing concentrations are available. If necessary they will be implemented. At this time, there is no indication that those measures will be necessary. Therefore, barring additional studies to the contrary, there is no rationale for indicating a problem of selenium accumulation or for the inclusion of costs to implement measures. The USACE does not suggest the issue should be dismissed. Monitoring of selenium concentrations at the lake is, in part, designed to gauge the potential for this issue to be realized. The Selenium Action Plan is designed to utilize the monitoring results and avoid future risks.

Two, as presented in the Reevaluation Report, the SFES, through USACE responses to draft and final CAR comments, and through numerous coordination sessions with Tulsa USFWS staff, the economic evaluation period of the Wichita River Basin chloride control features is 100-years. That period is appropriate because chloride control is a major water resources effort. It is reasonable to assume that it will be functional for 100-years and beyond. That ***economic evaluation period*** *is distinctly separate from the concept of* ***project life*** *(to which the comment refers). The economic evaluation period is used to evaluate initial construction and long term*

operation costs, versus long term economic benefits. The duration of a project's life is often only dependant on the need for the water resources outputs in the future and the willingness of the project operators to fund operation and maintenance activities to sustain that output. For the Wichita River Basin chloride control features there is no currently foreseeable rational to limit the project life. Therefore the project could operate long after 100, 200, or more years.

Three, the Wichita River Basin chloride control features do not constitute a "project". They are components of the Red River Chloride Control Project as authorized and funded for construction by Congress. The Wichita River Basin chloride control features are being investigated at the request of the TPWD and the subsequent direction of the ASA (CW) following formal consultation with the USFWS, ODWC, and TPWD in 1995 and 1996.

Monitoring alone is not an acceptable means of addressing such a potentially serious problem.

Response: Concur. "Monitoring alone" is not, and never has been, suggested by the USACE as the only means of addressing this issue. The concept of a Selenium Action Plan, administered by a multi-agency panel has been proposed as the most appropriate and science-based means of addressing these issues. This approach combines remedial response, if necessary, commensurate with anticipated conditions, current science, and fiscal responsibility.

From the standpoint of Se contamination the Corps has inferred, as the preferred alternative (proposed action), the most damaging alternative instead of the least. The proposed WRB Project has the potential to violate both State water quality standards and the Migratory Bird Treaty Act.

Response: Partially concur. It is true that the proposed plan has the greatest potential for selenium-related impacts at Truscott Brine Lake. However, for reasons stated in responses provided above, the USACE believes the plan can be reasonably implemented provided that adequate monitoring and action plan safeguards are in place. Obviously, other project-related considerations (economics, project goals and benefits) were evaluated in addition to selenium-related concerns, providing a balance to project formulation. The Fish and Wildlife Coordination Act does not state that environmental concerns are the only factors to be considered in project formulation, only that they be given equal weight with other project considerations. Such an analysis has been conducted by the USACE. The Selenium action plan, as specified in the SFES, would have the goal of preventing violation of State water quality standards on the Migratory Bird Treaty Act.

A potentially important additional selenium-related issue is that of in-stream selenium-related <u>benefits</u> that could potentially result from the Wichita Basin features. Several of the brine source streams in the project area are currently listed by the State of Texas as water quality impaired owing to naturally-occurring selenium concentrations. Implementation of chloride control would reduce downstream loading of selenium in these streams, potentially providing benefits to downstream aquatic and terrestrial organisms. This point was identified in the SFES and likewise provided in writing to the USFWS in USACE's response to comments on the draft CAR (see comment 32). As cited by the USFWS in these comments, NEPA states that "The NEPA process is intended to help public officials make decisions that are based on an understanding of

environmental consequences . . ." It would therefore seem that a balanced presentation of both potential benefits as well as potential adverse impacts would facilitate this decision-making process in the true spirit of NEPA.

Also important to this discussion are findings from the USACE's extensive selenium data collection effort at Truscott Brine Lake, TX during 1997 and 1998. This study provided valuable information regarding selenium dynamics, bird use, and existing conditions following approximately 11 years of actual project operation. Though conditions could certainly change over time, this study at a minimum provided valuable insight into what can be observed to date on this issue under current project conditions. A balanced presentation of all available information would seem to facilitate good decision-making as specified by NEPA.

Dundee State Fish Hatchery:

The Dundee State Fish hatchery could be affected by project related impacts to water supplies and water quality at Lake Kemp and Lake Diversion. Drought contingency plans presented in the Draft Supplement discontinue water deliveries to the hatchery when Lake Kemp elevations fall to levels that would rarely, if ever, occur without the proposed project Corps studies confirm that turbidity at Lakes Kemp and Diversion would be increased if the proposed WRB Project is implemented; this turbidity would increase water treatment costs for the hatchery.

Response: Do not concur. Issues related to the potential for increasing turbidity at Lake Kemp are provided later in these responses. However, it is the USACE's understanding that the majority of water for the hatchery ponds is not currently treated for turbidity reduction. According to hatchery personnel, the only water treatment for turbidity reduction occurs in spawning buildings where sand filters are used to initially control solids. It is therefore unclear to us how a potential slight increase in turbidity would increase water treatment costs for water withdrawn from Diversion Lake when the majority of water is not currently treated. It is also likely that the hatchery currently uses waters with extremely elevated and highly variable turbidities. How a potential slight increase in turbidity might adversely impact hatchery operations is therefore difficult to understand.

The USACE interprets the statement that the "hatchery could be affected by project related impacts to water supplies and water quality at Lake Kemp and Lake Diversion" to mean that the effect is a reduction of chloride concentration (dissolved solids) in water used by the hatchery. That is the only anticipated change to the hatchery operation and there is no reasonable implication that any negative change to hatchery supply or quality would occur.

There is a need to avoid misinterpretation of the second statement, "Drought contingency plans presented in the Draft Supplement" by general readers that may not be fully aware of the water management plans in place. The plan was not developed by the USACE. It is an existing plan that was referenced in the SFES. Texas Senate Bill No 1 requires drought contingency plans for municipalities. The co-owner and operator of Lake Kemp, the Wichita County Water Improvement District No. 2, created and coordinated the drought contingency plan for Lake Kemp with all water users, including the Dundee Hatchery. The USACE utilized the existing drought contingency plan in the analysis of water usage and potential lake impacts.

The statement that "…Lake Kemp elevations [would] fall to levels that would rarely, if ever, occur without the proposed project" is correct. Without implementation of chloride control at the natural brine springs the high chloride content of the water in Lake Kemp currently limit the opportunities to economically use the water. By controlling the upstream natural brine springs the water in Lake Kemp would be less salty and this would increase the opportunities to use the water. That is the objective of chloride control. Through detailed studies we forecast that different, but greater levels of use will occur for municipal, industrial, and agricultural purposes over time. That greater water usage would result in lower seasonal pool elevations. The water supply lake will be more fully utilized for its constructed purpose.

Mitigation for adverse impacts to the Dundee State Fish Hatchery's water supply should be in addition to mitigation for impacts to the fishery at Lake Kemp and Lake Diversion. Mitigation recommendations to adequately replace the hatchery capabilities that would be lost at the Dundee hatchery have been provided to the Corps. The Draft Supplement fails to adequately address project related impacts at the Dundee State Fish Hatchery. Present alternatives involve relocating the intake for the hatchery, pump back of hatchery discharge to Lake Diversion, and installation of a water treatment system for the incoming water supply to reduce turbidity.

Response: Do not concur. The USACE has reviewed the TPWD recommendations to rejuvenate the hatchery's aging water system infrastructure. The SFES does not fail to address impacts to the hatchery as indicated in the comment. Rather, as presented in the SFES and the Reevaluation Report, there is no expectation of change to the hatchery operation related to chloride control other than lower concentrations of dissolved solids. No other substantial changes are expected. No impacts would result. Therefore, mitigation would not be appropriate.

It is the USACE opinion that the issue of water availability to the Dundee State Fish Hatchery is a contractual matter between the Wichita County Water Improvement District and Texas Parks and Wildlife Department. The USACE recognizes that under existing conditions it is highly improbable the Wichita County Water Improvement District would discontinue releases from Lake Kemp for fish and wildlife (i.e. hatchery) purposes. Under with-project conditions the USACE has predicted the probability that releases from Lake Kemp for fish and wildlife purposes (i.e. Lake Kemp elevation < 1123) would be discontinued to be between 11.7 and 14.8 percent. However, both parties were present at negotiations that lead to the current drought contingency plan.

According to the Wichita County Water Improvement District, the water currently made available to the Dundee State Fish Hatchery is provided at no cost out of the municipal and industrial (M&I) allotment from Lake Kemp. Under the current drought contingency plan in effect for Lake Kemp, releases for M&I purposes are continued at 100% well below the elevation at which releases for fish and wildlife purposes are discontinued. It is the USACE opinion that since water provided to TPWD currently is M&I water a simple re-negotiation of the contract between the parties would ensure water was available to the hatchery under all but the most severe drought conditions. For this reason, the USACE believes the issue of water availability to the Dundee State Fish Hatchery under the various project alternatives does not require mitigation.

Lake Texoma:

In a separate document, the "Wichita River Basin Project Reevaluation, Red River Chloride Control Project," the Corps states that Area V has reduced chloride loads to Lake Texoma by 7 percent and Area VIII has reduced chloride loads to Lake Texoma by *5* percent. Yet later in that same document, and in the Draft Supplement, the Corps indicates only about a 10 percent reduction in chloride levels will occur with Areas V, VII, VIII, and X in operation. We request a clarification of what the total reduction in chloride and total salinity is predicted to be for the entire WRB Project (based on the selected alternative) at Lake Texoma.

Response: Do not concur. The above estimates are correctly cited from draft USACE documents, and, they are ***not*** *in conflict. The confusion arises over the terms "load" and "concentration", which, although not synonymous, have both often been equated with "level" by the USFWS. For purposes of evaluating impacts to Lake Texoma turbidity and related matters, changes in total dissolved solids (TDS) concentrations, not loads or total mass, are the issue of importance. Please refer to the USDOI USFWS letter dated September 17, 2002 in which this topic is addressed in detail.*

The Draft Supplement discusses potential project related impacts to Lake Texoma at great length and states that survival of larval striped bass would not be impacted, and increases in turbidity would be very slight. The Draft Supplement indicates that striped bass successfully spawn in other waters with less salinity and the "small effects on the turbidity levels in Lake Texoma would not be expected to have a detectable effect on the sport fishery (including striped bass) of the Lake."

We agree that striped bass successfully spawn in other waters with less salinity than would exist post-project in the Red River. Our concerns involve project-related impacts on larval survival, not spawning. Native coastal stocks of striped bass generally spawn in fresh water. The eggs are buoyant and float downstream where the larval striped bass complete development in estuaries. Virtually all published literature shows a reduction in larval striped bass survival at salinity levels below those at Lake Texoma. The fact that successful inland striped bass fisheries exist under less saline conditions does not mean that larval striped bass survival is unaffected by reduced salinities. None of the arguments presented in the Draft Supplement demonstrates that larval striped bass survival would not be affected. The best available information suggests that their survival would be reduced by implementation of the proposed WRB Project. Any reductions in survival of larval striped bass should be offset by appropriate mitigation if the impact cannot be avoided.

Response: Partially concur. The District agrees with the USFWS that slightly saline water (200-1,000 mg/l salinity) increases egg viability and reduces stress on larval striped bass, over fresh water. Salinity of water, measured as TDS, in Lake Texoma is presently greater than 634 mg/l at a 95% exceedence level and would be reduced to 582 mg/l with the project. Therefore, even though salinity would be reduced, it still falls within the optimal range for development of larval striped bass. Further, the USFWS fails to point out that the magnitude of the advantages gained, as determined in available literature, is very small. In most cases, the benefits decrease with salinities over 1,000 mg/l. High levels of salinity (above 1000 mg/l) can even be detrimental to

egg viability and larval bass survival.

The Draft Supplement attempts to minimize the potential effects of increases in turbidity at Lake Texoma. Although Corps studies show relatively small increases in turbidity (0.11 to 0.15 NTU) related to project induced reductions in salinity, the settling rates developed in the lab in these studies are unlikely to accurately reflect actual turbidity levels in Lake Texoma.

Response: Do not concur. The Draft Supplement does not "attempt to minimize" potential effects of turbidity-related issues at Lake Texoma. Rather, the document attempts to provide the most accurate analysis possible for these complex issues using the best available science, site-specific studies, and professional judgment based on the USACE's years of limnological experience and research on this important reservoir. A voluminous amount of water quality data and research findings exist for Lake Texoma and this information was considered in impact assessment for this issue.

It should be noted that the settling study described above was specifically requested, designed, and reviewed by an environmental workgroup which included members of the USFWS, Texas Parks and Wildlife, and the Oklahoma Department of Wildlife Conservation. While the USACE believes this study to be the best available for this issue, USACE would tend to agree that settling rates developed in the lab may not reflect real-world rates existing at Lake Texoma. The basis for derivation of these rates was differences in settling (with and without dissolved solids-induced changes associated with the project) under perfectly quiescent conditions (on a lab bench), thereby discounting the effects of wind and flow-induced mixing common to reservoirs. When mixing effects are considered, it is possible that pre- and post-project differences in settling rates may be even less than those predicted, thereby resulting in even smaller differences than the already extremely minor changes indicated by the study.

We anticipate that even a very small reduction in the depth of light penetration and primary productivity can have a considerable impact on fish production in a reservoir the size of Lake Texoma. A half inch reduction in light penetration at Lake Texoma is equivalent to eliminating productivity in about 1,810 acres of water 1 foot deep. In a reservoir with nearly 87,000 surface acres, even if only a very small percentage of the fish population in Lake Texoma is impacted, thousands of fish would be affected. Other forms of aquatic life in the area are also dependent on the productivity of the river and reservoir. Considering the life of the proposed WRB Project is proposed for at least 100 years, the annual impacts could add up to very large losses to public resources. Although the increase in turbidity appears to be small, the fish and other aquatic life are public resources. Mitigation for impacts to this resource should be provided by the Corps or, at a minimum, impacts should be fully analyzed-primary, secondary, and cumulative-and provided in the final document.

Response: Do not concur. Responses to these and other comments regarding Lake Texoma productivity issues are provided in detail in USACE response to the USFWS/DOI letter dated September 17, 2002. See responses to this letter for the majority of details regarding this issue. In summary, however, it can be stated that it is the USACE's opinion that comments provided above by the USFWS and similar comments related to this issue again attempt to provide definitive conclusions based on gross oversimplification of environmental factors affecting reservoir productivity as well as assumptions which may likely prove incorrect. A single

example would be the statement: "A half inch reduction in light penetration at Lake Texoma is equivalent to eliminating productivity in about 1,810 acres of water 1 food deep." and the continued conclusion that this would definitively reduce fish production. One basic assumption inherent in this statement is that primary productivity (i.e. algal growth) in Lake Texoma is solely light limited. Research has indicated that, as is common in many reservoirs, at least portions (primarily the main pool) of Lake Texoma are most likely nutrient limited (primarily phosphorus) and would therefore be relatively unaffected by decreased light, were it to occur. Further confounding assumptions required to support such a definitive USFWS statement would include assumptions that standing crops of both forage and sport fishes are ultimately limited by algal productivity. For many fish species, and striped bass in particular, other factors such as reservoir thermal regimes and oxygen stratification patterns may well prove to be significant environmental factors regulating these populations. Littoral species might likewise be limited by spawning or recruitment habitat. Other detailed responses are provided in USACE responses to comments provided in the USFWS/DOI September 17, 2002 letter. The USACE position is that no measurable change in turbidity, primary productivity, or impacts to the sport fishing are likely in Lake Texoma as a result of Wichita Basin chloride control implementation.

Lake Kemp:

The Draft Supplement predicts that chloride levels in Lake Kemp would be reduced by 76 percent, accompanied by greatly increased demands for water. Consequently, water levels would fluctuate more, often would be at much lower elevations for extended periods of time, and would experience increased turbidity. Although the reservoir would have less water and be more turbid, the Draft Supplement states such alterations would have no impact on the fishery and no mitigation is required.

The Draft Supplement only partially addresses potential impacts to spawning and recruitment, and the proposed reduction in water quantity affects more than just spawning and recruitment. Cover is not the only thing that affects recruitment and adding brush to a much smaller body of water does not make up for the loss of water. Figure 4-9 in Volume one of the Draft Supplement shows that the proposed WRB Project could reduce water surface elevations in Lake Kemp by over 15 feet and 2/3 of its volume in some years. For example, modeling of the preferred alternative over the period of record demonstrates that in 1980 the proposed WRB Project would have reduced Lake Kemp from about 157,247 acre-feet or 8,010 surface acres, to only 46,701 acre-feet and 3,513 surface acres. These reduced elevations are likely to persist for at least 4 months in most years before runoff may replenish reservoir levels. While the effects of the proposed WRB Project are not always this severe, the Draft Supplement predicted at least 10 foot reductions for nearly 10 years during the 1970s. It cannot be reasonably expected that the same biomass of fish can be supported in a much smaller body of water for any length of time. However, the Draft Supplement predicts that there will be no significant effects to the fishery if brush is added for mitigation.

Response: Partially concur. The issue concerning the volume reduction in Lake Kemp is valid, but was not identified as an impact prior to public review of the draft SFES. Consequently, this impact was not known or addressed. A new section addressing the projected impacts of volume reduction on Lake Kemp has been included in Section 4 of the FSES. The impacts of increased

water level fluctuation and reductions in TDS concentrations to the total standing crop (TSC) of fishes in Lake Kemp, have been subsequently assessed using predictive multiple regression models developed by the U.S. Fish and Wildlife Service, National Reservoir Research Program. The results of these modeling efforts are shown in Tables 14b and 14c of the SFES. Overall the TSC of fish minus clupeids in Lake Kemp is estimated to decrease from 146 to 119 pounds per acre. It is important to note that not all losses to the TSC in Lake Kemp are sport fishes. Estimates of common carp and freshwater drum TSC predict a 54.8% and 25% decrease in TSC estimates, respectively. While the only rough fish included in the model formulation are common carp and freshwater drum, the physical models of mean depth and reservoir age were shown to have a negative effect on TSC (Jenkins 1968). Additional physical variables shown to have a negative effect on the TSC estimates (from cove rotenone studies) of various rough fish species include surface area, water level fluctuation, TDS, and growing season (Jenkins 1968) indicating that while total standing crop estimates of Lake Kemp are predicted to decrease, a portion of that estimated decrease would be comprised of rough fish, which could be a benefit to the lake. With TSC of rough fish reduced, and implementation of mitigation measures related to in-lake cover (brush rows) the substantial impact of water level fluctuations on TSC and sport fish would be ameliorated.

The USACE agrees that mitigation could be required for Lake Kemp fishery losses related to operation of the chloride control structures. The USACE also recognizes that impacts to some species may be un-mitigable; however, year class losses to some species can be partially mitigated through additional stocking in years when losses can be validated by scientific fishery surveys conducted by TPWD as part of their ongoing fishery management activities.

While there is apparently no data collected by TPWD relating stocking of native and non-native fish species and lake production versus fishing harvest, there is sufficient data from USACE modeling of potential chloride control related impacts to suggest an impact to recruitment during periods of higher than normal water usage. While there is an extremely limited of amount of emergent vegetation (less than one acre for all of Lake Kemp) the Corps recognizes the potential for a secondary impact related to chloride control. The secondary impact would result from better quality water for municipal and agricultural use. Greater water use is projected to cause greater fluctuation of Lake Kemp pool elevations of the water supply lake. Based on TPWD reports emergent vegetation exists for only about 0.2 percent of the 110-mile shoreline and comprises less than one (1) acre when the pool is at or near 1144 and when the pool is at or near 1136.5 there is zero emergent vegetation. The potential impact is not a "habitat loss" but a reduction of availability of about 20%. The habitat is not currently available about 66% of the time. This is a very small habitat resource when it is available, but one that will potentially be impacted by more frequent pool fluctuations. Therefore, the Corps is proposing to evaluate existing manmade brush rows and add supplemental habitat as necessary to offset this secondary impact. No brush habitat would be placed until greater pool fluctuations and reduced recruitment were demonstrated. An assessment of existing (and routinely) fisherman placed brush cover could indicate that no additional brush cover was necessary. We view that approach as environmentally and fiscally responsible.

An unresolved issue does exist at Lake Kemp that potentially relates to the expenditure of additional Federal funds for any mitigation measure. It is unclear if additional Federal funds

should be committed to mitigation at a lake resource that is semi-public and restricted by fee access where all access fees are privately collected. The TPWD has provided estimates of annual operating expenses, which indicate that roughly $500,000 of Federal funds (through the Department of Interior) (and state funds) are currently utilized each year in the operation of the Dundee State Fish Hatchery and that stocking of Lake Kemp utilizes about 10% of all stock produced by the Dundee hatchery. The Federal and state funded stocking would inevitably relate to the visitation of Lake Kemp and the private income derived from that visitation through lease and access fees. Similarly, investments in mitigation of brush management would relate to that private income. While it is important to avoid, minimize, or mitigate environmental losses, it is equally important to prudently allocate tax resources and not expend Federal funds for measures related to a greater extent to private fee-based recreation than to public resources. The USACE will comply with the intent of NEPA to avoid, minimize, or mitigate unavoidable impacts to the environment. However, "mitigating" impacts to a semi-public, partial put-and-take, recreational resource that generates private income, and which resource is already benefiting from Federal programs and funding, will require further consideration.

In summary, while a potential impact to one acre of emergent vegetation 20% of the time can be identified by the USACE, there is uncertainty as to whether this potential secondary impact would have a measurable impact on fish recruitment in Lake Kemp. The USACE has therefore identified a potential mitigation measure, but proposes to not implement that measure until such time as a documented correlation can be identified between the secondary impact increase water use and impacts to recruitment can be identified. Routine fish sampling by TPWD will provide adequate data and no additional fish sampling is proposed as part of the USACE mitigation or operating plan.

Reference: USFWS. 1981. Multiple regression formulas for use in estimating fish standing crop, sport fish harvest and angler effort in U.S. reservoirs (Revised 15 January 1981). U.S. Fish and Wildlife Service, National Reservoir Research Program, Fayetteville, Arkansas.

The Draft Supplement also unrealistically assumes that recreational benefits at Lake Kemp would not be affected by the proposed WRB Project. Reductions of 10-20 feet in elevation, reduced surface area (less than half), reductions in sport fish production, and increases in turbidity are very likely to reduce recreational use of the reservoir. Large areas of exposed mud flats will regularly occur and boat ramps and docks would be difficult to maintain in a usable condition with such fluctuations in elevation. Boating use would be greatly impaired at the lower elevations.

Response: Do not concur. Only one boat ramp is currently available under drought conditions. This ramp is nearest to the dam, where the water is deepest. Boat use is generally low. In addition, large areas of mud flats are currently a regular occurrence.

Benefits Analysis:

After 15 years of operating the existing chloride removal project, irrigated agriculture in the WRB Project area has declined. However, the Draft Supplement predicts irrigated agriculture will increase by more than 43,000 acres within 5 years following implementation of the preferred alternative. The projection is supposedly based on similar water quality improvement projects in

Texas. In our opinion, the Wichita River basin (Reach 7) is the most appropriate project to use for this comparison. Using other "similar projects" seems unrealistic. It is unclear why a chloride reduction of 20-30 percent in Reach 7 has not induced an increase in irrigated agriculture in 15 years, yet a 6 percent reduction in Reach *5* would induce farmers to begin irrigation on 9,295 acres of land within *5* years; an obvious disparity exists requiring additional analysis. A 4 percent reduction in chloride levels has supposedly already occurred in Reaches *5* and 6 of the Red River due to existing WRB Project operations and has not induced any increase in irrigated agriculture.

Response: Do not concur. The reasoning in the comment assumes a linear relationship between reduction of chlorides and use. The actual relationships are somewhat more complicated and the USACE evaluation addressed the more relevant parameters in assessing the relationship. Those parameters are fully described in the Economic Appendix of the Reevaluation Report. They include parameters such as soil type, related leaching fraction, crop type, rainfall amounts at different locations in the basin, evaporation, existing chloride concentrations, chloride concentrations of alternative plans, the availability and cost of water, equipment and operating costs, crop yields based on chloride concentrations, crop prices, and farm budgets. These and other parameters were evaluated in combination. The evaluation was computer assisted and utilized risk analysis techniques to vary (positively and negatively) the opportunities to invest in irrigation and an assessment of the potential economic results (also varied positively and negatively). The most recent analysis reconfirmed the results of a number of previous USACE studies. In response to the comment, it also confirmed that the relationship of chloride concentration to water use is not linear. There are a large number of decision points, or thresholds, that apply to the various parameters. A certain level of chloride reduction may meet a number of decision points and result in a forecast that certain soil types could productively produce one or more specific crops and that conversion from dry land farming to irrigated farming could be productive for a certain acreage. Greater levels of chloride reduction could indicate that a different crop would be more economically productive and that more or less acreage conversion would yield greater economic returns. These types of comparison analyses were performed millions of times for each chloride control alternative. The combination that resulted in the greatest expected economic return for the farmer was selected as the best plan.

The comment also oversimplifies the relationship of chloride concentration to water use by using percentage changes compared from locations within the Wichita River Basin to locations downstream in the Red River Basin where chloride concentrations are much lower. Note that natural chloride concentrations range from 696 mg/l to 1,985 mg/l at Lake Kemp and from 165 mg/l to 469 mg/l at Lake Texoma. It is obvious that comparing percentage changes at these two locations is irrelevant. Also note, that implementation of chloride control in the Wichita Basin would result in chloride concentrations from 166mg/l to 489 mg/l at Lake Kemp. That reduction essentially lowers the chloride range expected for the Wichita Basin to that currently experienced at Lake Texoma.

The projected increases in irrigation within economic Reaches 5 and 6 seem unrealistic or relatively unrelated to the proposed WRB Project An additional 6 percent reduction in chloride levels is not likely to be enough incentive for farmers to invest in irrigation equipment when most of the same crops can be grown in this area without irrigation. Texas A&M University studies

included in the Draft Supplement agree that the effects of the WRB Project on agriculture in Reaches *5* and 6 along the Red River should likely be ignored. The FWS provided the Corps information on predicted chlorides, sulfates, and total dissolved solids to experts at Oklahoma State University and the Natural Resource Conservation Service and these entities have both agreed that a 6-11 percent reduction in chlorides was unlikely to have any significant impact on the amount of irrigated agriculture in Reaches *5* and 6. The predicted change in chloride levels is not likely enough incentive to convert many farming operations from dryland to irrigated farming.

Response: Do not concur. See the response immediately above.

The benefit analysis repeatedly relies on potential benefits which have not been actually demonstrated to occur.

Response: Concur. The economic analysis consistently presents the methodology, assumptions, data sources, and results of detailed economic evaluations of a proposed plan of chloride control. The purpose of the study is to estimate the potential economic results of chloride control in the future.

Conversely, anticipated environmental impacts, and associated mitigation needs, are summarily dismissed. Instead, the Draft Supplement relies on a process where environmental impacts would be monitored, with no mitigation measures implemented until impacts were actually documented. For example, the Draft Supplement assumes brush control will occur (and will be effective in increasing stream flows) in counting benefits for water yields but is unwilling to assume any potential costs related to brush control or mitigation for impacts to aquatic resources from low flows. Brush control has not been funded by the State of Texas and its actual level of effectiveness has not been proven. Even if effective at reducing low flow impacts, brush control does not completely compensate for predicted reductions in flows.

Response: Do not concur. The USACE does not dismiss environmental impacts or associated mitigation needs. The USACE has gone to extraordinary efforts to evaluate potential environmental impacts. The USACE has conducted a large number of extensive supplemental studies at the request of resource agencies. With rare exception, these studies conclusively reconfirm that no significant impacts are expected to result from chloride control measures in the Wichita River Basin. Because, with rare exception, no significant impacts would occur, no mitigation is appropriate. The exceptions are: 1) terrestrial impacts from construction activities, and 2) a potential Lake Kemp fish recruitment impact. The terrestrial impacts to mesquite and juniper brush habitat have been fully mitigated at the Crowell Mitigation Area and are currently being managed by the USACE. The Lake Kemp fish recruitment impact is potentially minor, but mitigation is proposed by USACE. However, the impact would not be realized until a significant lake draw down was experienced. The proposed mitigation plan would be implemented if data routinely acquired by the TPWD (for management of Lake Kemp) indicated losses to a year class of fishes that were greater than would be expected and could be reasonable linked to increased Lake Kemp draw down due to better water quality. Should an increased increment of year class losses need to be replaced, it could largely be accomplished by stocking. A proposed long-term mitigation measure would provide habitat cover to improve the recruitment process and

minimize year class losses. The USACE has committed to adding brush cover.

Concerning the USFWS comment example of brush control, the USACE evaluated land use trends concerning hydrology and agriculture. From those trends we identified that private individuals are implementing brush control within the multi-county area occupying the Wichita River Basin. The state cost shared brush management plan would potentially increase the rate at which mesquite brush is removed by funding 75% of the brush clearing cost. In addition the Corps is discussing a separate brush management ecosystem restoration effort to implement a test project in the Wichita Basin with the Red River Authority and the TSSWCB. Potential landowners are being contacted to determine their interest and concerns.

The USACE consulted with the Red River Authority and the TSSWCB to determine the potential for implementation of brush management in the basin. Our interest was in determining if there would be environmental effects of increased fresh water stream flow in areas immediately below brine collection facilities and effects to increase Lake Kemp water supply yield. The TSSWCB provided information indicating the proven effectiveness. The RRA provided their state brush management plan for the Wichita River Basin, which is designed to supplement basin water yield with impacting the recommended chloride control facilities at Areas VII, VIII, and X. The USACE believes mesquite and juniper management and salt cedar eradication efforts are environmentally positive programs and their implementation will be beneficial in restoring much of the watershed and streams to more environmentally diverse pre-settlement conditions.

In an effort to estimate a conservative future condition for brush management, the USACE evaluated only 50% of the brush clearing recommended in the state's brush management plan and did not project any further brush clearing by individuals. Given the interest within the Wichita Basin and state funding to date, that estimated future condition continues to be viewed by the USACE and the Red River Authority as a reasonably conservative estimation of basin brush management over time.

If however, no governmental support of brush management occurs in the Wichita River Basin, then the issue is from a lost opportunity not an impact to low flow. One effect of brush management in the upper Wichita Basin would be to increase watershed runoff and therefore increase the volume of water flowing into Lake Kemp. If brush management is not implemented there would still be no shortage of water in Lake Kemp related to chloride control, and therefore no support for the TPWD claim that the hatchery would be significantly impacted.

In addition the statements that "Brush control has not been funded by the State of Texas and its actual level of effectiveness has not been proven" is incorrect. The effectiveness has been documented and proven, and the state of Texas has funded both brush management feasibility studies and brush removal.

Concerning the statement, "Even if effective at reducing low flow impacts, brush control does not completely compensate for predicted reductions in flows", the SFES clearly indicates that your comment is correct. The USACE recognizes that changes in low flow conditions immediately below the low flow brine dams would be an unavoidable result of removing brine. Concentrated brine is the only flow at those locations most of the time. However, the implication of the

USFWS comment is that a change in low flow conditions requires mitigation. Also that because the prediction of brush management effects on low flows does not "completely compensate" for the effect of brine removal that mitigation is required. Without examination of the environmental conditions, USFWS conclusion for either condition is not inevitable. The USACE conclusions based on the environmental conditions is that some changes in the resident salt tolerant fish species is expected, but the change is not expected to result in significant short term impacts nor long term cumulative impacts. The results of potential brush management implementation were shown to indicate that the impact would be expected to be reduced. For either condition, with or without implementation of brush management, no mitigation would be appropriate.

The statement that the "Draft Supplement [SFES] assumes brush control would occur …in counting benefits for water yields…" is incorrect. No additional yield estimated to result from brush management was used in USACE benefit calculations.

The statement, "Instead, the Draft Supplement relies on a process where environmental impacts would be monitored, with no mitigation measures implemented until impacts were actually documented" is, in part, untrue, and is, in whole, grossly misleading. The USACE has acquired nearly 12,000 acres of mesquite and juniper brush land and have managed those lands since acquisition as mitigation for unavoidable construction impacts, such as the construction of Truscott Brine Lake and the Area VIII brine pipeline. That mitigation feature was acquired with the expectation of providing adequate mitigation for the entire Red River Chloride Control Project. The Crowell Mitigation Area is sufficient in size and mitigation value to compensate for remaining chloride control features in the Wichita River Basin consisting of less than 500 acres of construction impacts, primarily to mesquite and juniper brush uplands. The total terrestrial impact due to construction is estimated to be about 5,000 acres in the Wichita River Basin.

In 1995 and 1996, the USACE agreed to halt construction and formally consult with the USFWS, TPWD, and ODWC who had raised a number of issues. Through that process the resource agencies insisted on a series of studies prior to implementation. These studies and proposed monitoring were conceived for the entire Red River Chloride Control Project. When the formal consultation was terminated due to a lack of consensus, the Corps upheld the commitment to conduct the studies and monitoring. Because the TPWD suggested that the Wichita River Basin chloride control features be implemented by the USACE as a test case for chloride control, the USACE implemented those studies and continues to uphold the commitment to monitoring related to that basin (and reasonable effects downstream). The Wichita River Basin and related downstream monitoring is estimated to cost in excess of $75 million dollars over the next 100-years. Because of this major investment in monitoring, as required by the resource agencies, the USACE believes that initial monitoring would provide adequate insight into potential environmental problems and would help guide the design and implementation timing of mitigation measures to compensate for the less significant impacts. The USACE believes that this approach is both environmentally and fiscally prudent. In summary there is only one potential impact for which the USACE proposes a mitigation measure, but plans to monitor before implementing that mitigation measure. This potential impact is at Lake Kemp and deals with one (1) acre of emergent vegetation that could be impacted 20% of the time through a secondary impact of chloride control. There is uncertainty as to whether this would have a measurable impact on fish recruitment in Lake Kemp. The USACE has therefore identified a

potential mitigation measure, but proposes to not implement that measure until such time as a correlation can be shown between the increased water use and impacts to recruitment. Routine fish sampling by TPWD is currently adequate for management of the lake by TPWD (including recruitment) and will therefore provide adequate data for decision making on this potential impact to recruitment.

Another example is the potential industrial benefits in Shreveport, LA. Industrial benefits are assumed to occur in Shreveport due to a predicted less than 1 percent decline in chloride levels. The predicted chloride reductions were developed with only a plus or minus 10 percent accuracy. The ability to demonstrate a project related reduction of 1 percent in a highly variable system is questionable. Such benefits are questionable and the assumptions are extremely optimistic. If the analyses contained in the Draft Supplement utilized the same approach with economic benefits as they propose for determining environmental impacts, they would monitor industrial benefits and chloride levels at Shreveport and only count the benefits when or if they were documented.

Relatively minor benefits, such as industrial benefits at Shreveport and increased life span of household appliances, are indicated, but even potentially significant impacts to natural resources are ignored, avoided, or dismissed in the Draft Supplement. Such an approach is contrary to the intent of the FWCA and NEPA. The Final Supplement should include an impartial analysis of the potential for environmental impacts and present such in a comparative format with other aspects of the WRB Project.

Response: Comment noted. The conceptual basis of the municipal and industrial evaluation, as stated in the Economic Appendix to Reevaluation Report, is that a difference in the water quality of the Red River as measured by concentration-duration curves for the without and with project condition is measurable in terms of damage costs per 1000 gallons of TDS and chlorides. The magnitude of the benefits depends upon the quantity of water used by the municipal and industrial entity at the present time and in the future.

The Draft Supplement benefit analysis is based on the position that all existing features, including mitigation features, of the project should not be included in the evaluation because they are considered "sunk costs." Sunk costs are costs that are already incurred and are assumed to be independent of the current decision making process. The Draft Supplement states that they will continue to operate the existing portions of the project and consider it the no action alternative or base condition. We have serious objections to this position. The existing and proposed components of the project are interrelated and interdependent. The preferred alternative could not operate without some of the existing features, including Truscott Reservoir. Benefits from the proposed project should not be claimed without factoring in at least a portion of the costs of building and maintaining the reservoir and associated mitigation costs. Eliminating these "sunk costs" eliminates a major portion of the proposed project's costs and falsely improves the project's cost benefit ratio. Mitigation for all of the existing and operational portions of the project has not been provided despite the fact that it has been operational for over 15 years.

Response: Do not concur. The chloride control features included as sunk costs have been appropriately accounted for as costs which have already been incurred. The current decision to

be made is whether to complete construction of the Wichita River Basin chloride control features based on the economic feasibility of those features and an overall assessment of impacts related to those features. The description of base conditions and evaluation parameters was contained in the project management plan (dated January 1998) provided to and presented to the USFWS and the state resource agencies at the beginning of the Reevaluation study. The evaluation conditions have been discussed numerous times since first presented in 1998.. The process is grounded in the economic and environmental principles set forth in law that apply to the Corps of Engineers, the Bureau of Reclamation, the Tennessee Valley Authority, and the Natural Resources Conservation Service. For these agencies, the Federal objective of water and related land resources planning is to contribute to national economic development consistent with protecting the Nation's environment pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements.

Please note that both the costs and benefits of completed features are sunk, but that cumulative environmental effects were considered for all chloride control features in the Wichita River Basin. This approach discounts sunk financial costs ***and benefits*** *while focusing environmental consideration of all past and potential future impacts. That approach is also a standard USACE method designed to ensure compliance with NEPA and our own environmental operating principles. Please also note that the presentation of the economics in the Reevaluation clearly states that it relates to completion of the Wichita River Basin - only. The evaluation approach is standard when an economic review is conducted in the midst of construction. The economic evaluation cannot "falsely improve" the "project's cost benefit ratio" because the evaluation is only for the unconstructed features in the Wichita River Basin, not the Red River Chloride Control Project.*

Your statement that, "Mitigation for all of the existing and operational portions of the project has not been provided despite the fact that it has been operational for over 15 years" is grossly misleading to the general reader and does not accurately characterize the USACE efforts to mitigate and manage environmental resources. Parts A and B below attempt to clarify the issue.

A. The terrestrial impact of construction of Area VIII low flow brine dam and pipeline and the Truscott Brine Lake (about 4,571 acres of mesquite and juniper brush) was included in the creation of the Crowell Mitigation Area (about 11,954 acres of mesquite and juniper brush. The Crowell Mitigation Area has been managed and continuously improved since its acquisition. The greatest value for the Crowell mitigation land can be realized through management of fish and wildlife resources to provide the public with fishing and hunting opportunities. Native species include white-tailed deer, mule deer, scaled quail, bobwhite quail, Rio Grande turkey, cottontail, mourning dove, and migratory waterfowl. Hunting opportunities for these species and feral pigs will be available. Several farm ponds are located within the mitigation area and constitute the major aquatic resources that have management potential for warm water species. Characteristic species found in ponds of this region include green sunfish, bluegill, orange spot sunfish, largemouth bass, crappie, common carp, black bullhead, and channel catfish. Vegetation generally consists of woodland, mixed shrub savannah, upland grassland, and bottomland grassland. A small amount of riparian vegetation and marsh communities are present. While hunting and fishing opportunities currently exist, these opportunities will be

improved with future management. No current or projected recreation benefits related to the Crowell mitigation area are included in the economic evaluations within the Reevaluation. For every acre lost to all existing and proposed construction activities in the Wichita River Basin, 2 to 3 acres will replace the value of habitat lost.

B. Our detailed studies of potential effects to the aquatic habitat related to Area VIII show that actual operations have had less of an influence on the aquatic environment than initially forecast, and those initial forecasts indicated no significant impacts. To date, there is no indication of significant aquatic impacts, and that includes very dry conditions over the past few years.

The USACE position is that more than adequate mitigation was implemented in 1987 for the features in operation during that time, and that terrestrial mitigation at the Crowell Mitigation Area is fully adequate for mitigation of construction impacts to mesquite and juniper habitat for all existing and proposed features within the Wichita River Basin.

The benefits analysis did not reevaluate the feasibility or viability of the entire WRB Project and the feasibility of the existing portion of the WRB Project has not been evaluated since 1993 (almost 10 years).

Response: Do not concur. The first portion of the comment relating to the scope of the Reevaluation is addressed in USACE responses above. The second portion of the comment relating to the feasibility of the "existing portion of the WRB Project" and the date of the last economic evaluation indicates a misunderstanding of the concepts of chloride control. Because (1) the effectiveness of chloride control in the Wichita Basin relates to the ability to control multiple brine sources, (2) the most cost effective and environmentally sustainable method of control required a large initial capital investment, and (3) construction was halted in 1994 after the large investment and control of only one brine area had been completed, it is not feasible to evaluate the cost effectiveness of the "existing features". It is feasible to evaluate the chloride control effectiveness of existing features, and that has been done. It is also possible to evaluate the economic feasibility of unconstructed features, and that has been done and is presented in the Reevaluation Report.

The validity of assumptions made at the time has also not been evaluated with current information.

Response: Do not concur. The Assistant Secretary of the Army for Civil Works, ASA (CW), directed a thorough reevaluation of chloride control for those features within the Wichita River Basin. The reevaluation was to re-examine all data, assumptions, methodologies, and conclusions and was not to be constrained to the previously recommended or authorized chloride control plan. The ASA (CW) direction was followed.

From the time construction was stopped until 2002, various additional data were gathered and new monitoring activities were conducted as specified by the environmental operating plan for the Wichita River Basin features. All the additional data were used in the reevaluation study. This significantly expanded the USACE's understanding of the environmental effects of chloride

control.

All potential chloride control issues and environmental effects were reassessed as related to the Wichita River Basin chloride control features, including related issues downstream in the Red River and Lake Texoma. The USACE's original conclusions of potential, but minor adverse effects were verified, but some of those effects were found to have been overstated. The recommended plan for the Wichita River Basin is economically viable; minimizes environmental impacts; and provides environmental, agricultural, municipal, and industrial water use benefits. The plan would fully mitigate the construction impacts to terrestrial habitat – generally mesquite and juniper. The only other mitigation measure would be to provide fish habitat in Lake Kemp, as needed.

The benefits analysis only examined the feasibility of adding components to the existing portion of the WRB Project. The operational portion of the WRB Project has provided relatively few benefits to date. The City of Wichita Falls has only used the water from Lake Kemp once and irrigated agriculture, as previously discussed, has actually declined since the initial project became operational

Response: Concur.

The existing portion of the WRB Project may be relatively effective at removing chlorides, but after investing millions of dollars and operating the project for 15 yeas, it has not yet demonstrated the predicted benefits. The feasibility of the existing portion of the WRB Project should be reexamined before investing more Federal funds in the project. At a minimum, the entire proposed project, including the existing portions, should be evaluated.

Response: Do not concur. As indicated in responses to comments above, the construction of chloride control features in the Wichita River Basin was halted after implementation of large capital investments necessary to begin control of multiple brine sources and after implementation of control of only brine source. The optimal plan of effectiveness for which construction was initiated required the control of three major natural brine sources. In 1994, the USACE suspended construction of the Red River Chloride Control Project. The USACE had completed brine collection site Area V (Estelline Springs) in 1964 (outside the Wichita River Basin), the Truscott Brine Lake in 1982, and brine collection site Area VIII in 1986. Brine collection site Area X was under construction at the time. Construction was stopped due to concerns expressed by the U.S. Fish and Wildlife Service, the Oklahoma Department of Wildlife Conservation, and the Texas Parks and Wildlife Department regarding environmental issues and what they thought would result from construction of the chloride control project. Although the USACE evaluated the concerns through detailed studies and addressed many issues, there continued to be disagreement. The USACE elected to suspend construction and work to resolve the issues through a process termed an environmental issue resolution process (EIRP). The EIRP discussions included several working groups and spanned December 1995 to July 1996. In the end, none of the issues had been resolved, but a process had been accepted by the three resource agencies whereby environmental monitoring would occur for those Red River Chloride Control Project features that had been constructed or would be constructed in the future. The purpose of the monitoring was to determine the actual effects of existing and future operating

chloride control components on the environment. Many of the monitoring components included continuation of data gathering. Other components would be new data sources and would involve intensive initial data gathering (to establish a baseline) and periodic updates (to identify trends of change). The monitoring was specified in an environmental operating plan to be conducted by the USACE for the entire Red River Chloride Control Project. In a 1997 letter, the Texas Parks and Wildlife Department indicated that they would have no objection to the USACE completing construction of the chloride control features within the Wichita River Basin as a test case, provided that adequate monitoring was included. The ongoing environmental operation plan provides that monitoring.

The current Reevaluation Report and SFES is a detailed reevaluation of both the existing and proposed chloride control features in the Wichita River Basin.

It is unreasonable of the USFWS to imply that operation of Area VIII should be gauged against the high initial costs of implementing the Truscott Brine Lake and the Crowell Mitigation Area when such features were sized for more brine chloride control structures. The Wichita Basin features were designed to operate as a system and the system was evaluated on its economic merit. The fact that the existing features have been operating for 15 years while the USACE has been acquiring additional data at the request of the USFWS and the USACE has been coordinating study efforts with resource agencies throughout that time should not be viewed as a project limitation. It should first and foremost be viewed as extraordinary effort expended by the USACE to address resource agency concerns. Secondly, and unfortunately, it must be viewed as a 10-plus year string of annual benefits foregone because the plan under construction in 1994 was not completed. With the exception of existing terrestrial mitigation a small potential mitigation component in Lake Kemp, all of the USACE studies conducted since 1994 confirm earlier studies indicating chloride control would cause no significant impacts to the environment.

As recommended by the recent National Academy of Sciences (Panel on Peer Review, Committee to Assess the US. Army Corps of Engineers Methods of Analysis and Peer Review for Water Resources Project Planning, In Press. Review procedures for water resources planning, National Research Council) study of Corps economic assessments, we strongly recommend an independent economic review of the entire WRB Project.

Response: Comment noted.

Conclusion

The proposed WRB Project is a significant component of the previously proposed RRCC Project. Until the RRCC Project is deauthorized, all of the potential effects of the larger project must be comprehensively analyzed. It would be inappropriate and not in conformance with NEPA to 'piecemeal' the RRCC Project in attempts to avoid addressing associated impacts and conflicts.

Response: Partially concur. We agree that "piecemealing" would not be appropriate. However, as previously stated, the reason for completing and operating the Wichita River only portion of the authorized Red River Chloride Control Project was the idea of the Texas Parks and Wildlife Department during the EIRP.

The Draft Supplement's failure to consider the cumulative effects and costs of previously constructed portions of the RRCC Project is, again, not in conformance with NEPA and is misleading to the public. We will continue to object to any attempt to implement the RRCC Project in piecemeal stages without the benefit of a comprehensive, cumulative impact analysis.

Response: Do not concur. It is the USACE's intent to provide a comprehensive, cumulative analysis of environmental impacts for all features of chloride control in the Red River Basin. It is not the USACE's intent to "piecemeal" the project as evidenced by the myriad of scientific studies that has been devoted to cumulative impact analysis for a variety of environmental issues for the project. It is believed that responses to these comments and discussion provided in the final Supplement to the Environmental Statement for the project provide the requested analysis and is in conformance with NEPA guidelines.

The Reevaluation and associated SFES were conducted at the suggestion of the TPWD. Direction of the ASA (CW) was to reevaluate the Wichita River Basin chloride control features first, then to conduct a general reevaluation of the Red River Chloride Control Project, if warranted. While the USFWS inferred that the evaluation of Area V environmental effects (the only completed chloride control features outside of the Wichita Basin) were not presented in the draft SFES, they were, by oversight, only partially presented. That oversight has been corrected. Therefore, the cumulative impacts are presented in the final SFES. The Area V difference is extremely minor, but the cumulative impacts are procedurally and technically correct.

In regard to the statement that the environmental evaluations presented in the draft SFES was "misleading to the public", the USACE does not agree. The partial omission of Area V chloride control on cumulative effects resulted in a small difference in TDS concentrations at Lake Texoma. While the USACE acknowledges the omission in the draft SFES, the ultimate conclusion remains unchanged. Therefore, there is little risk that the public was mislead.

In other comments the USFWS indicates that the environmental evaluation in the draft SFES did not include the potential environmental impacts of the existing Area VIII operation. This is not correct. The USACE did include the potential operational impacts of Area VIII in the evaluation of cumulative impacts in the draft SFES. In a revised analysis including Area V existing chloride features related to the Red River Chloride Control Project and all proposed chloride control features in the Wichita River Basin are included in the evaluation of potential cumulative impacts in the final SFES.

Should Congress direct evaluation or implementation of other components of the Red River Chloride Control Project, the USACE would conduct further (cumulative) evaluations of potential environmental impact both in conformance with NEPA and the USACE environmental operating principles.

One of our goals concerning the WRB Project is that fish and wildlife resources and the habitats upon which they depend be maintained and/or appropriately mitigated through balanced project planning and full consideration of long-term and cumulative impacts.

Response: Comment noted. Such as approach has been used to evaluate this project.

The WRB Project could result in unmitigable and long-term losses to important fish and wildlife habitats, particularly terrestrial and aquatic resources of the Wichita River, and recreational fishing opportunities at Lakes Texoma, Kemp, and Diversion.

Response: Do not concur. There is no reasonable, scientific, data based rational for these USFWS conclusions; either that unforeseen circumstances could be "unmitigable" or that long-term losses would occur. Potentially impacted terrestrial resources generally consist of mesquite and juniper brush. That impact has been mitigated for existing and proposed chloride control features. Exhaustive evaluations of aquatic resources have been conducted. There is essentially no risk of measurable impact to any resources at Lake Texoma – environmental or recreational. There is no predicted change to Diversion Lake other than a reduction of chloride concentration and a minor change to turbidity levels, and therefore, no significant risk of environmental or recreation impacts. The potential impact to Lake Kemp is accompanied by a USACE proposed mitigation measure, to be implemented as necessary to offset possible impacts to fish recruitment. While a potential impact to one (1) acre of emergent vegetation 20% of the time can be identified by the USACE, there is uncertainty as to whether this potential impact would have a measurable impact on fish recruitment in Lake Kemp. The USACE has therefore identified a potential mitigation measure, but proposes to not implement that measure until such time as a documented correlation can be identified between the secondary impact increase water use and impacts to recruitment can be identified. Routine fish sampling by TPWD will provide adequate data and no additional fish sampling is proposed as part of the USACE mitigation or operating plan.

In addition, the Truscott Brine Storage Reservoir may become a contaminant sink to the detriment of resident and migratory wildlife populations; Se concentrations would ultimately reach levels known to adversely affect reproduction in migratory birds. Se concentrations are predicted to exceed the minimum threshold for potential impacts to nesting birds by more than three times. Additionally, the predicted concentrations would exceed current EPA chronic criteria and Texas State water quality standards.

Proceeding with the proposed WRB Project in light of these significant adverse environmental impacts would conflict with the spirit and intent of the FWCA. The FWCA requires equal consideration of fish and wildlife resources with other features of water resource development projects, but the proposed WRB Project frequently considers potential impacts to natural resources as insignificant, while claiming questionable benefits within that same portion of the project area. The WRB Project, as presently formulated, does not give equal consideration to fish and wildlife resources.

Response: Do not concur. An important component of "balanced project planning" as referenced in this comment involves wise and informed decision-making based on the best available information and site-specific study. For reasons provided in response to these comments and the SFES for the project, the USACE disagrees with the USFWS assessment and conclusions regarding severity of impacts associated with this project. In addition, it is the USACE's opinion that equal consideration has been given to potential impacts and that adequate mitigation has been proposed for those environmental concerns for which good science and

fiscal responsibility justify the need for expenditure of public funds for such action.

The USACE disagrees with the statement that the "…[Reevaluation] does not give equal consideration to fish and wildlife resources". In contrast, a high level of consideration was given to fish and wildlife resources. The construction delay since 1994, environmental monitoring, and the past four years of study for the Reevaluation Report and the SFES were conducted due to the USACE commitment to consideration of fish and wildlife resources.

The position presented in the Draft Supplement is to propose mitigation for project related impacts in only two instances: 1) for losses of terrestrial habitat resulting from construction and operation of Truscott Brine Storage Reservoir; and 2) spawning and nursery habitat losses for fish at Lake Kemp. While the proposed mitigation for terrestrial impacts is appropriate, the proposed mitigation for aquatic habitat at Lake Kemp is inadequate. In the absence of site-specific information on the possible environmental impacts of the WRB Project, the Draft Supplement dismisses or minimizes the remainder of the FWS's CAR recommendations. Consequently, the Draft Supplemental did not analyze nor recommend mitigation for these additional environmental impacts to be warranted.

Response: Do not concur. It is the USACE's opinion that the statement: "In the absence of site-specific information on the possible environmental impacts of the WRB Project . . . " again grossly misrepresents the voluminous amount of study and site-specific evaluations that have been conducted by the USACE and used to formulate impact analyses for this project. We would also disagree that the SFES dismisses or minimizes CAR recommendations. These recommendations were given full consideration, but the USACE disagrees with most of the conclusions and recommendations based on the agency's best analysis of scientific data and studies conducted for the project. This level of technical disagreement regarding severity of impacts and required mitigation does not indicate that these recommendations were not considered. The statement that the USACE found the majority of mitigation requirements as proposed by the USFWS to not be warranted is correct.

Instead, this Draft Supplement, as considered during planning for the Upper Mississippi River-Illinois Waterway Study, uses an adaptive mitigation strategy in accordance with principals of adaptive management. Under this proposal, only when environmental impacts are actually proven would mitigation for these impacts occur. Thus, the Draft Supplement fails to explain how these environmental effects might be mitigated or to provide costs associated with implementation of necessary mitigation.

Response: Do not concur. As previously explained in responses to these comments, impact analysis and mitigation requirements for this project are not based solely on future monitoring and mitigation analysis based on "proven" impacts. Alternatively, the USACE's approach uses impact estimation to support sound decision-making based on a significant number of wide-ranging, site-specific studies designed to reasonably answer specific environmental questions for the project, many of them conducted at the request of resource agencies. However, the USACE also recognizes that many of the environmental issues associated with the project are extremely complex and difficult to conclusively define prior to project construction, given any level of study. Accordingly, the USACE proposes a significant level of future monitoring and

appropriately scaled mitigation as verification or a "reality check" for anticipated impacts. This approach provides for environmental protection in three ways: (1) impact analysis based on scientific study and best professional judgment, (2) verification of validity of anticipated impacts through a commitment to future monitoring, and (3) implementation of appropriate mitigation (including operational changes) for unanticipated impacts.

This approach is highly dependent upon future, and not current, project-specific Congressional appropriations. Such an approach would preclude an adequate cumulative effects analysis, as the Draft Supplement supposes no environmental impacts would occur until actual monitoring demonstrates an impact has occurred.

Response: See previous discussions.

In contrast, many of the projected economic benefits also are highly speculative, yet the Draft Supplement does not propose a similar adaptive strategy to confirm actual existence of economic benefits. Although the Corps has proposed, through adaptive management, to modify or even cease operation of the project, if necessary, expending public funds for construction of a project feature which might be removed in the near future demonstrates poor project planning.

Response: Do not concur. See previous response for the USACE's purpose and intent with respect to impact analysis and monitoring. The USACE cannot support funding and adoption of project features and mitigation elements which, in the Agency's opinion, are not warranted or supported by studies conducted to assess these requirements.

Considering the project features proposed are long-lasting, delaying mitigation until some future point denies the public the opportunity to fully evaluate the full environmental and operational costs associated with this project.

Response: See previous discussion.

The National Academy of Sciences (Committee to Review the Upper Mississippi River—Illinois Waterway Navigation System Feasibility Study. 2001. Inland navigation system planning—The Upper Mississippi River-Illinois Waterway. National Academy Press. Washington D.C. 130 pp.) in 2001 considered a similar adaptive mitigation strategy to be inadequate because the environment is simply treated as a planning constraint rather than a resource equal with project features.

Response: Do not concur. Studies conducted to support this evaluation do not treat the environment as a planning constraint. Rather, environmental issues are provided equal balance to other project considerations.

We recommend the WRB Project not go forward as proposed in the preferred alternative. Little effort is made to avoid impacts and mitigation is minimized while attempting to maximize the economic benefits of the WRB Project.

Response: Do not concur. As presented in other responses, significant effort was made to avoid,

minimize, or mitigate for chloride control impact.

The statement that "…mitigation is minimized while attempting to maximize the economic benefits of the WRB Project" is correct. Maximizing the economic benefits was a priority, but was not a higher priority than complying with NEPA and USACE environmental operating principles. Recommendations for such mitigation measures, such as a new hatchery to replace the Dundee State Fish Hatchery, were reviewed and determined to be inappropriate and unrelated to chloride control impacts.

This project appears to take the most expedient route to remove chlorides to the unacceptable detriment of fish and wildlife habitats and resources within the upper Wichita River system. The Draft Supplement makes assumptions in evaluating the feasibility of the proposed project that inappropriately avoid or mask costs, promote questionable benefits, and mislead the public. We would prefer a modified project that combines some of the proposed control measures with other alternatives which would not result in water shortages for the Dundee State Fish Hatchery, reduced flows in the Wichita River, reduced productivity at reservoirs, and the creation of a long-term selenium threat to wildlife at Truscott Brine Storage Reservoir.

Response: Do not concur. Prior responses address the first two sentences. The statement beginning with "We would prefer…" is framed as a conclusive statement, when there are no studies which would support such claims.

Other alternatives, such as dropping Areas VII or X, and adding or returning chlorides below Lake Diversion, would allow most of the WRB Project goals to be achieved and reduce potential impacts and long-term costs. While the impacts of such a modified project to fish and wildlife resources would not be eliminated, they could be much reduced in scope. Any of the proposed alternatives will require mitigation that effectively minimizes the negative effects to the unique aquatic community of the Wichita and Red Rivers. These mitigation measures should have the approval of the State natural resource agencies and be incorporated into the Environmental Operational Plan for the WRB Project

Response: Do not concur. The USACE alternatives included alternatives that excluded Area VII or Area X brine collection. In addition, the USFWS and TPWD provided 12 "other alternatives" that included options as described in the comment above to add or return collected brine to the Wichita and Red Rivers. The USACE delayed the completion of the Reevaluation Report by 8 months to conduct a preliminary evaluation of the USFWS/TPWD alternatives. A summary report was provided to the USFWS and the TPWD and included in the Reevaluation Report.

The USFWS and the TPWD expressed that the purposes of their concepts were to avoid or reduce impacts of the Corps' initial plans, to partially mitigate for impacts, and to potentially reduce long-term costs. One component of their concepts was to avoid or reduce pumping brines to the Truscott Brine Lake to eliminate potential selenium impacts. Instead of using Truscott as a brine disposal area, brine would either not be collected at Areas VII, VIII, or X or would be collected and then pumped to one of three area creeks – Beaver Creek, Paradise Creek, or Raggedy Creek.

Several concerns associated with the USFWS/TPWD alternatives were identified. It would be important to more fully evaluate each concern to further evaluate or identify "all" potential problems or opportunities associated with these alternatives.

The Red River Authority, the local sponsor, does not support the USFWS/TPWD alternatives due to the transfer of chlorides and selenium load and concentrations from the upper Wichita River tributaries to other tributaries either in the Wichita River Basin (Beaver Creek) or into the Pease River Basin (Raggedy and Paradise creeks). The Red River Authority also does not support the reduced level of chloride control that would result from abandoning one or more collection areas.

Initial information from the administration of the city of Vernon, Texas, near the mouth of the Pease River, suggests the community does not favor the USFWS/TPWD alternatives which would transfer chlorides and selenium load through their community (personal communication with Dennis Duke, Truscott Lake Manager).

There are State regulatory implementation issues associated with selenium concentration as regulated by the TNRCC. The streams on which two brine emission areas are located are currently classified as "impaired" by the TNRCC due to high selenium concentrations. Where the Corps alternatives would transfer the chlorides and selenium loads to the Truscott Brine Disposal Reservoir with no release anticipated, the USFWS/TPWD alternatives would transfer the chlorides and selenium to streams with no flow for parts of the year. From these streams, the chlorides and selenium loads would either flow down other tributaries to the Wichita River or the Pease River and ultimately down the Red River. The result would appear to create a risk of future classification of these streams as impaired and that is an implementation risk which would have to be resolved by the TNRCC, the sponsor, other agencies, the general public, and most importantly, the affected landowners. While the TNRCC is aware of the issue and is developing an agency position, that position was not finalized at the time of completion of this evaluation.

There are other issues of risk associated with the USFWS/TPWD alternatives that deal with the estimation of real estate costs. Because one of the stated purposes of transferring brine to other streams was to create habitat, the Corps assumed a restrictive easement would be part of the plan. That assumption was coordinated with the USFWS, who concurred. The "conservation" easement restrictions would limit landowner use and changes to the stream – the created brine habitat – thereby protecting the created habitat and the investment cost. In practice, the easement would be implemented based on the width of the floodplain. In the absence of floodplain width information, the easement was initially estimated to extend 50 feet to each side of the streams. This type of easement is new to the chloride control studies and, as such, preliminary estimates of the easement costs are less accurate than other real estate cost estimates. Some of the accuracy risk was approached with higher contingency values, but remaining risks relate to the issues of converting freshwater streams to brine streams and the potential impacts to existing land uses, property values, easement restrictions, and overall landowner acceptance. Other components of the risk to accuracy relate to the issue of the number of landowners involved, which was estimated, and potential State and Federal access to the conservation easement to monitor the potential conversion to a brine habitat. No estimates were included in the real estate costs for condemnation costs. The Red River Authority, the local

sponsor, has indicated it would not support condemnation for this purpose (personal communication with the Red River Authority). Upon subsequent review of field investigation photographs and Raggedy Creek topography, the 100-foot buffer was viewed as insufficient for habitat protection, access, and monitoring. In practice, a better approach might be to implement the buffer based on the floodplain configuration. In the upper reaches of Raggedy Creek, the buffer could double in width and could be greater in the lower reaches. Changing the streams from relatively fresh, intermittent streams to a semi-permanent or permanently flowing brine streams would conceptually convert the existing aquatic and adjacent riparian habitat to chloride tolerant species. The potential secondary impacts to other ecological communities, cattle production, or landowner use (or restrictions) were not examined in detail. The brine streams in the Wichita River Basin have been in their present condition, relatively unchanged, for well before recorded time. It is uncertain whether the concept is viable or how long it would take before the USFWS/TPWD proposed receiving streams in the Pease River Basin would begin to function as brine habitat. No brine habitat development costs were included. No costs were included for stocking of brine tolerant aquatic species. No costs were included for compensation of potential secondary impacts to existing species, cattle production, or land values.

Because the proposed receiving streams currently only carry intermittent flow, the addition of significantly more flow and more continuous flow from the pumped brine will tend to cause a higher rate of erosion of the streambed and stream banks. Having the brine flow within the receiving streams reduces their capacity to hold rainfall runoff. This condition would inherently increase the risk of flooding along the receiving streams. The flood capacities of the receiving streams and the reduction in capacity were not investigated. The extent to which chlorides might intrude upon adjacent floodplain areas during flood events was not investigated. No costs were included for potential impacts to crops that could be impacted by inundation by brine or for potential impacts to adjacent agricultural areas by increased soil salinity. The increased opportunity for channel capacity flows would have an inherent detrimental affect on all road crossing.

The streams proposed by the USFWS and the TPWD to receive the brine are small and poorly defined watercourses. As these watercourses change configuration (through erosion) or location (meander), there would be infrequent real estate action necessary to compensate. Those potential maintenance real estate costs were not estimated. No costs were estimated for management or control of watercourse changes.

Periodic inspection of the created brine habitat would be necessary to evaluate the value of the mitigation and landowner compliance with the easement restrictions. No costs were included for inspections of conservation easement and habitat.

During the field investigation of Raggedy and Paradise creeks, it was noted that when water is present in these intermittent streams cattle drink at any available depression. If the streams were converted to brine streams, cattle would not use the brine as a water source. If used, the chloride and sulfate content would have deleterious effects. The cost of providing an alternate was not estimated.

Converting intermittent freshwater streams to brine habitat would mean the destruction of

intermittent freshwater streams and riparian habitat.

There is very limited data available on Paradise and Raggedy creeks' hydrology and environment. Consequently, data and information are nonexistent on the potential for brine flow to convert these streams to brine habitat, and further, for that habitat to support the chloride tolerant species of concern. If the Raggedy or Paradise habitat creation measures were found viable in terms of acceptability and economic feasibility, the Corps would be unable to recommend a plan until the technical viability (implementability) was adequately evaluated. This issue is not noted as an assessment of the USFWS/TPWD alternatives. However, the potential study delay, the additional costs to evaluate Raggedy and/or Paradise creeks, and the social and other economic parameters may be of concern to the sponsor and the public.

The objectives of the USFWS/TPWD alternatives were to:

- *Avoid or reduce pumping brines to Truscott to eliminate potential selenium impacts at the brine disposal area, and*
- *Replace stream habitat to reduce impacts of zero flow days on the North Fork and/or Middle Fork of the Wichita River if brine is pumped from Area VII and/or Area X, respectively.*

Transferring high concentrations of selenium to Raggedy Creek and the Pease River has associated risks of endangering aquatic and terrestrial species along 5 miles of Raggedy Creek and a portion of the 36 miles of the Pease River downstream of Raggedy Creek. Selenium issues have potential implementation risks. These risks raise project implementability concerns about TCEQ permitting (and other potential agencies) and concerns about public acceptability. Compliance with State law, regulation, and policy is a required consideration in Federal water resources planning and implementation. Meeting public expectation and needs is a critical consideration. None of the USFWS/TPWD alternatives are supported by the local sponsor, the Red River Authority, due to concerns about chloride and selenium transfer to Raggedy Creek and a reduced level of chloride control. After appropriate consideration, the USFWS/TPWD alternatives were eliminated in favor of more effective, supported, feasible, and implementable alternatives.

To reiterate, the Draft Supplement did not reevaluate the feasibility of the entire project, or the existing portion of the WRB Project Instead the incomplete analysis considers only the feasibility of constructing and operating the remainder of the WRB Project. An alternative to close the existing portion of the WRB Project was not considered, and of the alternatives that were considered, the preferred alternative is, without doubt, the most environmentally damaging proposal. Selecting the most environmentally deleterious alternative does not indicate a willingness to give equal consideration to wildlife conservation or the draft Se action plan, which states that the objective of the plan is to "avoid, minimize, or compensate for (in that order) impacts" resulting from the operation of any feature of the WRB Project.

Response: Do not concur. Responses above address the issues stated.

As stated in our letter of June 30, 1995, to the District Engineer in response to the *Draft Supplement I to the Final Environmental Statement Red River Chloride Control Project Texas*

and Oklahoma, we had concerns with the piecemeal approach of conducting environmental studies and monitoring to develop measures to mitigate adverse environmental impact to a tolerable level; after review of this Draft Supplement we still possess the same concerns. Our June 30, 1995 letter also suggested that in the event myriad issues could not be resolved, we would initiate the referral process to the CEQ as described in 40 CFR Part 1504. The current proposal, as elucidated in this Draft Supplement, has the propensity to result in adverse environmental impacts that may exceed National standards and that are severe in consequence, geographic scope and duration.

Response: Do not concur. Responses above address the issues stated.

In addition, it is our opinion that other environmentally preferable alternatives exist and should be considered.

Response: Partially concur. The statement that "other environmentally preferable alternatives exist" is correct. There are innumerable other environmentally preferable alternatives, however, there are other factors to also consider. Whether dealing with costs, benefits, social, or environmental issues, the USACE works to formulate projects for economic development that are environmentally sustainable. The selected plan for the Wichita River Basin chloride control demonstrates a successful formulation process.

Considering past studies for the Red River Chloride Control Project (since 1959), there have been hundreds of alternatives considered for features within the Wichita River Basin. The current Reevaluation selected 12 of those alternatives for reconsideration because they represented a reasonable array of potential solutions. In addition, the USACE also evaluated 12 USFWS/TPWD alternatives. The selected plan reasonably optimizes chloride control objectives while avoiding, minimizing, or mitigating unavoidable significant environmental impacts.

The USACE does not concur with the USFWS comment that other alternatives should be considered. The current selected plan is the result of exhaustive study, formulation, and evaluation. The selected plan represents a reasonable optimal plan for implementation. While plan variations could be studied for another 43 years, the end result could not conceivably offset the benefits foregone by such a delay.

Our intent, obviously, is to communicate and coordinate with the Corps to resolve the above issues and to develop a document that will provide decision makers and the public an array of reasonable alternatives which would avoid or minimize adverse impacts. Failing this endeavor, we are still committed to proceeding with the CEQ referral process.

However, in order to preclude the necessity of any referral action, we would propose yet another meeting with the Corps to continue discussion and attempt to bring final resolution to the above issues. In this regard, we would like to meet with the Corps in Tulsa, OK in early or mid-October 2002 or at your earliest possible convenience. We will telephone you in the very near future to arrange such meeting.

Thank you for the opportunity to review this Draft Supplement. We trust our comments will be of

use during future proposed project development and environmental documentation. If we can be of further assistance, or should you require additional information, please feel free to contact us at the above address or by telephone at (505) 766-3565.

Sincerely,

Glenn B. Sekavec
Regional Environmental Officer

cc: Division Engineer, U.S. Army Corps of Engineers, Dallas, TX
Director, Office of Environmental Policy & Compliance, U.S. Department of the Interior, Washington, DC

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6 September 2002

Larry D. Hogue
Chief, Planning, Environmental and Regulatory Division
Department of the Army
Tulsa District, Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128

Dear Mr. Hogue:

The Oklahoma Department of Wildlife Conservation (ODWC) has reviewed the U.S. Army Corps of Engineers (COE) Draft Supplement to Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River Only Portion (Draft Supplement) and provides the following comments.

In correspondence dated 17 August 1994 and 25 April 2002, the ODWC outlined objections to the Red River Chloride Control Project and the Wichita River Basin Project Reevaluation (Project). While none of the chloride control structures are currently proposed for construction in Oklahoma, the ODWC remains concerned about adverse impacts to Texoma Reservoir. The COE has downplayed the impacts of reduced chlorides on Texoma turbidity, primary productivity and sport fisheries but the ODWC believes these impacts will be significant and must be mitigated.

Response: Do not concur. The USACE has not "downplayed" the impacts of reduced chlorides on Texoma turbidity, primary productivity, or sport fisheries. Rather, the USACE has carefully evaluated the potential for these impacts using science-based, site-specific studies, many of which were requested by a workgroup comprised of members including those from the ODWC. Based on considerable analysis and large amounts of data collected at Lake Texoma, the USACE concludes that these impacts will not be significant and that mitigation is not necessary.

Considerable comments were received on this issue from the U.S. Fish and Wildlife Service (USFWS) in letters dated August 23 and September 17, 2002. See USACE's responses to these comments for details pertaining to these issues and the basis for USACE's conclusions on these matters.

The COE prediction of a 10% project related reduction in Texoma chloride levels fails to consider effects attributed to operation of Area V which currently removes 240 tons (7%) of Texoma chlorides. The ODWC believes Area V impacts must be included in the overall evaluation of the Project. This "piecemeal" approach does not provide a thorough assessment of total impacts of the Project and circumvents the NEPA process. Until such time as the COE begins procedures to de-authorize remaining components of the original Project, the ODWC can only assume the COE will pursue construction of those components with similar findings of negligible impacts.

Response: Partially concur. A similar comment was provided by the USFWS in their letter dated September 17, 2002. Full details for these issues can be found in the USACE responses to these comments. In summary, impacts to Lake Texoma have now been analyzed considering Area V loads (without chloride control) as part of "natural" conditions. It is correct that this analysis should form the basis for evaluating cumulative impacts from all chloride control in the Red River Basin. Concentration /

duration curves have been developed for this condition and the resulting data incorporated into the Lake Texoma turbidity analysis. This information is provided as an attachment to the 17 September 2002 USFWS letter and has been incorporated into the final SFES for the project. It is noted that use of this updated information makes minimal difference in the analysis of potential turbidity-related impacts at Lake Texoma. The USACE's ultimate conclusions on this issue are therefore unchanged from those expressed in the draft SFES and extremely minimal (if even measurable) impacts are anticipated at Lake Texoma.

The analysis described above is not a "piecemeal" approach and is consistent with NEPA guidance. Future analyses (if any) will be conducted in a similar manner to address cumulative impacts of chloride control as a whole.

Additional doubt surrounding actual impacts to Texoma surfaced when the U.S. Fish and Wildlife Service (USFWS) recently determined the COE had based above referenced Texoma chloride reduction estimates on baseline chloride loads from more than 20 years ago (prior to an 85% reduction of man-made sources). This fact, in combination with the COE's failure to include impacts of Area V, in our opinion, grossly underestimates actual impacts to Texoma. USFWS calculations using the revised baseline and COE data, indicate reduction of chlorides in Texoma would approach 29%. Removal of nearly one-third of naturally occurring chlorides from Texoma can hardly be characterized as insignificant and impacts to the fishery must be properly and accurately quantified and mitigated.

Response: Do not concur. Calculations by the USFWS as described above are in error. For the record, the USFWS calculations incorrectly estimate a reduction in chloride loading to Lake Texoma of about 25% (not 29% as stated above). This figure can be found in the USFWS comment letter dated 17 September 2002.

Identification of incorrect assumptions and methodology used by the USFWS in load estimation, updated correct load estimates using the most recent period of record, and considerable detail regarding these matters are contained in USACE responses to USFWS letters dated August 23 and September 17, 2002. These should be reviewed for clarification of these issues. It is most important to note that the key issue in determination of potential impacts to Lake Texoma turbidity is the difference in pre- and post-project estimates of total dissolved solids (TDS) concentrations which can then be used as input for site-specific settling equations for the reservoir. Concentration / duration curves for the project were developed using actual gage and water quality data for a long period of record. These curves therefore reflect actual load conditions and any changes that have occurred (including control of man-made brines) over this period of record. With the addition of Area V considerations, the information contained in response to USFWS letters and the final SFES is correct and should clear up any confusion on these matters.

The COE has repeatedly ignored comments from the resource agencies and refuses to consider environmentally preferable Project alternatives. The ODWC supports the USFWS position on the Draft Supplement as outlined in their 23 August 2002 correspondence and recommends review of environmental and economic data by an outside agency and/or proceeding with the CBQ referral process described in 40 CFR Part 1504.

Response: Do not concur. Throughout a long period of project coordination, the USACE has given full consideration to natural resource agency comments and recommendations for this project. While some have been incorporated, it is clear that the USACE disagrees with these agencies regarding severity of project-related impacts. It should not be concluded that these issues have not been given due consideration, only that technical disagreements exist between the USACE and these agencies.

The ODWC appreciates the opportunity to review this Draft Supplement. Please reference previous correspondence and contact Barry Bolton at (405) 521-3721 if you have additional questions.

Response: Noted. While it is obvious that our agencies disagree on severity of environmental impacts, we appreciate your diligence and efforts on this complex project. It is our hope that responses provided here and those provided in response to letters from other resource agencies have clarified issues related to the project.

Sincerely,

Greg D. Duffy

cc: Robert L Cook, Director, Texas Parks and Wildlife
Field Supervisor, Fish and Wildlife Service, Tulsa, OK

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September 10, 2002

Mr. Larry D. Hogue
Chief, Planning Environmental and Regulatory Division
Department of the Army
Tulsa District, Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128-4609

Dear Mr. Hogue:

The Texas Parks and Wildlife Department (TPWD) has reviewed the U.S. Army Corps of Engineers (Corps) Draft Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River only Portion (Draft Supplement) dated June 2002.

The Corps' proposed project, as presented in the Draft Supplement, is to divert flows from brine sources at Area VII and Area X to Truscott Brine Lake and to continue diversions from Area XIII. These three source areas are located on the North, Middle, and South forks of the Wichita River, which provides inflows to lakes Kemp and Diversion and then, after joining the Red River, to Lake Texoma.

Response: Comment note: Reference to Area XIII above should be Area VIII (existing pump station on the South Fork of the Wichita River).

The Fish and Wildlife Coordination Act Report recommended, among other alternatives, dropping the Middle Fork component (Area X) in order to reduce impacts to fish and wildlife due to severe low flow conditions in the Middle Fork and the North Fork downstream of their confluence and elevated selenium concentrations at Truscott Brine Lake. The Tulsa District has clearly established that it intends to proceed with implementation of the full project including Area X. TPWD continues to strongly suggest dropping Area X.

Response: Comment noted. Implementation of all three areas is key to achieving acceptable water quality consistent with project goals. The USACE does not agree with the USFWS assessment of "severe" low flow conditions. The general comment reflects a limited view of "potential" effects and excludes the intent of the Corps, as expressed in the environmental operating plan. Area X remains a component of the recommended plan because that plan provides the greatest level of natural chloride control and the greatest level of net benefits, while providing the greatest operational opportunities to minimize environmental impacts. The opportunity to minimize impacts is provided through the greater versatility of managing the brine collection at three natural brine sources rather than just two, Areas VII and VIII. This includes the issues of low flow and selenium concentrations. The ability to manage chloride load reductions at three brine sources increases the opportunities to meet low flow needs and a number of other environmental related conditions, should they arise. It is because no significant impacts to low flow below Area X (or either of the other two brine collection areas) or other significant issues are reasonably anticipated that all three brine collection areas are included in the recommended plan. Eliminating

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Area X would reduce the opportunity to remove chloride load and would place a greater emphasis on operating Areas VII and VIII to their fullest capacity to maximize chloride control. Should, during a drought condition, low flows below Areas VII or VIII then require a reduced brine pumping schedule, the chloride reduction capability would be further diminished. Please note that the Tulsa District has no "intent" other than to evaluate alternatives and recommend the best plan of action acceptable to the local sponsor and in response to Congressional direction. The recommended plan includes Areas VII, VIII, and X.

TPWD also encouraged development of an adequate Environmental Operational Plan (EOP) to include a full range of pre-emptive and remedial measures to protect fish and wildlife resources *and* include the Corps' commitment to act upon steering committee (or panel) recommendations. That commitment was not found but needs to be included in the final EOP.

Response: Do not concur. The Draft Supplement text does address the COE's commitment to peer review panel recommendations: "the USACE believes that the proposed project could be constructed and operated to meet project goals while assuring the continued function and integrity of the ecosystem and as such, under the intent of NEPA and other appropriate environmental laws and regulations, the USACE would: (a) fund and implement the baseline studies and monitoring activities developed and proposed in the EOP, (b) review and act on the recommendations of a peer review committee, and (c) suspend operation of chloride control measures if unacceptable environmental impacts result from construction and operation of the proposed project." It should be noted that the TPWD not only "encouraged" development of the EOP, but also participated in development and review of EOP components during an early environmental issue resolution process. The Corps is committed to protecting the environment and has documented that commitment within the EOP.

Based on previous comments and discussion with the TPWD, the USACE assumes that the "commitment" referenced by the TPWD involves transfer of decision-making authority from the USACE to the multi-agency panel. As has been explained on a number of occasions, this is a USACE project and the agency must therefore retain ultimate decision-making responsibility though it would certainly strongly consider recommendations from an EOP panel. It has also been explained that in the event of disagreement among agencies, this process will generate the required information to facilitate a science-based resolution of these differences in whatever forum is deemed appropriate.

USACE response to comments expressed in the August 23, 2002 letter from the Department of Interior should be reviewed for a complete understanding of the role that monitoring plays in this project. Most importantly, it should be noted that future monitoring has not been proposed as a substitute for sound pre-project planning and impact assessment. Rather, the monitoring effort is proposed as a means of verifying impact predictions, measuring environmental impacts, and formulating appropriate response measures, if necessary.

The EOP does not contain several elements as discussed below that TPWD believes should be included. The draft EOP contains numerous inconsistencies and should be thoroughly reviewed and corrected.

Response: Do not concur. Specific elements as described below are addressed in detail. It is assumed that specifics provided in TPWD comments below identify the referenced "inconsistencies". The USACE is of the opinion that all appropriate elements are contained in the EOP at this stage of project development. As this is intended to be a dynamic process, this certainly does not preclude future addition of monitoring / response elements as deemed necessary by the EOP peer review panel(s) The Corps finds that all appropriate elements are discussed in the EOP and that no inconsistencies exist.

The EOP has been thoroughly reviewed and will be finalized.

It also sets a tone that indicates parts may not be implemented. This is concerning. For example, words such as "if feasible" clouds the intention to implement the EOP in whole. Use of the word "would" in nearly every sentence of the EOP raises doubt about the intention of the Corps. An unambiguous approach would be to use the word "will" and strike the words "if feasible".

Response: Do not concur. The terminology above is consistent throughout the Draft Supplement and reflects the USACE's recognition that the project, and associated impacts, are both proposed and potential. This should not be interpreted to mean that the described monitoring will not be implemented, only that it is obviously dependent upon implementation of the proposed project and warranted by scientific findings. It is also recognized that one of the major advantages to this approach is an inherent flexibility to address monitoring and response needs based on common sense, scientific validity, fiscal responsibility, and input from a wide variety of resource agencies. This flexibility based on observed conditions and changing science is believed by the USACE to be a major advantage to this process and the most appropriate means of addressing many of these concerns. This is therefore not an ambiguous approach to environmental monitoring. Rather, it represents a common sense approach that is logical, science-based, and fiscally responsible.

As recommended in previous communications, the EOP should include an element to address golden algae at the brine collection facilities. The current draft EOP does not contain this element. Components would include limnological monitoring of the impounded waters at the collection facilities (nutrient levels, algal composition, etc.) and an assessment of relationships between salinity levels, algal composition, and hydrology before, during, and after releases from inflatable weirs. TPWD suggests that this critical element be included in the EOP and that changes in golden alga densities and associated fish kills be included in the threshold conditions that would trigger actions to alter or halt project elements.

Response: Do not concur. There is no evidence to suggest that the three brine collection areas would pose any greater risk for golden algae impacts at the low flow brine dams or for inoculation of downstream reaches than would already exist for the numerous existing pools which naturally occur, or occur at road crossings throughout the upper or middle portions of the Wichita River Basin. The Corps fails to see the potential for golden algae within the low flow dam pools to be any greater than those existing elsewhere in the basin.

In the upper basin, there are a great number of potential golden algae infected stream pools or farm ponds that may exist. It is extremely unlikely that obtaining the suggested data from just the three low flow brine pools would provide relevant information without sampling the rest of the upper basin's potential golden algae sources. In addition, the low flow brine pool contents are nearly continuously pumped from the pools to the Truscott Brine Lake. When noting that there is currently no agricultural irrigation above the low flow brine dams and none is anticipated after implementation, there is therefore minimal, if any potential for post implementation water quality changes in the low flow brine pools. The low flow brine pools would tend to function biologically like in stream pools but with nearly continuous inflow from the brine springs. In the case of the low flow brine pools, the low flow out of the pool would be via pumping to Truscott Brine Lake. Flow out of naturally occurring in stream pools would continue downstream. It would appear that the potential for golden algae contamination in the upper basin would more likely exist for naturally occurring pools. Because chloride control would have no influence on those naturally occurring pools, the Corps proposes not to sample them either.

In the mid-basin, golden algae have plagued the Dundee State Fish Hatchery for many years. Golden algae are documented to exist in Diversion Lake, just upstream of the hatchery and in Lake Kemp further

upstream. There is anecdotal information to suggest that fish kills in Lake Kemp may have been the result of golden algae blooms over the past 25 years. But only considering the documented infestation in the mid-basin lakes and the hatchery, there seems to be little rational for golden algae testing anywhere in the upper basin. Golden algae are already in the primary water bodies and within the hatchery itself. Suggesting that the low flow dam brine pools in the upper basin could "create" an inoculation source for the lake and hatchery features neglects to recognize that Lake Kemp, Diversion Lake, and the hatchery are already infected. It would seem unreasonable to suggest that 112 acre feet of low flow brine pool storage (if not pumped to Truscott Brine Lake and all three pools were released simultaneously) could flow down a cumulative 170 stream miles, while subject to dilution and evaporation along the way, and still have a significant inoculating effect on Lake Kemp's 268,000 acre feet of conservation storage, or Diversion Lake's 30,000 acre feet of storage.

If the TPWD continues to feel that this sampling effort would provide critical information, we encourage the agency to conduct such sampling..

Further, the Draft Supplement does not accurately characterize concerns about golden alga associated with this project. The Draft Supplement only addressed possible impacts of blooms in Lake Kemp and Diversion Lake and those associated with the Dundee State Fish Hatchery. Since golden alga blooms are already present in Diversion Lake this is not the main concern over this issue. The issue is that the collection facilities may become sites at which the golden alga will have an advantage over typical algal species and release of waters from these dams may well inoculate downstream areas (i.e., rivers and lakes). Given the predicted changes in nutrient concentrations due to irrigation return flows, a greater risk exists that toxic blooms of golden algae will lead to additional, perhaps more extensive, fish kills in the Wichita River system.

Response: Do not concur. The above comment incorrectly represents the basin conditions and mixes affected geographies. The brine collection areas are all located well upstream of Lake Kemp, Lake Diversion, and the Dundee State Fish Hatchery. Nutrient increases are an expected result of chloride control due to increase agricultural irrigation. However, agricultural expansion and it's associated increased nutrient runoff are anticipated downstream of Lake Diversion, within hydrologic Reach 8. Lake Kemp, Diversion Lake, and the Dundee State Fish Hatchery area II are contaminated with golden algae and are located at mid-basin. Inoculation would therefore be provided by this existing source, not by the three proposed low flow dam brine pools in the upper basin.

As stated above, there is no evidence to suggest that the three brine collection areas would pose any greater risk for golden algae impacts at the low flow brine dams or for inoculation of downstream reaches than would already exist for the numerous existing pools which naturally occur, or occur at road crossings, throughout the upper reaches of the North, Middle, and South Forks of the Wichita River.

The comment fails to note that the contents of the low flow brine pools would, on a nearly continuous basis, be pumped to the Truscott Brine Lake, thereby reducing the potential for naturally occurring golden algae to be discharged downstream. The creation of the three low flow dam brine pools may create larger than naturally occurring refugia pools, but the in-stream and in-pool biological processes are expected to be quite similar, with the exception that the pool outflow will, on a nearly continuous basis, be pumped to the Truscott Brine Lake. If golden algae is expected to exist in these pools and to potentially have an advantage over other algal species, then this situation would be similarly expected to occur in natural refugia pools. It is therefore, wholly unreasonable to suggest that the three low flow brine pools would be responsible for downstream inoculation of golden algae and the naturally occurring pools (which actually release their storage downstream) would not. It is unreasonable to suggest golden algae testing of the low flow brine pools and the USACE declines to conduct such testing.

Probably of far greater concern with respect to golden algae "inoculation" of downstream waters would be releases of water from the Dundee Hatchery, where outbreaks of this algae have been historically documented and have caused massive fish losses.

The draft EOP includes a limnological monitoring program for Lake Kemp. Because there are many uncertainties regarding the expected effects of the project on chloride reductions,changes in turbidity and productivity and consequent effects on sport fisheries, the EOP should also incorporate monitoring programs, threshold decision programs, and preemptive/remedial measures for Lake Kemp, Diversion Lake, and Lake Texoma. These EOP elements must not be limited to monitoring of water quality parameters and plankton (i.e. productivity) but must also include expanded biological parameters to include sport fish populations.

Response: Do not concur. The draft EOP does include an extensive limnological monitoring program for Lake Kemp. Though not anticipated, it is believed that if significant impacts to productivity resulting from the project were to occur, they will be manifested first in Lake Kemp as Kemp outflows are the inflow source for Lake Diversion. As the two are hydraulically linked, monitoring at Lake Diversion would not be initially included. Such monitoring could easily be added in the future if deemed necessary based on observations from Kemp monitoring. Parameters related to sport fish populations have intentionally not been included as it is our understanding that such data is already routinely collected by TPWD personnel as part of their lake fisheries management program. Including such data collection would therefore be a duplication of effort.

It is the USACE's opinion that monitoring at Lake Texoma is not justified. Detailed reasons for this conclusion are provided both in the Supplement to the Final Environmental Statement (SFES) and in detailed responses to USFWS comments as expressed in letters dated 23 August and September 17, 2002. These documents should be reviewed for information regarding this issue.

Although the Draft Supplement indicates that chloride reductions due to the project would be small it is now understood, after reviewing calculations not supplied in the Draft Supplement, that changes in chloride loads relative to baseline could be more substantial than reported. If those changes lead to more turbid conditions in Lake Texoma then impacts to sport fisheries could be significant. To that end, the Draft Supplement also needs to accurately and completely characterize the project's effect upon chloride loadings and concentrations in each study reach including Lake Texoma.

Response: Do not concur. Though details are not provided in these statements, it is assumed, based on comments from other resource agencies, that this comment involves two issues related to chloride loads at Lake Texoma: (1) the need to include loads (in the absence of chloride control from existing facilities) from Area V (Estelline Springs) as "natural" in pre- and post-project concentration estimates, and (2) revised load estimates as calculated by the USFWS and expressed in their letter dated September 17, 2002. These issues are addressed here.

It is correct that loads from Area V should be included as "natural" (or "baseline" as stated in the above comment) for purposes of establishing differences between pre- and post-project chloride (and more importantly total dissolved solids) concentrations for Lake Texoma. This approach correctly evaluates cumulative impact from all chloride control, constructed and proposed, in the Red River Basin. Accordingly, this analysis has been conducted and results presented both as an attachment to the USFWS September 17, 2002 letter and in the appropriate section of the final SFES for the proposed project. This information should now reflect correct estimates based on a cumulative impact analysis.

Chloride loading estimates as calculated by the USFWS and contained in their September 17, 2002 letter are based on incorrect assumptions and therefore contain significant calculation errors. It is unfortunate that these incorrect values were provided to other resource agencies, resulting in confusion expressed in this TPWD comment. These issues are addressed in detail in USACE responses to the USFWS letter and should be reviewed for an understanding of correct loading estimates for the project.

TPWD remains concerned that the full implementation of the proposed project would lead to accumulation of selenium at project facilities and pose threats to fish and wildlife resources. TPWD understands the complexities of selenium dynamics and the *serious* risks associated with this contaminant The proposed project, transporting brine waters from Areas VII, VIII, and X to Truscott Brine Lake, will maximize selenium concentrations in Truscott. Using a conservative approach, the Corps' selenium model predicts that selenium concentrations in Truscott will exceed State Surface Water Quality standards (5 µg/l) within 30 years and exceed risk thresholds within five years after full implementation of the preferred alternative. TPWD believes that a better way to avoid adverse selenium impacts would be for the Corps to select a less damaging alternative. For example, if waters from either Area VII or X were not collected and transported to Truscott, the predicted maximum selenium concentration in Truscott would never exceed the state surface water quality criteria of 5 µg/l. However, projected selenium concentrations would still be above the risk threshold level of 2 µg/l within 15 years.

Response: Do not concur. The TPWD comment fails to cover a number of salient points.

The USACE shares selenium-related concerns associated with the project and has spent considerable time and resources in evaluating this issue. However, based on our experience with this analysis and our understanding of these issues, our conclusions regarding reasonableness of risks differ from those of the TPWD. Similar, extensive comments to those expressed here were provided by the USFWS in their letter dated August 23, 2002. USACE response to comments in this August 23, 2002 letter are provided in detail and are referenced in response to comments expressed here by the TPWD.

The selenium action plan, as it exists, is a workable concept, with much potential. However, there is no commitment to implement any findings or recommendations provided by the multi-agency panel. Without a commitment to act upon the panel's findings, the current draft of the EOP including the selenium action plan is inadequate.

Response: Do not concur. The Selenium Action Plan does address the USACE's commitment to consider peer review panel recommendations as noted previously. As stated in responses above, it is assumed that the referenced lack of commitment refers to the USACE somehow transferring project decision-making authority to a multi-agency panel. The USACE is ultimately responsible for project-related decisions. However, it is our opinion that the EOP demonstrates a strong commitment to environmental protection and a strong intent to fully consider recommendations of peer review panel(s) charged with EOP implementation. We know of no way to make a stronger commitment.

On page 4-27, the Draft Supplement suggests that, after 11 years of project operation, low selenium concentrations in Truscott may provide selenium-related benefits to the area by providing a low selenium aquatic resource. TPWD believes this statement to be premature, based in part on information presented in paragraph 3, page ii, of the Corps 2001 report, which states: "Results of monitoring at Truscott Brine Lake are applicable for the monitoring period only and should not be interpreted to represent current or future conditions. The potential for increasing Se concentrations as the project progresses and complexities involved with Se dynamics are justification for continued monitoring of a variety of environmental media at Truscott. This is particularly true if additional brine sources are added as input to the impoundment."

*Response: Do not concur. If the full context of the statement paraphrased from the Draft Supplement and referenced in the initial part of this comment were provided by TPWD, it would clarify its intent. This statement from the Draft Supplement (p. 4-27) follows a discussion of results of a two-year (1997-98) USACE selenium monitoring effort at Truscott Lake in which selenium concentrations in water were below analytical detection limits and concentrations in sediments, fish, and aquatic vegetation were at or below "background" concentrations typical of these media in "selenium-normal" environments. These data were collected following approximately 11 years of project operation and shed light on selenium dynamics for the project to date under current operating conditions. The complete statement that immediately follows this discussion is: "**As long as these trends continue** [emphasis added], Truscott Lake may provide Se-related benefits to the region by providing a low Se aquatic resource in an area characterized by naturally-occurring high selenium in surrounding aquatic systems." Accordingly, the statement simply makes the point that for whatever period (however long or short that period may be) that these concentrations remain at levels measured during the monitoring study, the lake will continue to provide a low selenium environment in a landscape characterized by high naturally-occurring selenium in aquatic systems. When the complete context of the statement is correctly provided, the USACE does not find this discussion to be "premature" or otherwise incorrect.*

The quoted statement from the USACE 1997-1998 Truscott Lake monitoring report has nothing to do with future predictions of selenium-related conditions. No such claim is made in the cited document. This is simply a statement that observed selenium conditions in environmental media represented 1997 and 1998 when the data were collected and may change in the future. The relevance of quoting the statement in this context is therefore unclear.

With reference to this study, it should be noted that this two year evaluation provided considerable information on selenium dynamics over the existing operational life of the project at the time it was conducted. Despite this fact, the study is never referenced (with the exception of the above quote) by the TPWD. It would seem that a balanced assessment for this issue should include an analysis of all information collected to date. Similarly, it would seem that several potential selenium-related benefits (as identified in the SFES) should be identified in a balanced assessment of this issue. These are not found in TPWD comments.

On page 4-25, the Draft Supplement suggests that the range of 2-10 ug/l Se for protection of fish and wildlife is misleading, and that the lower end of this range is specifically set to protect fish, rather than birds. The Draft Supplement states,"The only value that could be found restricted exclusively to protection of breeding birds was the 10 ug/l threshold proposed by Skorupa and Ohlendorf (1991)." A limited review of the selenium literature, however, finds Ohlendorf et al. (1993) stating that concentrations of waterborne selenium ranging from 2.6 to 18 ug/l would be sufficient to produce concentrations in avian eggs which result in reproductive impairment. Lemly (1993) states that waterborne selenium concentrations of 2 to 16 ug/l resulted in concentrations in food-chain organisms from 10 to 60 ug/g, which "far exceed" the 3 ug/g dietary threshold for fish and wildlife. Heinz et al. (1987; 1989) specifically reported reproductive failure in mallards when the dietary concentrations of selenium exceeded 4 ug/g. Therefore, TPWD does not concur with the Corps that the minimum threshold concentrations do not apply to birds, nor does TPWD find these values "ultraconservative."

Response: Do not concur. Nowhere in the draft Supplement is it suggested that the referenced concentration range is "misleading" or "specifically set to protect fish". The referenced discussion is simply intended to identify, for readers and decision-makers not familiar with the vast volume of selenium literature, that some common sense and professional judgment should be employed in applying minimum "threshold" concentration values developed for protection of "fish and wildlife" across a broad range of

conditions to an analysis for a specific environment (e.g. a brine lake) and the organisms reasonably expected to inhabit that particular system (e.g. bird species reasonably expected to breed at a west Texas brine lake). This is certainly not a criticism of the ranges that have been developed or the approach used in their derivation as these values have appropriately been developed as a general guide applicable to all environments. However, before the lowest values that can be found in the literature are applied as indisputable proof of definitive future impacts (as would appear to us to be the practice of both the TPWD and USFWS), an understanding of the basis for these values and their reasonable applicability to the environment under study should be employed. Identification of these uncertainties and a basic understanding of these issues is provided in the referenced section of the SFES to allow the public and project decision-makers the ability to make informed, risk-based decisions on this issue.

As explained in the draft SFES (but not reflected in the TPWD comment expressed here), it is important to note that the lower end of the concentration range cited above is based on dissolved concentrations (based on filtered water samples) while those used in USACE evaluations are based on total concentrations. Studies cited in the draft Supplement have proposed correction factors of 1.85 to 1.98 for converting dissolved to total selenium, though this would most likely be site-specific.

Finally, in contrast to the last statement in the TPWD comment above, the USACE has never stated that minimum threshold values appearing in the literature do not apply to birds or that these values are "ultraconservative". The statement in the draft Supplement (p. 4-25) and apparently forming the basis for this comment should, again, be provided in the proper context. The statement appears following a discussion of the basis for threshold values and identification that these values are based on dissolved concentrations. The full and complete statement that follows is: "When these factors are considered and ***combined with a conservative modeling approach,*** *[emphasis added], use of the lower values in the minimum threshold range might be considered as "ultraconservative" for* ***Truscott Brine Disposal Reservoir evaluations*** *[emphasis added] (as stated in USACE 2000a)."*

The Draft Supplement does not accurately represent the projects ability to exacerbate low flow impacts to stream fish communities. It is inappropriate to mask hydrological impacts by averaging data over the period of record. In the North Fork (Truscott gage) only two days have historically been zero flow yet the project could create conditions of zero flow that extend continuously for over 200 days. Without statistical manipulation it is clear that that type of effect on flows is severe. Fish and other aquatic organisms need water to live and drying up habitat for long periods of time will severely impact the riverine ecosystem. TPWD does not concur with interpretations found in the Draft Supplement and requests that the hydrological data be presented in more meaningful ways and that the Corps ensure that biological interpretations of that data realistically characterize the potential impacts of this project.

Response: Do not concur. The USACE objects to the statements that an attempt was made to mask hydrologic impacts through averaging or other statistical manipulation. The discussion of "averages" related to long periods of record is a common method of presentation. Furthermore, the presentation of low flow modeling does show the number of estimated zero flow days for various alternatives. Following the presentation of estimated zero flow days, the percentage changes are also shown to aid readers in assessing the overall level of estimated change.

The USACE realizes that some of the best data available for estimation of future potential impacts exists in the form of historical data. That is the case for low flow modeling in the tributaries of the Wichita River. It should be noted that that data exists only because gauging stations were installed at the request of the Corps of Engineers to provide data for the Red River Chloride Control Project evaluations. It should also be noted that statistical evaluation of data is necessary in scientific studies.

The USACE realizes that the use of historical hydrologic data can provide indicators of future potential hydrologic trends, but that a recurrence of a specific historical drought or flood event is unlikely. The TPWD example of an extended drought lasting over 200 days fails to consider that adaptive management practices could avoid extended drought periods impacts on downstream low flows through the reduction of pumping duration at one or more of the low flow brine collection areas. The most meaningful biological interpretations of low flow brine dam impacts need not be estimated because they can be observed at the existing Area VIII low flow brine dam. No significant impacts downstream of Area VIII have been observed since the facility was placed in operation in 1987.

The low flow information represents a conservative (over estimated environmental impact) estimate and does not reflect the anticipated operation resulting from adaptive management. By comparing Area VIII model results to actual results during short term drought conditions, the conservative nature of the estimate is supported. By recognizing that the low flow conditions can be regulated, and will be regulated, to aid in avoiding significant chloride control related environmental impacts, it becomes clear that the existing presentation of estimated low flow conditions is sufficient. There will be no change to the presentation of low flow information.

The Draft Supplement also claims that there would be little effect on stream fish communities due to changes in water quality and that those effects would be short-term. TPWD does not concur with this interpretation. The basis of the interpretation found in the Draft Supplement strongly hinges on unpublished data. This unpublished data was collected from Oscar Creek in Oklahoma and was used to characterize effects of less tolerant fish invading Oscar Creek during an assumed "freshwater pulse." The Supplement then makes the extrapolation to the Wichita River system that water quality-induced effects of the proposed project would be short-term. This extrapolation is faulty because, unlike the upper Wichita River system, Oscar Creek does not have chloride control features that influence both water quantity and quality over long periods of time and secondly, because the Oscar Creek data was not related to water quantity nor water quality; it was assumed. The choice to use Oscar Creek data again illustrates the poor biological judgment used to minimize impacts of the proposed project.

Response: Do not concur. The "Oscar Creek model" is appropriate and applicable to the upper Wichita River basin. Chloride concentrations (as well as the surrogate measure of specific conductance) downstream of the proposed weirs at Areas VII and X would not be significantly less than concentrations (as opposed to loadings) upstream of the weirs. Since Area VIII has been operational there has been no significant statistical difference in specific conductance (a surrogate measure of salinity, TDS, and/or chloride concentrations) observed between reaches immediately upstream and downstream of the weir. The USACE recognizes the decrease in the long-term average TDS concentration at Area VIII since operations began in 1987. The USACE also acknowledges the potential for similar decreases in the long-term average TDS concentration (as well as specific conductance) at Areas VII and X. However, decreased flows in Reach 10 would tend to exclude stenohaline fish species from moving into Areas VII and X under all but the most extreme flow events. As high flows recede and concentrations return to levels present prior to the high flow event (although not to pre-project conditions) any stenohaline species present would likely experience unsuitable environmental conditions which would exclude them to the benefit of the euryhaline species. The result would be occasional pulses of stenohaline species into Reach 10 under greater than normal flow conditions, as was observed in Oscar Creek in 1994.

In another attempt to minimize potential impacts of the project the Draft Supplement presents data from a study done in 1998 under drought conditions. Data was collected to characterize pools that may serve as refugia for fish and wildlife during low flow conditions. Less than 1% of each study reach was examined and in some cases less than 0.1%. Also, TPWD was not able to locate the data referred to in Table 4-6 in the cited reference, Geliwick et al. 2000. Critical information includes at a minimum the number of pools

surveyed and the methodologies for selection of sampled pools and the collection of physical, water quality, and biological data. Given these limitations, TPWD questions whether this set of data was sufficiently representative of pools in the system to allow broad generalizations to be made from this data as was done in the Draft Supplement.

Response: Do not concur. The data reported in Table 4-6 was collected by Dr. Fran Gelwick et al throughout the basin in August 1998 as part of a the study culminating in the study report entitled Analysis of Fish Distribution in the Wichita River System and Red Tributaries (Gelwick et al. 2000). This data while not provided directly in this report was used in the analysis presented therein and therefore must be cited as part of that report. As stated by Gelwick et al. (2000), of the 252 sites throughout the basin that were evaluated, 183 sites were dry, 2 had water but no fish, and at 57 sites 45 species of fish were collected. Methodologies as to the selection criteria and physicochemical variables measured are provided in the methods and materials section of the Gelwick et al. (2000) report. All data presented in Table 4-6 has been made available to resource agencies for their review upon request.

The Corps' response to CAR recommendation No.4 seems to confuse causation and correlation. Because the study by Gelwick et al. (2000) appeared to strongly associate pupfish with salt cedar, the Corps states that removal of salt cedar could have adverse impacts on Red River pupfish. This statement is not biologically sound. The presence of non-native, invasive salt cedar is not causing the presence of pupfish. Salt cedar is clearly a salinity-related variable; the presence of salt cedar is dependent upon the presence of high salinity water as is the presence of Red River pupfish. Targeted, environmentally conscientious removal of salt cedar should be encouraged in any brush control program implemented in a watershed with salt cedar.

Response: Do not concur. The USACE does not imply that salt cedar and pupfish are synonymous. Rather, that removal of salt cedar would remove shade, remove root systems and associated algal growth, indirectly affect water temperature, etc within pupfish habitat. Consequently, pupfish may be affected by salt cedar removal.

The Draft Supplement includes adequate mitigation for terrestrial impacts. The Draft Supplement indicated that a decision has not been made on which entity would be managing the Crowell mitigation site. If TPWD is not the managing entity we recommend that staff from TPWD be involved in developing the management plan for this site. There are limited opportunities in this area for public recreation, therefore TPWD recommends that the management plan address and implement other public recreation opportunities in addition to hunting, such as equestrian use,camping; and other day-use activities. Copper Breaks State Park is across the river from the mitigation site and is highly used for these same activities. TPWD recommends that you coordinate with David Turner,Park Superintendent for Copper Breaks State Park to see how best to address access between these properties to allow additional public use opportunities. Mr. Turner can be reached at 940-839-4331.

Response: Comment noted. The USACE will manage the Crowell Mitigation Area for fish and wildlife resources. The USACE will consider the management plan opinions of TPWD provided they are compatible with USFWS's mitigation requirements. The management plan already provides for a number of public recreation activities, including hunting, equestrian trail, camping; and other day-use activities. Those opportunities have been continuously expanded since the USACE began management of the area.

The Draft Supplement does not include sufficient mitigation for impacts to aquatic resources or the Dundee State Fish Hatchery. The only mitigation proposal related to aquatic resource impact was adding

brush rows in Lake Kemp to mitigate for recruitment and shoreline habitat loss. TPWD believes that additional stocking is warranted and that stocking be added as mitigation for impacts to Lake Kemp sport fisheries. All stocking mitigation plans should be coordinated with TPWD Inland Fisheries.

Response: Do not concur. The degree of mitigation recommended is in proportion to the quality of fishery and potential impacts at Lake Diversion. Further mitigation for aquatic impacts at Lake Diversion is not warranted.

In regard to the TPWD belief that stocking is warranted, the Corps is uncertain of the merit of contributing additional Federal funds for the purpose of stocking a lake resource that is semi-public and restricted by fee access where all access fees are privately collected. TPWD has provided information about annual operation, which indicates roughly $500,000 of Federal funds (through the Department of Interior) are currently utilized in the operation of the Dundee State Fish Hatchery and that 10% of all fish produced by the hatchery are stocked in Lake Kemp. Any additional Federal and state stocking would inevitably relate to the visitation of Lake Kemp and the private income derived from that visitation. The Corps developes water resources projects for the public. Although the stocking of fish in Lake Kemp is proposed by the TPWD as a mitigation measure, the end result would be a financial gain by the local property owner.

In regard to the TPWD comment that brush rows were proposed by the USACE to mitigate for recruitment and shoreline habitat loss, that statement is incorrect. To clarify the statement, a result of better quality water (from chloride control) is for greater municipal and agricultural use. The greater use is projected to cause greater fluctuation of pool elevations of the water supply lake (Lake Kemp). Based on TPWD reports emergent vegetation exists for only about 0.2 percent of the 110-mile shoreline and comprises less than one acre when the pool is at or near 1144. When the pool is at or near 1136.5 (just 7.5 feet lower) there is zero emergent vegetation. The potential impact is not a "habitat loss" but a reduction of availability of about 20% based on conservatively projected pool fluctuations. The habitat is not currently available about 66% of the time. This is a very small habitat resource when it is available, but one that will potentially be impacted by more frequent pool fluctuations. Therefore, the USACE has included manmade brush rows for mitigation of this loss. While the expenditure of Federal funds for brush habitat at a semi-public facility is also controversial, it might provide a more appropriate and longer term response than stocking. The estimation of Lake Kemp pool fluctuations was conservatively estimated and the potential impact to year class fish recruitment is potentially small. Because the lake is not a natural environment, it is difficult to forecast the magnitude of the change.

TPWD recognizes that impacts of this project to stream fish communities are difficult to mitigate since the preferred means to control chlorides necessitates stopping flows. Lost or severely altered ecosystems cannot be replaced. An adequate EOP should be developed to ensure that project operations could be sufficiently altered or suspended to prevent significant changes in ecosystem elements.

Response: Do not concur. The TPWD statement implies that all natural chloride control flows will be stopped. As discussed with the TPWD on a number of occasions and as presented in supplemental environmental statement, only the majority of low flows (about 8% chloride load controlled) will be collected and pumped to the Truscott Brine Lake. Subsurface seepage will continue to flow past the low flow dam and flood events will continue to overtop the low flow dams. Also as presented in the supplemental environmental statement, other small brine sources and intervening flow will add to low flows downstream of the low flow dams. This situation can be observed downstream of the Area VIII and Area X low flow dams.

While the USACE may agree that lost or severely altered ecosystems are difficult to replace, your

statement in this context is inappropriate. USACE studies show these brine stream habitats should not be lost nor severely altered. The draft SFES does address the USACE's commitment to consider peer review panel recommendations. No addition to the EOP for this issue will be made

Several mitigation alternatives (e.g., creation and maintenance of perennial pools) were proposed to ensure the conservation of aquatic resources. None of these were incorporated into the Draft Supplement.

Response: Do not concur . All comments from TPWD were incorporated to into the supplemental environmental statement. The USACE did not limited our evaluation of TPWD suggestions to the aspect of conservation of aquatic resources. The suggested mitigation measures were reviewed in the overall context of potential chloride control construction and operational impacts and opportunities to minimize or avoid environmental impacts. No potential chloride control impacts were viewed to be sufficient in scope or significance to require mitigation related to potential low flow impacts. Therefore, none of your suggested mitigation alternatives were included in the recommended plan of action. Your comments were included in volume two of the draft SFWS and include a USACE discussion of each point and why each recommendation was not found to be necessary for inclusion in the recommended plan of action. Those comments will also be included in the final SFES.

TPWD requests that the USACE provide information on how the project will affect lake levels without brush control. The effects of the project on lake levels continue to be masked by inclusion of brush control which may or may rot occur or, if implemented, be as effective as stated in the Draft Supplement. Brush control is currently not funded by the State of Texas. If brush control is not implemented, changes in water level in Lake Kemp and Diversion Lake will severely impact operation of the Dundee State Fish Hatchery, without major renovations of the facility. The Corps should take some responsibility for ensuring that implementation of the brush control program will occur for the life of the chloride control project The Dundee hatchery will be affected by project-induced changes in water quality and lake levels thus affecting its ability to withdraw water and operate effectively. Based upon the potential impacts of the project to the Dundee hatchery, TPWD reiterates our request to the Corps to fund the design and construction of improvements to the hatchery. These include relocation of the hatchery intake in Diversion Lake to a minimum elevation of 1043' msl, installation of a water treatment system for the incoming water supply to reduce turbidity, and construction of a system to collect and return hatchery effluent back to Diversion Lake. These improvements will not only compensate for project impacts to the hatchery but also provide additional water (up to 10,000 ac-ft/year) and increased operational flexibility to the City of Wichita Falls and the Wichita County Water Improvement District No. 2.

Response: Do not concur. In regard to these two statements...

"If brush control is not implemented, changes in water level in Lake Kemp and Diversion Lake will severely impact operation of the Dundee State Fish Hatchery, without major renovation of the facility." And that, "The Dundee Hatchery will be affected by project-induced changes in water quality and lake levels thus affecting its ability to withdraw water and operate effectively."

The issue of brush control is not relevant to the balance of the two statements above. There are no chloride control related impacts to Diversion Lake, or its regulation, or to the Dundee Hatchery's ability to withdraw water or operate effectively. The improvement to water quality in Lake Kemp resulting from chloride control is anticipated to precipitate greater usage of Lake Kemp as a water supply reservoir. That increased usage would be associative with greater pool fluctuations in Lake Kemp. The Lake Kemp pool fluctuations do not cause the downstream lake, Diversion Lake, to fluctuate. Diversion Lake is regulated by the Wichita County Water Improvement District No. 2 and is maintained within a two-foot margin to allow for hatchery withdrawal. The Dundee hatchery withdrawals water directly from

Diversion Lake. Therefore, no changes in water level for Diversion Lake will occur in relation to chloride control. Therefore, there will be no impact to operation of the Dundee state Fish hatchery related to chloride control. Therefore, no renovation of the facility would be warranted in relation to chloride control.

The other issue within the two statements implies that water quality changes resulting from chloride control will affect the hatchery's ability to operate effectively. There is no scientific information to suggest that the water quality improvements projected to result from chloride control would have any noticeable affect on the hatchery's ability to operate effectively.

In regard to the issue of brush management…

Private individuals are implementing brush control within the multi-county area occupying the Wichita River Basin. The state cost shared brush management plan would potentially increase the rate at which mesquite brush is removed by funding 75% of the brush clearing cost. In addition the USACE is discussing a separate brush management ecosystem restoration effort to implement a test project in the Wichita Basin with the Red River Authority and the TSSWCB. Potential landowners are being contacted to determine their interest and concerns.

The USACE did not attempt to minimize the Lake Kemp lake level fluctuation issue by estimating future brush management. Rather, the USACE was attempting to evaluate: (1) the potential environmental effects of increased fresh water stream flow in areas immediately below brine collection facilities (an issue raised by resource agencies) and (2) positive impacts to Lake Kemp water supply yield. The USACE believes mesquite and juniper management and salt cedar eradication efforts are environmentally positive programs and their implementation would be beneficial in restoring much of the watershed and streams to more environmentally diverse presettlement conditions.

In an effort to estimate a conservative future condition for brush management, the USACE evaluated only 50% of the brush clearing recommended in the state's brush management plan and did not project any further brush clearing by individuals. Given the interest within the Wichita Basin and state funding to date, that estimated future condition continues to be viewed by the USACE and the Red River Authority as a reasonably conservative estimation of basin brush management over time.

If however, no governmental support of brush management occurs in the Wichita River Basin, then the primary impact is from a lost opportunity. One effect of brush management in the upper Wichita Basin would be to increase watershed runoff and therefore increase the volume of water flowing into Lake Kemp. If brush management is not implemented there would still be no shortage of water in Lake Kemp related to chloride control, and therefore no support for the TPWD claim that the hatchery will be significantly impacted.

These comments will be included in TPWD's response to the 401 certification process for this project.

If you have any comments or questions related to TPWD's comments as outlined above please contact Mr. Kevin Mayes at (512) 754-6844.

Sincerely,

Robert Cook

Executive Director

RLC:KBM:msf

cc: Field Supervisor, U.S. Fish and Wildlife Service, Oklahoma Ecological Services, Tulsa, OK
Executive Director, Oklahoma Department of Wildlife Conservation, Oklahoma City, OK
Executive Director, Texas Commission on Environmental Quality, Austin, TX

TNRCC

Protecting Texas by Reducing and Preventing Pollution

FAX TRANSMITTAL

DATE: ~~August~~ Sep. 11, 2002

NUMBER OF PAGES *(including this cover sheet)*: 3

TO:

Name	Marc Mansor
Organization	USACE
FAX Number	918-669-7546

FROM: TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Name	Debbie Miller
Division/Region	WATER PERMITS & RESOURCE MANAGEMENT DIVISION
Telephone Number	(512) 239-1703
FAX Number	(512) 239-4420

NOTES:

Wichita River Chloride Control Project Reevaluation comment letter attached. Please fax other public and/or resource agency comments to my fax number listed above.

Thanks-
Debbie Miller
Water Quality Standards Team
TNRCC

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Jeffrey A. *Saitas, Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

September 11, 2002

Mr. Marc Mansor
U.S. Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, Oklahoma 74128-4609

Re: Alternatives for Chloride Control - Wichita River Basin and Truscott Brine Lake

Dear Mr. Mansor:

This letter is in response to the Federal Register Notice dated June 21,2002, requesting comments regarding the alternate chloride control methods proposed in the United States Army Corps of Engineers (Corps) Draft 2002 "Wichita River Basin Project Reevaluation - Red River Chloride Control Project." In order to improve water quality within Lake Kemp, the Corps has been collecting brine from natural springs within the Lake Kemp watershed and ultimately disposing of the collected brine waters in Truscott Brine Lake. The Corps would now like to expand the project to include three additional areas contributing chloride to the system.

Response: Actually, only two additional brine source areas would be included in the proposed plan for the Wichita River Basin. The plan would include a total of three source areas, but one already exists and has been operational since 1987 (Area VIII on the South Fork of the Wichita River).

Resource agencies have expressed concerns with possible selenium accumulation within Truscott Brine Lake water and sediments and the effect the selenium accumulation could have on aquatic and/or aquatic-dependant avian species which utilize Truscott Brine Lake.

Response: Resource agency concerns and USACE responses are provided in detail in letters from these agencies and USACE responses. In addition, considerable detail is provided in Section 4 of the SFES. These documents should all be thoroughly reviewed for a complete understanding of selenium-related issues.

The proposed chloride control project facilities consist of: three low-flow dams for the collection of brine from areas VII, VIII, and X; five evaporation spray fields for brine volume reduction; one brine disposal reservoir (Truscott Brine Lake) for holding concentrated brine solutions; and necessary pumps and pipelines to transport brine solutions from the low-flow dams to Truscott Brine Lake.

Response: Concur. This is a correct description of the proposed plan.

The Corps requested comments on aspects of this alternative, including Section 401 Water Quality Certification issues. The Texas Commission on Environmental Quality (TCEQ) requests clarification of when the Corps will initiate a formal request for 401 Certification of this project.

Response: It is the USACE's understanding that all issues regarding 401 Certification have already been addressed through previous permitting and NEPA actions. It is therefore our understanding that no additional 401 Certification will be required.

The TCEQ has several concerns with the proposed chloride control alternative. These concerns are as follows:

1) Under the "Plan Formulation" section of the document, it is stated that selenium concentrations in Truscott Brine Lake may reach as high as *6.4* micrograms per liter (μg/L). Levels of this magnitude would exceed the chronic aquatic life criterion of 5 (μg/L) for selenium found in 30 Texas Administrative Code, Chapter 307, Table 1, and would violate State water quality standards. Please provide more detailed information relating to the expected levels of selenium within the lake at the various pumping rates needed to carry out this project.

Response: Comment noted. The hardcopy of the requested detailed information relating to potential levels of selenium for various alternatives ("Alternatives for Chloride Control, Wichita River Basin and Truscott Brine Lake, Texas. Summarized Evaluation of the Potential for Selenium-Related Impacts on Wildlife", USACE 2000) was mailed to the TCEQ. In addition, considerable discussion on this topic can be found in the SFES as well as resource agency letters and USACE responses to these letters.

It should be noted that the USACE recognizes that Se-related issues are extremely complex and that there is considerable uncertainty regarding future concentrations in Truscott Lake. For this reason, USACE modeling exercises aimed at estimating future concentrations were based on a number of conservative (protective) assumptions believed to most likely overestimate future concentrations in an attempt to provide for environmental protection in light of this uncertainty. While these estimates therefore represent potential future concentrations under a conservative set of assumptions, it is likely that they may overestimate concentrations if these assumptions, in fact, prove to be conservative.

It is also important to note that a Selenium Action Plan for Truscott Lake is part of the overall Environmental Operational Plan for Wichita River Basin chloride control. This plan calls for intensive future selenium monitoring, review of results by a multi-agency panel (including representation by the TCEQ), and implementation of corrective action, if ever necessary, to prevent development of selenium-related problems at Truscott Lake. It is anticipated that this panel would certainly consider State of Texas water quality standards in their review. Details of this plan were provided in the draft SFES and can similarly be found in Volume II of the final SFES.

Finally, it is important to note that chloride control in the Wichita River Basin may actually provide certain selenium-related benefits to the basin. As you know, portions of the North and Middle Fork of the Wichita River are currently listed by the State of Texas as selenium-impaired owing to naturally-occurring Se concentrations in these streams. Implementation of the proposed plan would reduce selenium loading downstream of proposed collection facilities to the possible benefit of downstream aquatic and terrestrial communities. Though given little apparent consideration by resource agencies, it is the USACE's opinion that these potential benefits to the basin should be considered in a balanced assessment of selenium-related issues.

2) It is stated in Section 1.1 of Chapter 2 in Appendix B of the Volume II Appendices that the Red River Authority, in cooperation with the Texas State Soil and Water Conservation Board, are initiating a study to determine the feasibility of implementing a brush control and management program to increase water yields. This section goes on to explain that the brush control project is expected to be implemented regardless of the outcome of the Wichita River Basin reevaluation; however, the remainder of the chapter reads as if brush control is a form of mitigation for reduced flows projected to occur from the proposed project.

Response: Comment noted. As noted above, please refer to the USACE's response to the USDOI letter dated August 23, 2002 for a detailed discussion of this issue.

The brush control project has yet to be approved and if approved its implementation is not within the Corps jurisdiction. There is also no suggestion for alternative mitigation for reduced flow (especially to Reach 10) if the brush control project is either not approved or proves unsuccessful. Please clarify how instream habitat mitigation will be provided.

Response: Comment noted. Please refer to the USACE's response to the USDOI letter dated August 23, 2002 for a detailed discussion of this issue.

3) Please provide any selenium fish tissue data relating to fish inhabiting Truscott Brine Lake. If no data regarding selenium bioaccumulation has been collected, please provide a sampling plan which will provide this data.

Response: Fish tissue data were collected over a two year period as part of extensive selenium monitoring efforts conducted by the USACE at Truscott Lake during 1997 – 1998. In addition, data for water, sediment, avian eggs, and limited samples of aquatic vegetation were likewise collected. These data are all summarized in an extensive monitoring report (USACE 2001) that was available during public review of the draft SFES. This report is available on-line and a hard copy has been mailed to the TCEQ for further review.

It should also be noted that continued collection of fish tissue data, as well as selenium data for a number of other environmental matrices, is part of the proposed selenium monitoring plan associated with the overall Environmental Operating Plan (EOP) for the proposed plan. Accordingly, long-term collection of fish tissue data is proposed to accompany plan implementation. Details for this monitoring plan can be found in Volume II of the SFES.

If it can be shown that selenium is not bioaccumulating in fish tissue, it may be possible to conduct a site-specific water effect ratio study for selenium within Truscott Brine Lake to determine if the appropriate chronic aquatic life criterion for the lake is the *5* g/L listed in the Texas Surface Water Quality Standards. 'This study would need to follow EPA's 1994 "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals." If the study demonstrates to TCEQ's satisfaction that an alternative chronic aquatic life uses is appropriate, it would be sent to EPA for review and approval. If approved, the site specific criteria would be added to Appendix B of the Texas Surface Water Quality Standards upon the next triennial revision. EPA approval of the study will be necessary before TCEQ can issue a 401 certification for this project.

Response: Noted.

The TCEQ looks forward to receiving and evaluating other agency or public comments as part of the review process. Please provide any comments to Ms. Debbie Miller of the Water Quality Division *(MC-150),* P.O. Box 13087, Austin, Texas 78711-3087. Ms. Miller may also be contacted by phone at *(512)* 239-1703, or by e-mail at demiler@tnrcc.state.tx.us

Response: A number of comments have been provided by the public and other resource agencies. These comments, as well as USACE responses, can be found in the public involvement portion of the SFES.

Sincerely,

Mark Fisher, Manager
Water Quality Assessment Section
Water Quality Division
Texas Commission on Environmental Quality

MF/DKM/emh

ccs: Mr. Curtis W. Campbell, Red River Authority of Texas, Hamilton Building, Suite 520, 900 8th Street, Wichita Falls, Texas 76301-6894

Mr. Larry McKinney, Texas Parks and Wildlife Department, Resource Protection Division, 4200 Smith School Road, Austin, Texas 78744

Mr. Todd Chenoweth, Manager, Water Rights Permitting & Availability Section, M-I 60

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
222 S. Houston, Suite A
Tulsa, Oklahoma 74127
September 17, 2002

In Reply Refer To:
FWS/R2/OKES/02-14-I-0797

District Engineer
U.S. Army Corps of Engineers
ATTN: Environmental Analysis
and Support Branch
P. O. Box 61
Tulsa, Oklahoma 74121-0061

Dear Sir:

The U.S. Department of the Interior including the U.S. Fish and Wildlife Service, by letter dated August 23, 2002 provided comments on the U.S. Army Corps of Engineers' Draft Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River only Portion (Draft Supplement). By this letter, the Service wishes to submit additional comments related to information contained in the "Wichita River Basin Project (WRB Project) Reevaluation, Red River Chloride Control Project" (Reevaluation Report).

Response: Despite the statement that comments in this letter pertain to information contained in the USACE Reevaluation Report and the fact that this letter was received after the close of a lengthy public comment period for the Draft Supplement, responses to this correspondence have been included with comments related to the Draft Supplement. Many of the topics addressed here are directly related to issues discussed in the Draft Supplement. Responses to these additional comments from the USFWS, many of which the USACE can demonstrate to contain significant analysis error, should provide clarification of several important issues for the public and project decision-makers. These responses are rather lengthy as the USACE is of the opinion that these issues require detailed clarification for the sake of the public and project decision-makers.

In the Reevaluation Report, Area V was reported to have reduced chloride loading in Lake Texoma by 7 percent. Area VIII was reported to have reduced chloride loadings in Lake Texoma by 5 percent. Collectively, operation of the existing portions of the WRB Project would reduce chloride loading by some 12 percent. Subsequently, the Reevaluation Report and the Draft Supplement both claim only about a 10 percent reduction in chloride levels would occur

when all project components at Areas V, VII, VIII, and X are in operation.

Response: Comment noted. The cited values from the draft USACE documents above are correct, however the USFWS interpretation appears to be in error. Following a review of the considerable amount of data forming the basis for these figures, the USACE still believes these figures to be reasonable estimates for the project and that the above statements are not in conflict. In addition, owing to the USFWS interest in this topic, the USACE has reevaluated loads using the most recent period of record. This updated analysis is included with these responses.

Several basic errors appear to have been common to USFWS analyses of load / concentration data throughout coordination of this project. Though discussed in detail with the USFWS during project coordination, these errors continue to be reflected in this comment. A common point of error appears to us to be the USFWS's confusion of the basic terms "load" and "concentration" (for which "level" is frequently substituted by the USFWS). These are obviously different terms, the former being flow-dependent. For purposes of evaluating impacts to Lake Texoma turbidity and related matters, changes in total dissolved solids (TDS) concentrations are the issue of importance. This has been discussed at length with the USFWS and appears in the DSFES. Also, analyte concentrations in water frequently exhibit temporal variability which can be described using concentration / duration analyses. Therefore, different concentrations ("levels") can be obtained for a given environment under study, depending upon choice of "exceedence levels" from concentration duration analyses. For convenience, the USACE frequently has used the 50% "exceedence" number to approximate average conditions. This practice is likewise referenced in the draft SFES. It is possible that the USFWS's continued confusion over these matters is the basis for this comment though attempts have been made by the USACE to clarify these issues. Information contained in the following responses should clarify these issues for the public and decision-makers.

In an attempt to clarify the overall impact of the project on chloride loading at Lake Texoma, we requested additional information which was provided to us in August 2002 (Tomlinson, D.W., 2002. In Lit.). The information we received from the Corps greatly concerns us.

Response: Comment noted. These concerns were expressed to USACE personnel. USACE hydrologists provided extensive explanation in an attempt to clarify issues addressed in this letter. Despite this explanation, the USFWS conducted their own independent analysis described in this letter. We find this analysis to be largely in error for reasons provided in these responses.

The Corps predictions of a 10 percent reduction in chloride levels at Lake Texoma are very misleading. The Service (and probably others as well) assumed that the Corps predicted a project-related 10 percent reduction in chloride concentrations relative to existing levels at Lake Texoma.

Response: With regard to the comment "…the Corps predicted a project-related 10 percent reduction in chloride concentrations relative to existing levels at Lake Texoma". Concur. If this was the Service's (and others) assumption, then it was (and continues to be) a reasonably

correct one. The predictions are therefore not misleading.

In reality, the Corps is basing their percentages on reductions to chloride loads that have probably not occurred in over 20 years.

Response: Do not concur. It is assumed, based on comments expressed later in this correspondence, that this refers to the issue of man-made brines. If so, the USFWS review is in error. Further explanation is provided later in these responses to similar comments. USACE data reflects a period of record of data that includes data as recent as 2000.

Also, the Corps documents include reductions due to operation of Area V (since 1964) as "natural" and do not consider these reductions in the analysis of project impacts. Area V chloride reductions are not "natural" and should not be included in the "natural" load estimates.

Response: Concur. This is a good point and one that was not addressed in the draft SFES. While possibly a proper term in the planning vernacular, the term "natural" as used in the draft SFES is most likely inappropriate for environmental investigations involving cumulative effects. A better term for "natural" would have been "without proposed project" (referring to existing conditions in the absence of the proposed plan). It is agreed that loads from Area V in the absence of any chloride control should be included as truly "natural" from an environmental standpoint and that relative differences in dissolved solids concentrations with and without all features of chloride control should be evaluated to address cumulative impacts for both existing and proposed project features. This issue has been re-evaluated and results presented in these responses (see attached analysis) as well as the final SFES. The original evaluation (comparison with existing conditions) has likewise been retained to provide the public and decision-makers the ability to evaluate both conditions. With respect to anticipated impacts on Lake Texoma turbidity, use of concentration differences from both comparisons yield very similar results (see attached figures). Accordingly, while the more technically correct information from an environmental standpoint is now contained in the final SFES, the USACE's ultimate conclusions on this issue are unchanged from those expressed in the DSFES.

The USACE regrets the USFWS misunderstanding. The USFWS has indicated in this letter that the inclusion of Area V control in the period of record analysis constitutes an invalid procedure and does not represent the cumulative impact of chloride reduction on Lake Texoma and impacts to fishing recreation. Similar claims are made regarding manmade brines and their reduction by the efforts of the State of Texas, through the Red River Authority of Texas.

The USACE concurs that the inclusion of partial flow records before implementation of Area V and partial records after implementation is unusual in that flow data was utilized that spans changing basin conditions. Typically, data used in hydrologic evaluations is limited to similar if not identical conditions. In this case, however, several conditions were changing during the period of flow data collection. First is a discussion of those changing conditions. Second is the bottom line difference of the analysis conducted versus the analysis suggested as correct by the USFWS and ODWC.

During the period of record of stream flow and chloride data, Area V was constructed and

continues to be operated. Similarly, changes in manmade brine discharges to the environment occurred during that period. In fact, starting in the late 1800's petroleum exploration was the initial source for manmade brine production. That production is represented by oil and gas wells distributed throughout the Red River Basin. Brine discharged during petroleum exploration was disposed of to the ground surface and in surface pits. Somewhat later in 1944, Lake Texoma was constructed by the Corps of Engineers on the Red River and fishing resources changed significantly on the Red River. In the 1960's the lake became known as a world class white bass fishery. In 1964, Area V was constructed as a test project for control of one type of natural brine spring. The project was successful and reduced natural chloride loads in the Red River by about 240 tons per day. As additional Congressional authorizations were enacted and construction for the Red River Chloride Control Project was initiated, the Red River Authority was recognized as the State of Texas' lead agency and local sponsor for the chloride control project. As the local sponsor, the Red River Authority agreed to lead efforts to manage and control manmade brine discharges. In 1976, the Oklahoma Department of Wildlife Conservation initiated a program to introduce non-native striped bass in Lake Texoma to stimulate the recreation economy. While the striped bass is not a native species, it is a component of the current recreation economy and is referred to as a world-class fishery. The overall fishing recreation contributions represent about 0.8% of the overall economy of the 7-counties within which Lake Texoma lies.

Because the striped bass fishery was started after Area V was operational it is problematic to evaluate the current reservoir fishery for a theoretical condition where Area V was not implemented. If that case were to be evaluated, the potential effects on the lake fishery would most reasonable be based on fish composition that existed before construction of Area V and would therefore exclude striped bass. Since that evaluation would serve no useful purpose for evaluation of the actual existing lake and fishery it was not performed. Since the ODWC had participated in the evaluation of the Red River Chloride Control Project and knew of the potential reductions of chlorides at Lake Texoma and should have been aware of the existence and operation of Area V, 12-years before the striped bass stocking program started, it seems reasonable to assume that the agency was not, in fact, concerned with the reduction of natural brine from Area V at the time of the stocking program or that chloride reductions in the future, in the event the balance of the chloride control project was implemented, would impact the striped bass fishery or any species that might be less tolerant to high chloride concentrations than an anadromous species like the striped bass. It is also reasonable to assume that the agency was familiar with the implementation of the Clean Water Act in 1972 and the positive environmental implications of the cleanup of manmade brines on Lake Texoma. Because of the Clean Water Act, clean up of manmade brines would have been the object of state clean up.

The contributions of manmade brines in the Red River and Lake Texoma are represented in the period of record data, but cannot be specifically identified. Even if they could, there would be no purpose served in the evaluation of the control of natural chlorides through the integration of estimated changes of manmade brines on the river or lake ecology. It is safe to say that manmade brines have been released throughout the region and will over time be transported from the region. How long that will take is very difficult to estimate and is not part of the evaluation of natural brine reduction through the chloride control project. When those manmade brines are transported from the system the resulting water quality will return to a pre-petroleum exploration condition – a better condition environmentally.

The remediation of manmade brines over time will be a testament to Federal water quality legislation and the remediation efforts of state governments. That manmade brine legacy will diminish over time. That legacy problem is not related to the technical, environmental, and economic evaluation of efforts to control ***natural*** *brine emissions to provide greater opportunities to utilize waters of the Red River Basin for agricultural, municipal, and industrial purposes with equal consideration for the environment. It does not make sense to suggest that the ecological impact of "brine" reduction in the Red River (specifically Lake Texoma) should be measured as the combined reduction of manmade and natural brines. In the case of manmade brines, the reduction is correction of a manmade problem resulting from the exploration of petroleum. In the case of natural brine reduction, the effort is the evaluation of a Congressional authorization to solve water quality problems in the Red River. In the case of manmade brines the subsequent remediation of manmade brines will, over time, reduce or eliminate the consequences of indiscriminate, individual or corporate actions intended to generate wealth. In the case of natural brine reduction, the past, present, and future efforts rely on carefully regulated, public and agency coordinated, scientific evaluations conducted for the purpose of formulating solutions to meet regional water quality and water supply needs with implementation occurring only after exhaustive efforts to ensure solutions are environmentally sustainable.*

The USACE stated the premise of evaluating only the reduction of natural brines in the January 1998 Project Management Plan provided to and presented to the USFWS at the start of the study in the initial NEPA coordination in 1998 and coordinated throughout the study to date. The USACE realizes that the remediation of manmade brines will eventually return the Red River Basin ecosystem to a more natural condition and that this remediation would have occurred in the absence of the Congressional authorization to implement the chloride control project. The natural chloride load reductions on which the USACE bases environmental and economic calculations are reasonably exact measurements of water flow and chloride concentrations at the source areas and at selected locations downstream. By using the actual measurement of chloride concentrations and flow at various locations downstream, it is possible to accurately estimate the downstream results of upstream plans to remove chloride load. Therefore, the statement made by the USFWS that "the Corps is basing percentages of reductions to chloride loads that have probably not occurred in over 20 years" is incorrect.

The USACE believes the USFWS has misinterpreted data from prior reports (below) and incorrectly applied assumptions concerning manmade brine cleanup (also below). It is unfortunate that the USFWS analysis was forwarded to a number of agencies interested in this project, resulting in public confusion regarding the issue.

Chloride loads in the Red River at Lake Texoma (total of 3,602 tons/day) are apparently based on load estimates prior to any reductions in manmade chloride loads.

Response: Do not concur. These conclusions are based on incorrect assumptions. See above responses.

According to Corps data, the Draft Supplement, and Reevaluation Report, manmade and minor natural chloride loads collectively account for some 1,119 tons/day. The Draft Supplement and Reevaluation Report estimate that the manmade loads have been reduced by 85 percent. Data from the Corps grouped manmade and minor natural chloride loads together at 1,119 tons/day.

Assuming contributions from minor natural sources would not significantly influence our analysis, an 85 percent reduction would reduce the loading from 1,119 tons/day to 168 tons/day. However, the Draft Supplement does not include the reduction in chloride loading due to control of manmade sources as part of the project baseline.

Response: Do not concur. Assumptions described above form the major source of error for the USFWS's analysis. While the estimate of 1,119 tons/day for combined minor natural and man-made chloride load, as it is described in USACE documents is believed to be reasonably correct, the USFWS analysis assumes that this total load results strictly from man-made sources. Further, the USFWS analysis assumes that a high percentage (85%) of clean-up of man-made brines has significantly reduced the "manmade and minor natural" component of total chloride load. This can be shown to be incorrect using several analyses. These analyses are provided as attachments. As previously noted, the focus for impact analysis at Lake Texoma should be project-induced changes in total dissolved solids (not just chlorides) concentrations. It is critical to note that concentration / duration curves for the project were developed using actual gage and water quality data for a long period of record (1961 – 1998). These curves therefore reflect actual load conditions and any changes that have occurred over the period of record. The statement that this analysis does not include reductions in loading due to control of manmade sources is therefore incorrect and the USFWS analysis based on this assumption is significantly in error.

The project baseline also should include operation of Area V, which has reportedly reduced chloride loads from 300 to 60 tons/day, and Area VIII, which has reduced chloride loads from 189 to 24 tons/day (2001 data). Total chloride control, at present, is about 1,356 tons/day (includes reductions in manmade sources and Areas V and VIII). Based on these calculations, the total existing chloride load at Lake Texoma would be 2,246 tons/day. Implementing control at Areas VII and X (reduction of 244 tons/day) would cause an additional 10.9 percent reduction in chloride loads at Lake Texoma.

Response: Do not concur. It is agreed that the environmental "baseline" should include control at Area V. This information has therefore been updated and is reflected in response to these comments (see attached analyses) as well as in the final SFES. As explained above, USFWS calculations based on assumptions regarding manmade sources are in error. Loading estimates described above are therefore incorrect.

The Service has never opposed control of manmade chloride loads and supports efforts to control manmade loadings as part of a reduced Federal project. Our concerns have consistently focused on the environmental effects of reducing the natural chloride loading. Assuming 85 percent control of the total loading from manmade and minor natural sources, the total remaining manmade and primarily natural chloride loading (natural chloride loading) would be roughly 2,651 tons/day at Lake Texoma. Operations of the existing and proposed project features would

reduce the natural chloride loading by 649 tons/day or about 25 percent. This value seems to more accurately represent the actual effect of the total project on Lake Texoma and the Red River.

Response: Do not concur. Again, these calculations are in error. The "25 percent" value therefore does not "more accurately represent the actual effect of the total project on Lake Texoma and the Red River".

Although actual pre-project environmental data are lacking, the Service doubts a 25 percent reduction in chloride levels could occur without influencing species composition and abundance within the aquatic community of the Red River and Lake Texoma. Such a reduction in chloride loads to Lake Texoma would without doubt increase turbidity and reduce primary productivity; and, ultimately could reduce the carrying capacity of the reservoir for all aquatic life. All of these impacts would be difficult or impossible to mitigate and replace in-kind in accordance with the Service's mitigation policy.

Response: Do not concur. The comment above illustrates the basic difference between the USACE and USFWS method of evaluating this issue. The basic approach of the USFWS is to base impact conclusions solely on percentage of load reduction (strictly chlorides and not TDS as is technically correct), followed by qualitative definitive statements based on these percentages. The technical basis for this approach as well as how definitive statements like "Such a reduction in chloride loads to Lake Texoma would ***without a doubt*** *[emphasis added] increase turbidity and reduce primary productivity;" can be derived based strictly on an estimate of load reduction for the reservoir is unclear to the USACE. It would appear to us the scientific basis for this approach is unclear and that this approach disregards site-specific studies conducted to address this issue.*

In contrast, the USACE approach to this issue has been to base conclusions on pre- and post-project TDS concentration estimates derived from actual gage and water quality data collected over a long period of record in the Red River Basin. These estimates were then used as input for site-specific regression equations developed for this project relating TDS concentrations and turbidity reduction (based on differences in settling rates). Pre- and post-project turbidities were then compared, yielding very minor differences (see attached figures). Predicted impacts of these differences on reservoir productivity are admittedly based on professional judgment and limnological experience at Lake Texoma, but are supported by research conducted to date at the reservoir. For example, research has indicated that while light intensity may limit primary productivity in the upper Red River arm of Lake Texoma, nutrient (primarily phosphorus) limitation may be a dominant factor in limiting productivity in the Lake Texoma main pool (Gibbs 1998, Dickson et al. 2002). It is the USACE's opinion that this approach provides a more science-based evaluation of this issue.

References:

Gibbs, J.S. 1998. Environmental Factors Influencing Chlorophyll-a Concentrations in Lake Texoma. Thesis, University of North Texas.

Dickson, K.L., Waller, W.T., Atkinson, S.F., Ammann, L.P., Doyle, R., Clyde, G.A., Mabe, J.A.,

Baugher, T.W. Assessments of Lake Texoma Phytoplankton Production Using Community Analysis, Chlorophyll Monitoring, Chlorophyll Mapping and Measurements of Primary Productivity. Prepared for U.S. Army Corps of Engineers, Tulsa District. Prepared by: University of North Texas, Denton.

The Service anticipates that even a very small reduction in the depth of light penetration and primary productivity would have a considerable impact on fish production in a reservoir the size of Lake Texoma. Data provided by the Corps estimated secchi depth values would be 0.6 feet less, after implementation of the preferred alternative (Areas VII, VIII, and X), with six days of settling and an initial turbidity of eight NTU. This information misrepresents the true impact of the proposed project because it fails to account for the effects of portions of the existing project (Area V).

Response: Do not concur. At the request of the USFWS during project coordination, the USACE spent considerable time and effort evaluating relationships between nephelometric turbidity and Secchi disc transparency for the large amount of historical data collected at Lake Texoma. In addition to considerable verbal coordination, informal written information consisting of an initial, preliminary analysis followed by a more detailed, statistically-robust analysis was provided to the USFWS. This analysis yielded the following observations, which were clearly stated in this informal written information: (1) Secchi transparency is a poor surrogate for estimating turbidity as this measurement is highly subjective and is influenced by a number of factors not related to inorganic turbidity levels. This results in "stacking" of a wide range of turbidities for a given Secchi value; (2) Turbidity is best measured by scientific instruments designed for such use; and (3) regression equations relating turbidity and Secchi transparency should not be extrapolated outside the range of these parameters used in development of these equations or outside the range of values observed in field data. The above comment discounts these considerations, is based solely on information from the USACE preliminary analysis (ignoring equations in the more detailed information last provided to the USFWS), and extrapolates findings to values outside those ever observed at Lake Texoma. The approach of selectively identifying absolute "worst case" conditions regardless of underlying assumptions rather than those reasonably expected to occur is illustrated here and has been a common practice of the USFWS throughout project coordination on this and other issues.

Despite known limitations of such an analysis, if <u>maximum</u> pre- and post-project (including no control at Area V as "natural") turbidity difference estimates at Lake Texoma under "average" TDS and turbidity conditions are to be expressed in terms of point estimate differences in Secchi transparencies, differences on the order of around 0.1 to 1 inch in the upper end of the Red River Arm (where primary productivity is thought to be mainly light-limited) to 3.3 to 4.6 inches in the main pool of the lake (where primary productivity is thought to be mainly nutrient limited) might be estimated using the USACE analysis of historical data. It should be noted that even these differences would most likely be confined to periods following 2 to 3 days of perfectly quiescent conditions – an infrequent occurrence at Lake Texoma. Accordingly, even these small differences might therefore represent the exception, rather than the norm. The USACE seriously doubts that a maximum, infrequently-experienced estimated 0.1 to 1 inch change in Secchi transparency in the area of the reservoir believed to be light limited would result in changes in primary productivity, much less resulting impacts on reservoir fisheries.

However, if we ignore Area V impacts, at normal pool or elevation 617 feet, a 0.6 foot reduction in light penetration would affect about 50,722 acre feet of water at the surface of Lake Texoma. The number of fish that would be supported by the top one foot of over 50,000 acres of water at Lake Texoma is unknown, but we can safely assume it is thousands to millions.

Response: Do not concur. First, a reduction in light penetration as described in the comment would not appear to us to occur at the water's surface, but rather at depth at limits of the photic zone in the reservoir. Appropriate calculation of the volume of water impacted (if even necessary) would require consultation of elevation/area/capacity table for the reservoir at this depth. Second, the issue, as we understand it, is not how many fish could be supported in "the top one foot" of the water column of the lake, but rather how potential changes in primary productivity could be reflected in changes in fish standing crop. This is a much more complex issue, requiring review of available research and professional judgment, relative to a simple assessment of the number of fish that can occupy a given volume of water in a lake.

The Draft Supplement also concentrates on impacts to striped bass, but all fish, including largemouth bass, catfish and others would continue to be impacted long after the reservoir could no longer support striped bass. Other forms of aquatic life and even some terrestrial wildlife in the area are at least partially dependent on the productivity of the river and reservoir. Considering the proposed life of the WRB Project is at least 100 years, the cumulative impacts could be profound.

Response: Do not concur. Probably of much greater impact to Lake Texoma fisheries are currently deteriorating conditions resulting from reservoir sedimentation and eutrophication. An interesting aspect of comments expressed here is the concept that the proposed project may actually <u>decrease</u> the level or rate of eutrophication – a common problem plaguing many reservoirs across the country. Though not anticipated to occur, it is certainly conceivable that this condition could potentially <u>benefit</u> fisheries of Lake Texoma through decreased rates of hypolimnetic oxygen depletion and more favorable summertime temperature/oxygen stratification patterns (particularly for striped bass). It is noteworthy that this impact, as expressed in these comments, is therefore a desired condition in many reservoirs.

Based on our evaluation of the existing information on chloride loads and control achieved by project implementation, a predicted l0 percent reduction in chloride loading at Lake Texoma appears to be grossly inaccurate.

Response: Do not concur. Information provided in these comments has clarified issues regarding anticipated reductions in chloride and TDS loads and anticipated changes in concentrations of these constituents (the more important matter) with the proposed project.

While a 10-11 percent reduction is anticipated with implementation of project features at Areas VII and X, the Draft Supplement only considers the incremental reduction in chloride loading resulting from these components. The document fails to account for environmental impacts resulting from ongoing operation of existing project components. This approach inappropriately masks or downplays relatively large impacts to Lake Texoma and other waters affected by the proposed project.

Response: Do not concur.

The USFWS appears to state in this letter that the draft SFES and Reevaluation only present the environmental effects of implementation of Areas VII and X and they further appear to state that these documents fail to account for environmental impacts resulting from ongoing operation of existing project features. Assuming the USFWS is referring to Area V (previously discussed) and Area VIII (by omission), the effects of Area V operation were discussed in the response above and have been included in impact analysis.

The issue of Area VIII is quite different. In this case the USFWS statement is in error. Although Area VIII has been in operation since 1987, for the presented analyses the control of chloride load at Area VIII was not included in the base condition – the without project condition. The Wichita River Basin chloride control evaluation does represent the impacts of all three chloride source areas, Areas VII, VIII, and X in the Wichita Basin and downstream on the Red River. This information was presented in the Project Management Plan provided to and presented to the USFWS at the beginning of the NEPA coordination in 1998 and early 1999, and discussed throughout the four year study.

As indicated above, confusion regarding chloride-related impacts of the proposed project should now be minimal. Provided in these responses and the SFES is a cumulative impact analysis, including all aspects of chloride control, on Lake Texoma. T he USACE therefore concludes that environmental impacts to Lake Texoma would not be relatively large.

Section 1500.1(c) of the Council on Environmental Quality (CEQ) Regulations for Implementing the National Environmental Policy Act of 1969, as amended, states "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment."

Response: Concur. Hopefully, our responses to comments provided by the USFWS will promote sound decision-making based on science-based analyses of potential environmental consequences. The USACE believes the approaches described here and in the SFES are consistent with both the intent of NEPA and the concepts of environmental sustainability.

The Draft Supplement also fails to demonstrate how impacts related to chloride reductions would be avoided or minimized and proposes no mitigation for the unavoidable impacts.

Response: Do not concur. See detailed responses in DOI letters dated August 23, 2002.

The Final Supplement should contain adequate mitigation for environmental impacts, although the Service believes it is extremely difficult, if not impossible, to mitigate (in kind) for the impacts to flow and salinity in streams. The aquatic resources that would be impacted are public resources and it is inappropriate for the project to proceed in the absence of adequate compensation for project related impacts.

Response: Do not concur. The USACE believes that adequate mitigation has been proposed for those impacts for which such action is warranted, based on the agency's best analysis of these issues. A long-term commitment to monitoring has likewise been proposed, not as a substitute for adequate study, but rather as verification of impact analyses and corrective action, if necessary. In addition to natural resources, tax dollars are likewise public resources that should be invested in an appropriate, defensible manner. It is the USACE's opinion that much of the mitigation proposed by the USFWS and other resource agencies is unwarranted and therefore not consistent with our obligation to fiscal responsibility.

Please consider these comments in addition to those previously provided by the Department of the Interior and contained in the Service's Fish and Wildlife Coordination Act Report. If you have any questions about these comments, p1ease contact Mr. Kevin Stubbs of the Oklahoma Field Office at (918) 581-7458, extension 236.

Response: Comment noted. As noted in these lengthy responses, your comments have been fully considered for this project. In addition, comments previously provided in the USFWS's Coordination Act Report have likewise been given full consideration. USACE's response to comments and recommendations contained in the CAR can be found accompanying the final CAR in Volume II of the SFES for this project.

In light of the distribution of this erroneous information distributed by USFWS to TPWD, ODWC, and the Oklahoma Department of Tourism, the USACE suggests the USFWS send follow up letters to formally correct any further misunderstanding, as evidenced by reference in comment letters by ODWC and TPWD.

While it is obvious that our agencies disagree on severity of environmental impacts, we appreciate your diligence and efforts on this complex project.

Sincerely,

Jerry J. Brabander
Field Supervisor

Attachment 1

UPDATED LOADING ESTIMATES AND MAN-MADE CHLORIDE LOADS FOR THE RED RIVER BASIN

During the early stages of the chloride control study, ten major natural chloride source areas were identified. Daily chloride loads, in tons/day, were calculated by determining chloride concentration and average flow at each of the major sources. Man made and minor source loading was determined using a mass balance approach by determining the total chloride load at Lake Texoma and then subtracting the total major source loading. Original estimates of the Red River chloride load was 3,600 tons/day and was based on the 9 year period of record 1961-1970. Due to the USFWS interest in chloride impact at Lake Texoma as expressed in their letter dated September 17, 2002, the long term Red River chloride load was investigated using the most current period of record. Using the period of record 1961-1998 used in the Reevaluation Report, the long term natural chloride load entering Lake Texoma is 4,400 tons/day, a 22% increase from earlier estimates. The estimates of the Red River chloride load are presented in Table 1.

TABLE 1
MAJOR CHLORIDE SOURCES
RED RIVER BASIN

Salt Source Areas	Natural Chloride Load 1961-1970 (Tons/Day)	Natural Chloride Load 1961-1998 (Tons/Day)
V	300[1]	300[1]
VI	510	510
VII	186	244
VIII	195	189
IX	342	342
X	48	58
XI	220	220
XIII	350	350
XIV	150	150
XV	120	120
Total Identified Natural Sources	2421	2483
Loading from Minor Natural Sources and Man Made Sources	1119	1911
Total Red River Basin	3540	4394

[1] Ring Dike, operational since January 1964, controls 240 of the total 300 tons /day chlorides.

The Red River Authority of Texas, as the local sponsor for the chloride control project, agreed to lead efforts to control man made brine pollution in the Red River basin. According to the Red River Authority, efforts to control man made brine pollution began as early as 1960. By 1964,

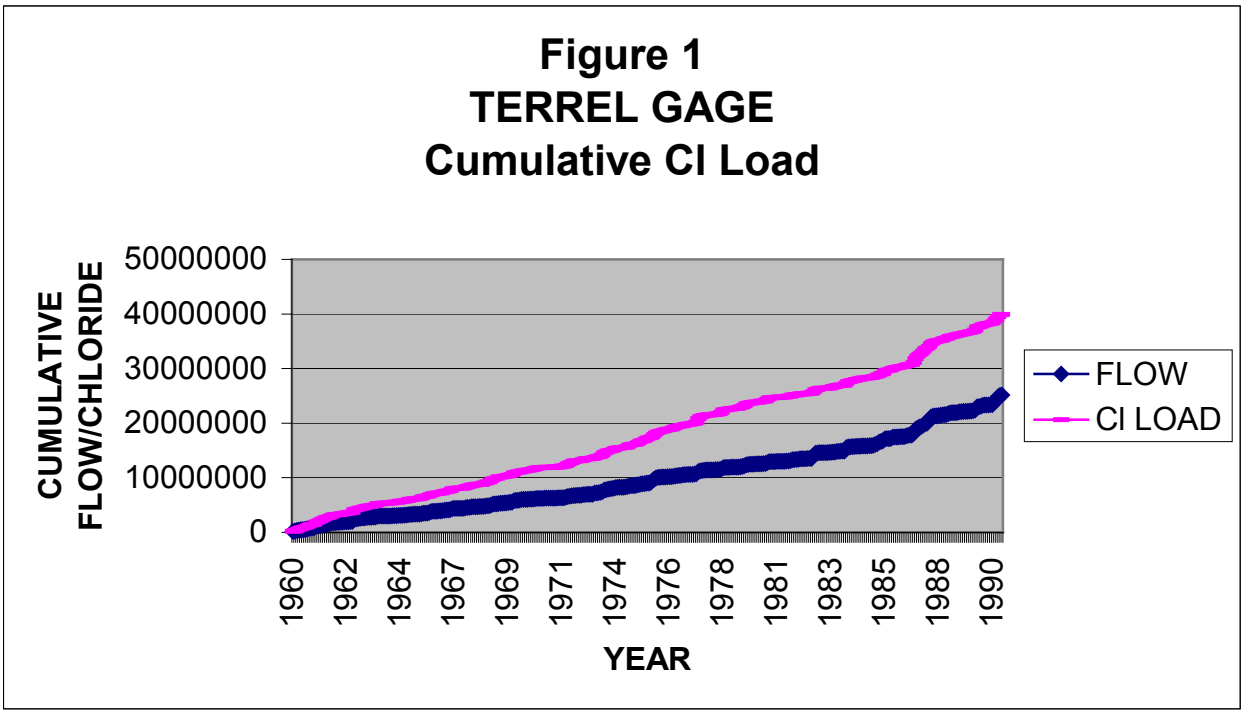
the RRA and other participating state agencies had identified over 220,000 wells producing brine in the basin. Brine production was estimated at over 9,000,000 barrels per day. Over 36,000 earthen brine disposal pits were inventoried and subsequently emptied and backfilled leaving an estimated 2,800 square miles contaminated by oilfield brine disposal techniques in the watershed above Lake Texoma. Since 1980, most oilfield brine has been properly disposed of by underground injection under permits issued by the Texas Railroad Commission and the Oklahoma Corporation Commission.

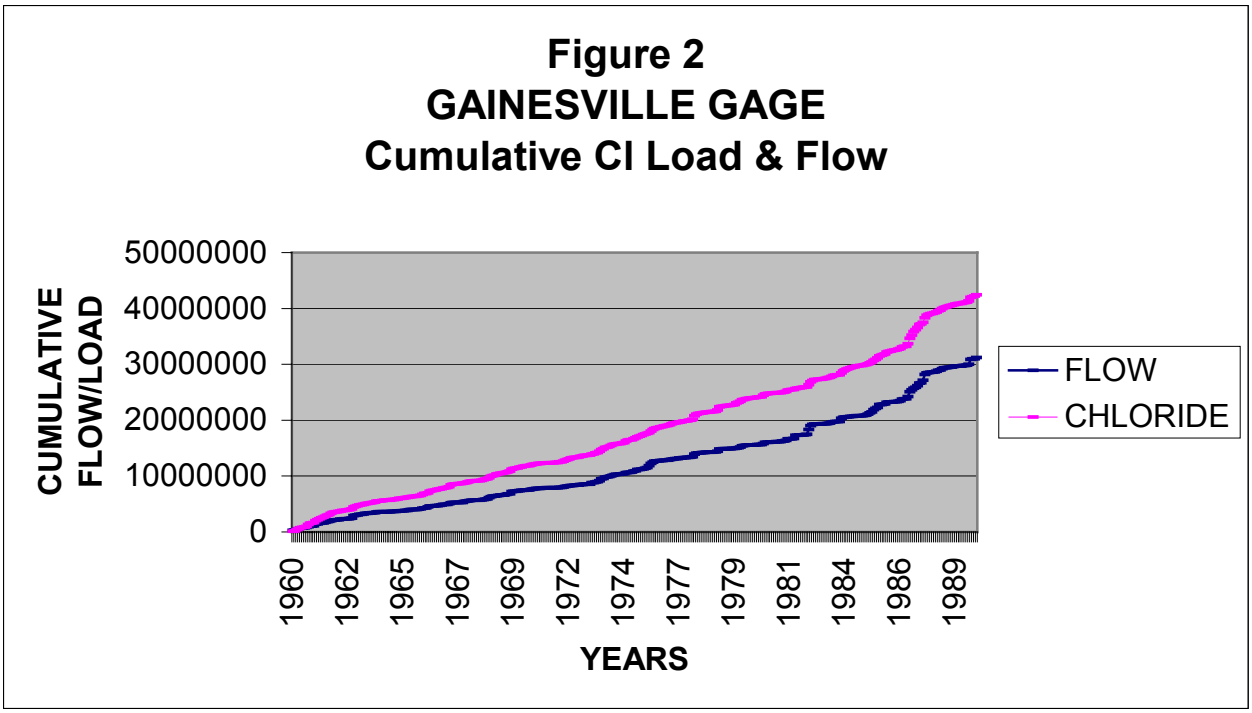
In 1990, the RRA prepared a model to estimate the load and control effectiveness of oil field brine production and disposal operations in the Red River basin above Lake Texoma. The 1990 model indicated there were 237,000 wells producing 9,324,200 barrels per day of brine. The model calculated the average daily chloride load being produced by oilfield operations at 1,143 tons per day with 968 tons per day disposed of by authorized injection resulting in a control effectiveness of man made brine pollution of 84.7%. This represents 85% control of produced chloride load, not the actual load to the Red River basin.

The USFWS, in their 17 Sep 2002 letter, expressed concerns that the impact of the chloride control project in conjunction with the cleanup of man made pollution in the Red River basin may have a greater impact at Lake Texoma than stated in the Reevaluation Report. The Service has made the assumption, without any sound scientific evidence or data, that the chloride loads listed in Table 1 as man made and minor natural sources is entirely of man made origin. The Service has assumed the 85% cleanup of man made brine pollution would result in a daily load reduction of 951 tons/day, based on the original estimates. Based on the original load estimate, the cleanup of man made brine would result in a 26% reduction in the total chloride load. Using the most recent load estimates, the cleanup of man made brines using USFWS estimation techniques would result in a daily load reduction of 1624 tons/day, a 37% reduction.

The Service's assumptions are flawed and result in incorrect loading reduction estimates. The Service has incorrectly assumed that all brine produced within the entire Red River basin was immediately discharged into a watercourse within the basin. They are discounting the fact that over 36,000 brine evaporation pits were in operation within the basin. They are also discounting the fact that the cleanup of surface brine disposal operations began as early as 1964 and the majority were cleaned up by 1980. Most importantly, the Service has also failed to realize that any reductions in man made pollution are represented in the USGS period of record data used in the concentration/duration analysis.

To evaluate the Service's assumption, the cumulative chloride load at the Terrel and Gainesville gages from WY1960 through WY1990 were plotted and are presented as Figures 1 and 2. If the Service's assumption were correct, the decrease in man made brine loads representing either 26% or 37% of the total load of the Red River basin would result in a decrease in slope in the cumulative load plot. As Figures 1 and 2 illustrate, no discernable decrease in slope is detected at the Terrel and Gainesville gages. The cumulative load plots clearly illustrate the actual man made load in the Red River basin was not a significant portion of the total load as assumed by the Service.





To further evaluate the Service's assumption, the man made load in the Red River basin was estimated using the same approach used in the Low Flow, Concentration/Duration, and Lake Kemp Analysis Report included in the Formulation Appendix of the Reevaluation Report.

Magnesium is a product of oil field drilling and oil production and is therefore indicative of man-made brine pollution. Excess Cl atoms not associated with Na can combine with available Mg to form $MgCl_2$. Using USGS water quality data, the number of Cl atoms required to combine with the available Na atoms is determined. Any excess Cl atoms are available to combine with Mg. Using the period of record water quality data available, a flow/Cl weighted average was determined for each year. The flow/Cl weighted average represents the maximum daily man made load as Mg is a naturally occurring element and some exists not in associated with oil production. Results of the analysis are listed in Table 2.

TABLE 2
GAINESVILLE GAGE
MAN MADE CHLORIDE LOAD ANALYSIS

Year	Estimated Max. Man Made Cl Load Avg (%)	Rolling 5Yr Avg (%)	Gaged Cl Load Tons/Day	Estimated Max. Man Made Cl Load Tons/Day	Avg Daily Flow CFS
1966	6.1		3176	194	1665
1967	7.6		1532	116	1160
1968	3.4		3766	128	2459
1969	3.4		3413	116	2451
1970	9.6	5.64	1505	144	1070
1971	8.0	5.8	2404	192	1182
1972	*				
1973	*				
1974	5.1		3798	194	2353
1975	3.9		4769	186	4428
1976	4.4		2684	118	1413
1977	2.9		4324	125	2589
1978	1.4	3.44	3429	48	1844
1979	4.6	3.34	3639	167	1816
1980	6.8	3.78	2420	165	1524
1981	6.7	4.16	2442	164	3262
1982	5.8	4.66	4373	254	5502
1983	9.9	6.0	4391	435	3325
1984	6.9	6.3	3017	208	1391
1985	7.6	6.54	6300	479	6014
1986	4.0	6.08	9527	381	6772
1987	3.3	5.68	9611	317	8367
1988	0.5	4.18	4110	21	2456
1989	3.7	3.68	4323	160	5713
1990	*				
1991	*				
1992	*				
1993	*				
1994	0.8		2118	17	
1995	2.1		9434	198	8833
1996	3.1		5037	156	2819
1997	2.0		7725	155	5376
1998	1.4	1.4	6138	87	4929
AVG	**4.63**		**4422**	**182**	**3128**

*Data not available

A review of the results indicate the average long term man made chloride load in the Red River basin appears to be an estimated 182 tons/day with daily averages reaching as high as 479 tons/day and as low as 17 tons/day. The annual variations in daily chloride loads are a result of

alluvial loading of dissolved solutes, a natural process where dissolved solutes are stored in the alluvium during low flow periods and flushed out during high flow periods. The results of this study support the cumulative chloride load plots and indicate that man made chloride load has never been a significant portion of the total Red River chloride load. Accordingly, the majority of loading identified as "minor natural and man-made" (Table 1) results from "minor natural" sources and is not man-made.

Another technique used to monitor effects of man-made chloride control is the sodium to chloride ionic ratio. This technique relies upon the chemical characterization of oil field brines versus natural salt sources. Previous studies have shown that oil field brines have a sodium to chloride ratio of less than 0.60, while natural salt sources typically maintain a ratio of 0.60 and greater. Recent analysis of USGS at the Burkburnett gage, representing the inflow into Lake Texoma, indicate the sodium to chloride ratio is continuing to increase above the 0.60 ratio indicating man-made pollution control measures are working and that man made pollution is not a significant percentage of the total chloride load entering Lake Texoma.

TABLE 3
Na/Cl IONIC RATIO
BURKBURNETT GAGE

Year	Na/Cl Ionic Ratio Annual Average
1966	0.60
1967	0.59
1968	0.63
1969	0.66
1970	0.57
1971	0.59
1974	0.62
1975	0.62
1976	0.62
1977	0.62
1978	0.61
1979	0.61
1980	0.59
1981	0.55
1982	0.58
1983	0.59
1984	0.60
1985	0.60
1986	0.63
1987	0.62
1988	0.67
1989	0.62
1994	0.66
1995	0.65
1996	0.63
1997	0.63
1998	0.63

*Data unavailable 1972, 1973, 1990, 1991
1992, 1993

The USFWS, in their letter dated 23 Aug 2002, expressed confusion concerning the project impact on chloride loads and concentrations at Lake Texoma. The Service seems to have difficulty differentiating between and understanding the terms load and concentration and seem more comfortable with using the term level. For purposes of turbidity impact assessment at Lake Texoma, the important consideration is concentration of total dissolved solids.

The Reevaluation Report states the selected plan will result in a 12% decrease in chloride load at Lake Texoma. This load reduction estimate was based on the period of record WY1961-1970 (3,300 tons/day) and did not include the impact of Area V (240 tons/day) as natural. Based on load estimates for the period of record WY1961-1998, the average daily natural chloride load (including Area V) for Lake Texoma is actually 4,400 tons/day. Using this data, implementation of Areas VII and X with the continued operation of Areas V (operational since 1964) and VIII (operational since 1987) would result in a net reduction in chloride load of 15% at Lake Texoma relative to truly "natural" conditions.

The Reevaluation Report states the selected plan will result in a 10% decrease in chloride concentration at Lake Texoma, based on 50% exceedence concentration/duration data. This concentration reduction estimate did not include the impact of Area V. Natural concentration/duration data was calculated to reflect natural conditions which included Area V and is presented in Tables 4, 5, and 6. The "existing" data represents Areas V and VIII in operation. Using the new natural concentration/duration data, the selected plan (Areas V, VII, VIII, & X in operation) is expected to result in a 15% decrease in chloride concentrations at Lake Texoma relative to natural conditions. Please be aware that this 15% decrease in chloride concentrations includes the impact of Area V, which has been in operation since 1964, and Area VIII, which has been in operation since 1987. The selected plan is expected to result in a 10% decrease in chloride concentrations relative to existing conditions.

TABLE 4
CHLORIDE CONCENTRATION/DURATION DATA

LOCATION		**Natural/Existing Chloride Concentration/Duration Data**								
		Percent of Time Equaled or Exceeded								
		1%	5%	10%	20%	50%	80%	90%	95%	99%
TERRAL	Existing	2129	1833	1700	1500	1183	684	442	317	164
	Natural	2263	1948	1807	1594	1257	727	470	337	174
GAINESVILLE	Existing	1906	1650	1536	1354	990	552	257	256	142
	Natural	2014	1743	1623	1431	1046	583	377	270	150
DENISON	Existing	469	436	423	409	345	271	241	216	165
	Natural	492	457	444	429	362	284	253	227	173
	5,7,8,10	417	391	378	365	309	245	215	192	147
HOSSTON	Existing	342	291	253	205	96	40	24	16	11
	Natural	359	305	265	215	101	42	25	17	12

TABLE 5
SULFATE CONCENTRATION/DURATION DATA

LOCATION		**Natural/Existing Sulfate Concentration/Duration Data**								
		Percent of Time Equaled or Exceeded								
		1%	5%	10%	20%	50%	80%	90%	95%	99%
TERRAL	Existing	1024	907	850	785	632	391	268	191	107
	Natural	1038	919	862	796	641	396	272	194	108
GAINESVILLE	Existing	1186	917	810	685	495	284	181	133	76
	Natural	1201	929	820	694	501	288	183	135	77
DENISON	Existing	315	301	289	273	228	164	146	129	91
	Natural	318	304	292	276	230	166	147	130	92
HOSSTON	Existing	236	191	169	139	72	35	23	17	10
	Natural	238	192	171	140	73	35	23	17	10

TABLE 6
TDS CONCENTRATION/DURATION DATA

LOCATION		**Natural/Existing TDS Concentration/Duration Data**								
		Percent of Time Equaled or Exceeded								
		1%	5%	10%	20%	50%	80%	90%	95%	99%
TERRAL	Existing	5290	4576	4258	3845	3053	1824	1192	852	466
	Natural	5522	4777	4445	4014	3187	1904	1244	889	486
GAINESVILLE	Existing	4725	4070	3750	3374	2504	1440	936	684	378
	Natural	4915	4234	3901	3510	2605	1498	974	712	393
DENISON	Existing	1294	1234	1207	1166	995	791	722	634	474
	Natural	1335	1273	1245	1203	1026	816	745	654	489
HOSSTON	Existing	1054	908	841	680	398	198	153	115	81
	Natural	1088	937	867	702	411	204	158	118	84

Attachment 2

ANALYSIS OF LAKE TEXOMA TURBIDITY EXCLUDING CHLORIDE CONTROL AT AREA V (ESTELLINE SPRINGS) AS "NATURAL"

Using methods identical to those employed in Section 4 of the draft SFES, potential changes in turbidity settling are evaluated here for Lake Texoma. Included are analyses comparing potential turbidity-related changes with proposed project (Areas V, VII, VIII, and X operational) total dissolved solids concentrations to those occurring under truly natural conditions excluding any chloride control (completed or proposed) in the Red River Basin. Accordingly, this analysis provides a cumulative impact comparison incorporating both completed and proposed chloride control features in the Red River Basin. Original comparisons including completed chloride control features at Area V (as originally presented as "natural" in the draft SFES) are likewise graphically presented here for comparison purposes. Methods described in Section 4 of the draft SFES should be reviewed for methods used in this analysis. Total dissolved solids concentration duration tables used in these analyses are included as Attachment 1 and in the final SFES.

In addition to results of previous evaluations including total dissolved solids control at Area V (as shown in draft SFES), results of pre-(natural) and post-(modified) project turbidity evaluations for the 50% "equaled or exceeded" estimate for Lake Texoma (Reach 5, SFES Figure 3-1) are shown in Figures 1 (8 NTU) and 2 (16 NTU). Again, this represents a comparison between potential conditions with the entire proposed project (Areas V, VII, VIII, X) to those without any phase of chloride control in the Lake Texoma basin.

For the 8 NTU evaluation, the maximum pre-and post-project turbidity difference is 0.14 NTU after approximately 3 days of settling with an average difference of 0.09 NTU over a 10-day settling period (Figure 1). Schroeder and Toro (1996) defined "final" turbidity changes as differences in turbidities following 7 days of settling. For the 8 NTU evaluation (Figure 1), this difference in final turbidity is 0.07 NTU.

For the 16 NTU evaluation (Figure 2), the maximum turbidity difference is 0.25 NTU after approximately 3 days of settling with an average difference of 0.17 NTU over a 10-day settling period (Figure 2). Difference in "final" turbidity for this initial turbidity level is 0.14 NTU.

Results of pre- and post-project turbidity reduction evaluations for the 50% "equaled or exceeded" estimate for the extreme upper end of the Red River Arm of Lake Texoma and the Red River above the lake (Reach 6, SFES Figure 3-1) are shown in Figures 3 (8 NTU) and 4 (16 NTU).

For the 8 NTU evaluation, the maximum pre- and post-project turbidity difference is 0.05 NTU after approximately 2 to 3 days of settling with an average difference of 0.03 NTU over a 10-day settling period (Figure 3). Difference in "final" turbidity is 0.01 NTU. For

the 16 NTU evaluation (Figure 4), the maximum turbidity difference is 0.01 NTU after approximately 2 to 3 days of settling with an average difference of 0.01 NTU over a 10 day settling period. Difference in "final" turbidity for this initial turbidity level is 0.01 NTU.

In summary, potential changes in solids settling dynamics and turbidity in Lake Texoma and the Red River above the Lake were evaluated using site-specific settling data. This analysis presents findings of comparisons between potential turbidity differences with the proposed project (including Areas V, VII, VIII, and X) relative to conditions in the absence of any chloride control feature (current or proposed) in the Lake Texoma watershed. Accordingly, this analysis represents a cumulative impact analysis of the proposed project on Lake Texoma turbidities. As with earlier evaluations, resulting turbidity differences would be anticipated to be extremely small, if even quantifiable using turbidity-measuring instrumentation.

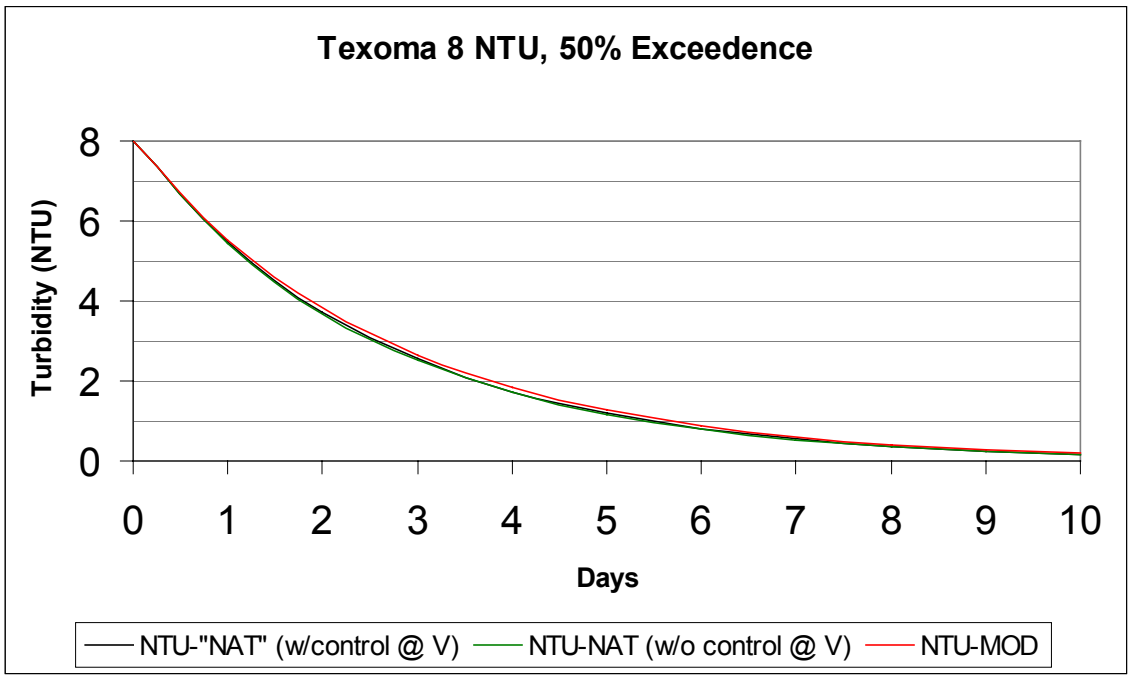


Figure 1. Without project (NAT), control at Area V ("NAT"), and with proposed project (MOD) turbidity from 8 NTU initial turbidity, Lake Texoma main pool.

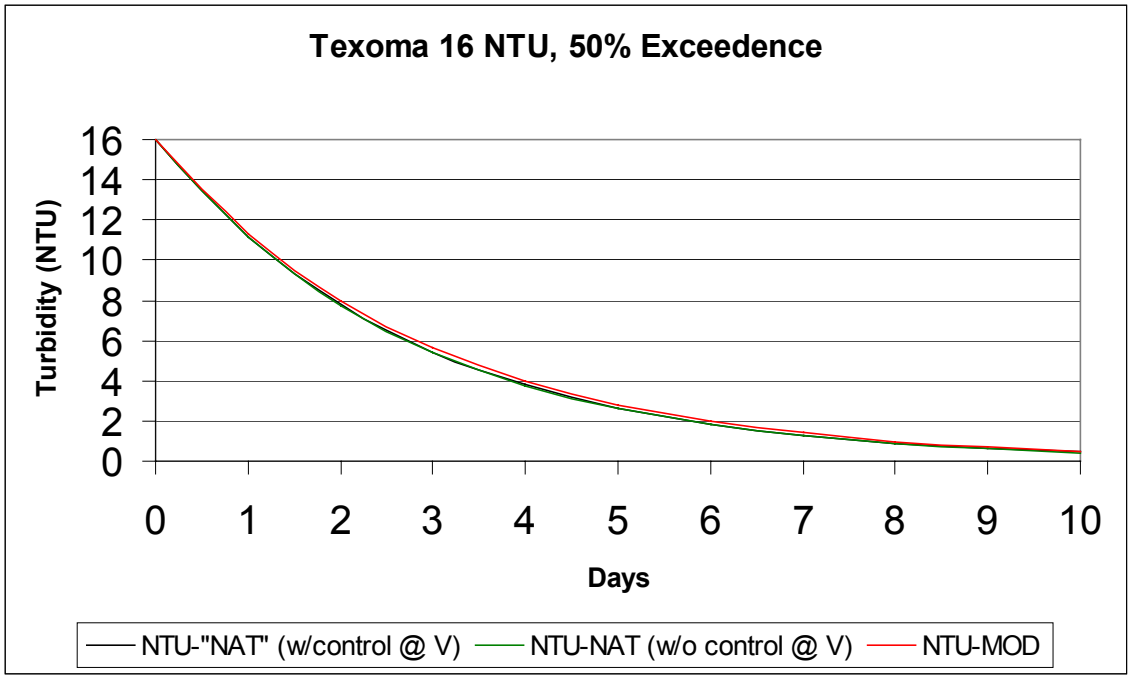


Figure 2. Without project (NAT), control at Area V ("NAT"), and with proposed project (MOD) turbidity from 16 NTU initial turbidity, Lake Texoma main pool.

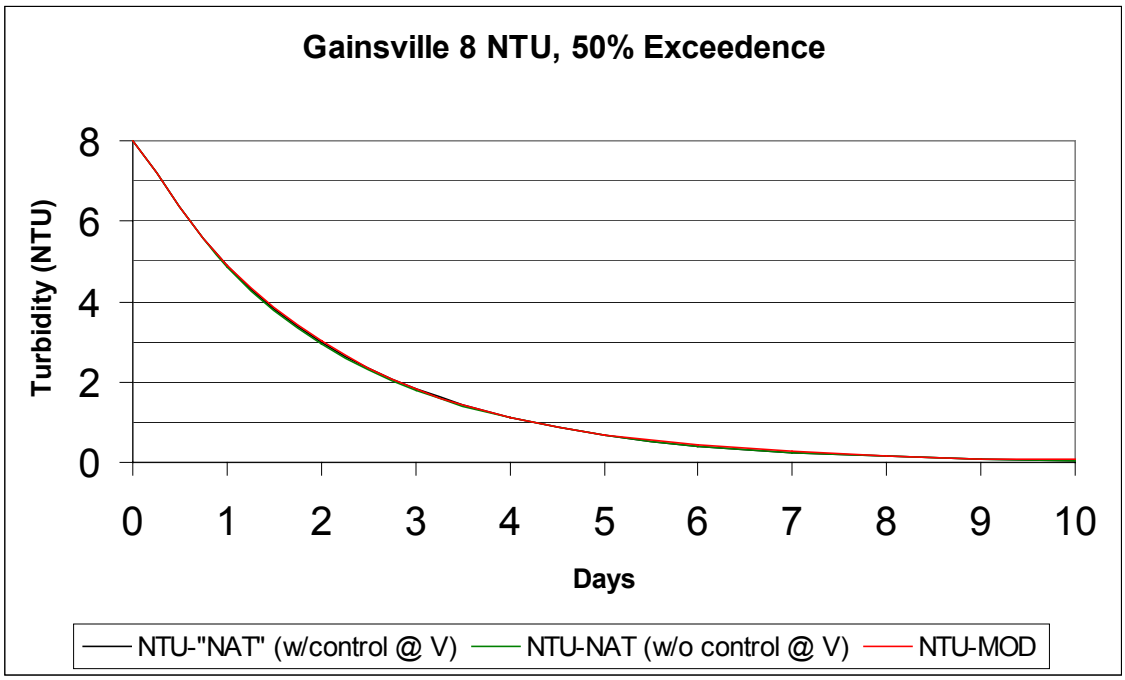


Figure 3. Without project (NAT), control at Area V ("NAT"), and with proposed project (MOD) turbidity from 8 NTU initial turbidity, Lake Texoma upper Red River Arm (Reach 6).

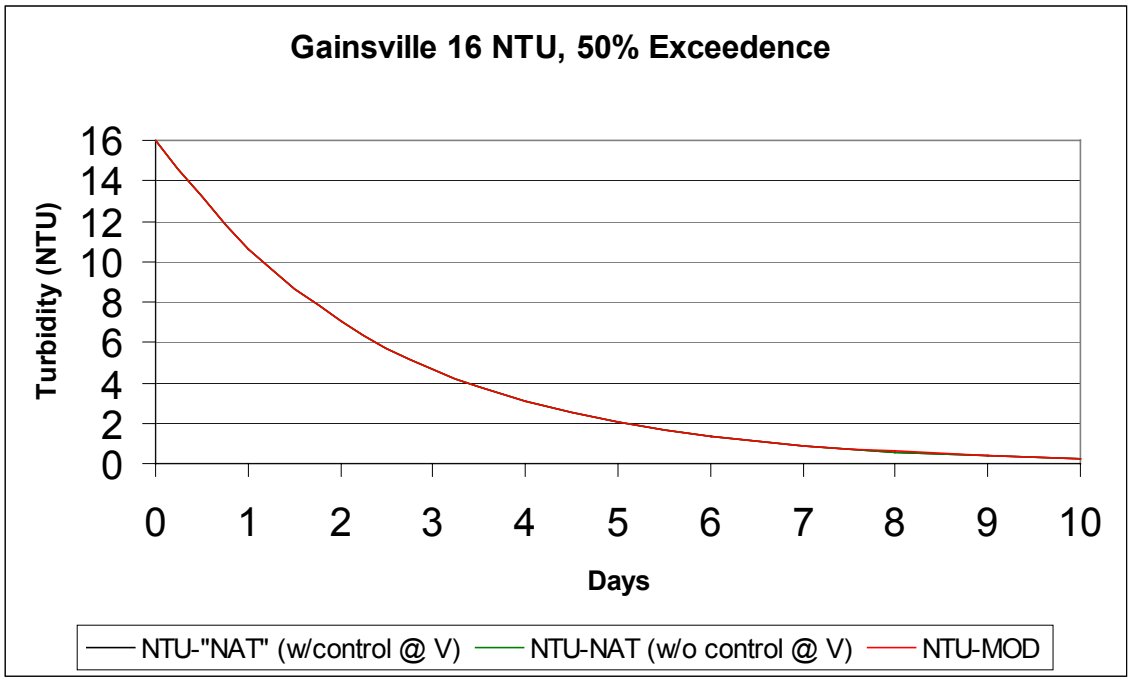


Figure 4. Without project (NAT), control at Area V ("NAT"), and with proposed project (MOD) turbidity from 16 NTU initial turbidity, Lake Texoma upper Red River Arm (Reach 6).

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Tulsa, Oklahoma 74127
October 28, 2002

In Reply Refer To:
222 S. Houston, Suite A

District Engineer
U.S. Army Corps of Engineers
ATTN: Environmental Analysis
and Support Branch
P. O. Box 61
Tulsa, Oklahoma 74121-0061

Dear Sir:

The U.S. Department of the Interior (Department), by letter dated August 23, 2002, and the U.S. Fish and Wildlife Service (Service), by letter dated September 17, 2002, provided comments on the U.S. Army Corps of Engineers' (COE) Draft Supplement to the Final Environmental Statement for the Authorized Red River Chloride Control Project, Wichita River only Portion (Draft Supplement). By this present letter, the Service wishes to submit additional comments related to the economic information contained in the Draft Supplement. The comments provided in this letter were formulated independently by the Service's Division of Economics and were not available when earlier comments were drafted. Please consider these comments in addition to those previously provided by the Department of the Interior, Service, and contained in the Service's Fish and Wildlife Coordination Act Report, dated May 2002.

Comments on Economic Analysis

Our comments focus on the COE preferred alternative; Plan 7a (also listed as Plan *5,* Economic Appendix p. *5-5* 1) and the existing without project or Base Condition alternative, Plan 2 (p. *5-5* 1 in the Economic Appendix). The COE economic analysis estimates project benefits and costs for each alternative in accordance with analytical guidance provided by the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (Principles and Guidelines), U.S. Water Resources Council. March 10, 1983. The preferred plan is the "...alternative plan with the greatest net economic benefit consistent with protecting the nation's environment..." (p. v).

For this project, two types of benefits are identified: (1) municipal and industrial water-related benefits; and (2) agricultural irrigation benefits. Costs are basically construction and operations and maintenance costs. To the extent they occur, environmental costs associated with each altemative, such as habitat loss or destruction, are not explicitly considered in the analysis.

Table 1 below summarizes the economic costs and benefits for the COB preferred alternative and the Service alternative with the highest Benefit/Cost (B/C) ratio. Irrigated agricultural benefits comprise 68 percent of total benefits for the COE preferred plan and 79 percent of the Service plan.

Table 1. Average Annual Net Benefits (millions)						
Alternative	Agricultural Benefits	Municipal and Industrial Benefits	Total Benefits	Total cost	Net Benefits	B / C Ratio
Plan 7a (preferred)	$4.511	$2.144	$6.655	$4.809	$2.367	1.38
Plan 4a1 (Service alternative)	$ 2.037	$ 0.534	$2.571	$2.074	$0.497	1.24

source: Tables 6-12 and 6-15.

Overall, the analysis for the municipal and industrial benefits and the construction and operation and maintenance (O and M) costs seems to be rather straightforward. The analyses appear reasonable, except that the COE's treatment of costs is rather limited, considering the analysis does not address the quantification of environmental costs (to the extent these costs exist in a given alternative). The Principles and Guidelines state that both beneficial effects (benefits) and adverse effects (costs) are to be included in the analysis. Further, Section VII, 1.7.2 (a) (3) states that *"adverse effects in the NED (National Economic Development) account are the opportunity costs of resources used in implementing a plan. These adverse effects include: Implementation outlays, associated costs, and other direct costs."* Further, Section VII, 1.7.2. (g) (3) defines other direct costs as, "*... the costs of resources directly required for a project or plan, but for which no implementation outlays are made. These costs are uncompensated, unmitigated NED losses.... Examples of other direct costs include increased downstream flood damages caused by channel modifications, ...".* The Principles and Guidelines have provisions to include environmental costs in the economic analysis framework (not necessarily quantified in economic terms). However, significant environmental costs are excluded in the present analysis.

Response: Do not concur. The economic evaluation included all appropriate costs and benefits. If quantifiable, unavoidable impacts to environmental resources that were reasonably expected, were assessed as a result of chloride control implementation. Mitigation measures were formulated, evaluated, and the most cost effective mitigation measure was included to offset those losses. The costs of mitigation features were included in the accounting of implementation costs. Any associated monitoring, maintenance, or other operating costs were also included.

Some environmental costs are excluded by considering them "sunk costs" and others are not included because the COE considers them insignificant. As stated in the Department's letter, excluding these costs as "sunk costs" falsely improves the B/C ratio. Additionally, neither the Service nor the Department consider the potential environmental impacts as insignificant.

Response: Do not concur. The environmental analysis in the SFES, Volume 2, Appendix B, considers in detail through a HEP analysis the environmental costs of the project alternatives and the proposed management plans. Actually, only three major Corps of Engineers alternatives are evaluated, with minor disposal variations. These alternatives are collection and disposal involving Area VII, Area X, or Area VII and X together, with disposal of brine at Truscott Brine reservoir. Appendix A of the same volume explicitly details the costs of the Environmental Operation Plan (EOP), costs that are included in the economic costs of the project for these alterntives. The EOP costs are included in economic analysis. The designation of the proposed Crowell brine lake site as the Crowell Mitigation Area, in part, mitigates terrestrial environmental losses. These costs have already been expended and are considered sunk costs in the economic evaluation, except for any additional costs that are required to enhance and maintain this area. Any other known

environmental mitigation costs that TD determines are environmental losses that require mitigation for the remaining construction of the Wichita basin project are included in the EOP. The purpose of the economic evaluation is to determine the economic feasibility of completing construction of salt collection and disposal facilities in the Wichita River basin. If environmental costs directly related to the completion of the Wichita Basin project have been identified, these costs, if capable of being quantified in terms of dollar outlays, are included in the economic evaluation. There is no attempt to falsely improve the B/C ratio, rather the economic evaluation presents alternative information and data to indicate the potential range in benefits under different scenarios.

While the cumulative potential impacts of all chloride control features are included in the environmental evaluation, only the costs and benefits of the remaining chloride control features are included in the Reevaluation. This is an appropriate method of evaluation for a mid-construction review of uncompleted features. The methodology to be used was stipulated in the January 1998, project management plan presented to the resource agencies at the start of the study and discussed throughout the 4-year study. The USACE regrets that the USFWS did not express their concern earlier, perhaps four years ago. However, the evaluation is valid. Because the evaluation methodology is explicitly stated to be an evaluation of remaining features and clearly states the base economic condition and discusses sunk costs, the USACE sees no support for the USFWS claims of impropriety. The Reevaluation economics are stated to be only an evaluation of remaining feature costs and benefits. By also considering the cumulative environmental impacts of all existing and proposed features, the USACE is appropriately complying with NEPA and the USACE environmental operating principles.

The USACE is unsure of of the USFWS comments "Some environmental costs are excluded by considering them "sunk costs" and others are not included because the COE considers them insignificant." All implementation and operation costs, including mitigation and monitoring were included. Environmental impacts were compared among alternatives. The USACE professional study team using all available data and models assessed the significance of potential impacts. The opinions of resource agencies were fully considered by the study team. The USFWS comment about "environmental costs are excluded by considering them 'sunk costs'" is unclear. If the USACE evaluation of potential environmental impacts did not indicate a significant impact (based on appropriate parameters for the resource) then, no mitigation was proposed. The USACE evaluation considered short term, long term, and cumulative impacts.

Agricultural benefits

The analysis of estimated irrigated agricultural benefits has some potential problems. These benefits are based on a model which makes a number of assumptions about a variety of conditions occurring 50 or more years into the future. Relatively small changes in these variables could result in costs that exceed the estimated benefits (assuming costs are not overestimated). For example, some of the main variables used in the benefits estimate include:

- water requirements by crop and percentage of water requirements fulfilled by precipitation. (p. 5-56*)*
- expected stream flow events (p.5-58)
- water availability (p. 5-62,63)
- yield reduction (because of high saline concentrations) curves by crop (p. 5-64)
- crop budgets (p. 5-65*)*
- crop prices (p. 5-66)

Apparently, for a number of these variables, point estimates were used as inputs into the model. For most of these variables, there is no indication what the variation around the mean might be, or the range of the 95 percent confidence interval (for example) for each input variable. Consequently, it appears that an adequate sensitivity analysis (adequate in the sense that the irrigated agriculture model was run with the high - low range of each variable) was not completed in estimating the agricultural benefits. This is especially important because, as previously mentioned, overestimating the benefits by a relatively small amount would result in the project having costs greater than benefits for the preferred alternative.

Consider the following example:

Average annual benefits above the Base Condition alternative, Plan 2 (Table 5-38)

COE preferred alternative: Plan 5 = $ 4.511 million

Assume for the 50 year period of the project, the irrigated agricultural benefits are actually 10 percent less than the COE estimate. Then:

(1) $307 million x .9 = $276.3 million
(2) $276.3 million - $236 million = $40.3 million (total present value of net benefits)
(3) Amortized over 100 years at 6.125 % to get average annual benefits: $2,474,858 / year
(4) Recalculating the B/C ratio:

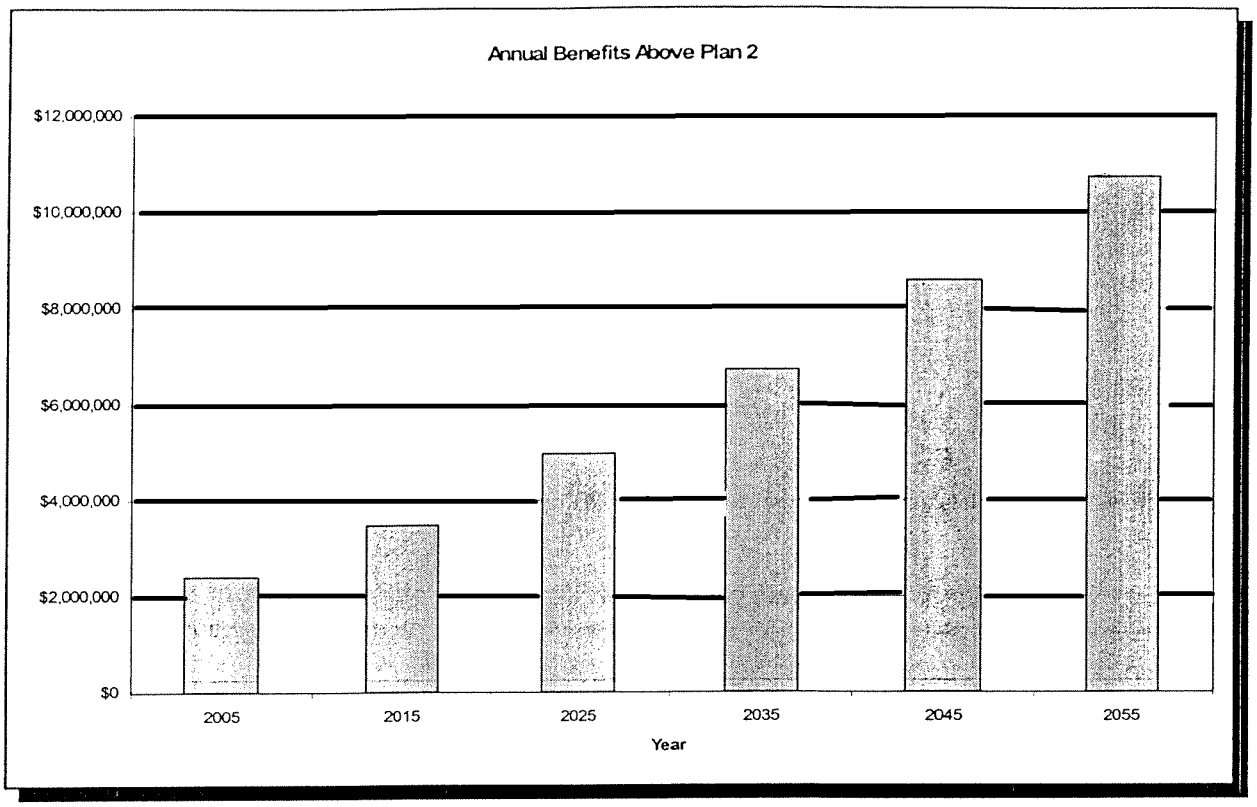
annual municipal benefits (same)	= $ 2,144,000
irrigated agricultural benefits	= $ 2,474,858
total annual benefits	= $4,618,858
Total annual cost	= $4,809,000
net benefits	= - $ 190,142
B/C ratio	= 0.96

Therefore, other things equal, a 10 percent error over a 50 year time span can result in an economically unviable project.

Response: Do not concur. A 10 percent range in benefits may indicate that the benefits are overstated by 10 percent or understated by 10 percent. While focusing on the benefits, the comment fails to note that implementation cost estimates include contingencies that increase every construction component cost by a minimum of 10% (and range as high as 60% for real estate acquisition estimates) to account for estimate uncertainties. However, the more important issue is not that an arbitrary percentage reduction of benefits indicates a marginally unfavorable benefit to cost ratio. The issue is whether the economic evaluation was conducted appropriately with reasonable variation of agricultural parameters. The USACE data, methodology, and results have been independently reviewed and found to be valid.

The agricultural optimization model developed by Texas A&M University characterizes the farming uncertainty that exists today and in the future. This optimization model is discussed in the Economics Appendix. Normalized prices, for example, are obtained from the U.S. Department of Agriculture and are prescribed for use in Corps of Engineers water resource evaluations. These normalized prices reflect the uncertainties of crop prices. The economic analysis in the REevaluation Report recognizes the uncertainty of the availability of water and the quality of water in the future as well as the other economic variables used in the evaluation. The model utilizes a risk-based approach to identify an optimum mix of crops and water uses to maximize agricultural profit. Variability for numerous parameters was inherent in the model.

The USFWS approach of simply applying a negative 10% "adjustment" to benefits is not appropriate for assessment of a complicated risk-based analysis. However, it should be noted that even by reducing the average annual risk based benefit estimate by 10% that the economic evaluation is only marginally unfavorable – indicating a return of 96 cents for each dollar expended.



Examining the distribution of benefits over time, most of the benefits occur 25 to 50 years in the future (see graph below). Given (1) the uncertainty over future events and their impact on the demand and supply of irrigation water for agriculture; and (2) the previous example showing how small percentage changes in total benefits may result in negative net benefits, the validity of the estimates for the preferred alternative is rather tenuous.

Response: Do not concur. The accuracy of any estimate is a concern whenever future projections are made. Changes in total benefits may be greater than or less than what is estimated. The economic optimization model and the methodology used to derive these estimates is based on historical information and reasonable expectations of future conditions with improved water quality. The approach and assumptions used in the model were intended to result in mildly conservative (low) estimates of benefits. As noted in the report, the geographic extent of predicted agricultural benefits was significantly reduced. The reduction of area for which agricultural improvements were investigated does not imply those areas could not benefit. The change in methodology reflects a conservative approach to the economic evaluation. Similarly, the variability applied to water supply from Lake Kemp indicates investigation of a potential for supply to limit or control the economic viability of chloride control alternatives. These and many more factors were diligently investigated.

A related concern is that the COE benefit estimates are dependent on rather large and likely unrealistic increases in water use and irrigated acres. Tables 2 and 3 compare the number of irrigated acres and water use by plan.

Response: Do not concur. The Wichita County Water Improvement District No. 2, the City of Wichita Falls, the Red River Authority of Texas, the Texas A&M staff involved, and the Corps study team agree that a significant improvement in water quality would present a reasonable expectation of significant increases agricultural use; municipal use through desalinization and, or blending; and would provide increased industrial opportunities to use raw, blended, or desalinized water from Lake Kemp storage. The improved quality of the resource in Lake Kemp would be a particularly valuable emergency (drought) resource – although no benefits were claimed for use of Lake Kemp as a drought contingency water resource. The purpose of the agricultural model was to evaluate millions of potential agricultural variable combinations (crop type, farm budgets, irrigation conversion costs, crop yield based on water quality, soil type, water availability, etc). The optimum results indicate the combinations of variables that would result in the greatest reasonable economic return to farmers. The actual shifts in farming practices necessary to achieve the predicted economic returns are not radical in nature, uncommon in the region, nor more frequently changing than current (but aggressive) farming practices. The model evaluates the most effective practices on a five-year cycle of fluctuating variables, tracked over a 100-year economic evaluation period.

The existing water supply resource at Lake Kemp can supply more water than was projected for use in the economic model. There are more acres in agricultural production than were assumed available for conversion to irrigated farming. The economic model projected reasonable cost and benefit decisions and evaluated crop yield successes and failures based on varying chloride concentrations. The model results indicate that if farmers are inclined to make farming practice decisions based on profit that chloride control can increase agricultural profits.

The COE estimates that the preferred alternative would results in a 177 percent increase in irrigated acres compared with base conditions in 2005 and a 593 percent increase in 2055 (Table 2).

Table 2. Acres Irrigated by Plan				
Year	Plan 5	Plan 2	Net Increase	% increase
2005	40,491	14,615	25,876	177 %
2055	38,021	5,482	32,539	593 %

source: Table 5-29

Not as dramatic, but still significant are the predicted increases in water use with the preferred alternative (Table 3). Water use increases by 65 percent in the preferred alternative compared with base conditions in 2005. Water use increases by 87 percent in the preferred alternative compared with base conditions in 2055.

Table 3. Water Use (acre-feet)				
Year	Plan 5	Plan 2	Net Increase	% increase
2005	189,754	l15,093	74,661	65%
2055	190,958	l02,098	88,860	87 %

source: Table 5-35

Response: Do not concur. Table 5-35, page 5-74 of the Economics Appendix actually shows that water use will decrease under the existing Plan 2 condition if only Area VIII is completed, as shown above. The comparison should show that under the without project condition water use in year 2005 is about 115,093 acre feet and under Plan 5, with Areas VII and X completed water use would expected to be

189,754 under optimal conditions in year 2055, a 66 percent increase. The significant increase is in the Wichita County Irrigation District or reach 7.

Historic trends for the study area have exhibited a large decrease in irrigated acres for 3 of 16 counties in study area, declining from 85,000 acres in the late 1970's to 57,000 acres in 1997, a decrease of 33 percent. The report states," *This change is apparently not connected very closely to water quality because the water quality in the WCWID canal system has, if anything, slightly improved during the recent 20 years. Other factors, such as urbanization and declining farm incomes, have probably been much more significant considerations when farmers have decided how much land to irrigate.* ***There is no reason to suppose that these other factors will change direction in the near future"*** [emphasis added] (p. 5-22). In essence, a 33 percent decline in irrigated acres during the last 20 years apparently did not have much to do with water quality; other factors played a much larger role in determining the number of acres to irrigate. Yet the COE is predicting an almost 600 percent increase in irrigated acres over a 50 year period due to changes in water quality, with most of the benefits coming in the out-years of the project time span.

Response: Do not concur. It is important to recognize and acknowledge that there are discrepancies of data based on irrigated acreages for the last 30 years. The report acknowledges this and that is why it is displayed in Table 5-13, page 5-22. As it is explained different sources have different methods of accumulating irrigated acreage data. The decline in irrigated acreages in certain counties (and increases in others) illustrate the multitude of variables, some economic and some policy, that interplay in irrigated agriculture. Factors other than water quality have an important bearing on a farmer's decision to irrigate, factors that will no doubt be important in the future. What is important in this evaluation is what land uses are ,what land is irrigated under existing conditions in the evaluation reaches, and what land could potentially be irrigated with improved water quality in the future based on optimizing net economic returns. It must be kept in mind that all future values are discounted to present worth for use in the evaluation.

With optimal net economic returns as the objective, irrigated acres increase from about 14,615 acres under existing conditions to about 38,021 in year 2055 under optimal conditions with all salt source areas completed. (Table 5-29, page 5-68) The Corps of Engineers is not predicting a 600 percent increase in irrigated acres over 50 years.

Benefit estimates that are dependent on such large, future (and uncertain) increases must be evaluated and justified in more detail than is currently available in the COE analysis. If additional information is available for justifying the agricultural benefits, the Service would appreciate the opportunity to review this information. In addition, as stated in the Department's comments, we strongly recommend an independent economic review of the entire Wichita River Basin Chloride Control Project.

If you have any questions about these comments, please contact Dr. James Caudill of the Service's Arlington, VA office at (703) 358-1927. or Mr. Kevin Stubbs of the Oklahoma Field Office at (918) 581-745 8, extension 236.

Sincerely,

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