

CHAPTER 6.0
ENVIRONMENTAL COMPLIANCE

CHAPTER 6 - ENVIRONMENTAL COMPLIANCE

6.1 Endangered Species Act

Twenty-five federally protected species occur or may migrate through the lower Colorado River basin. The ESA of 1973 (16 U.S.C. §1532 *et. seq.*), as amended, was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All Federal agencies are required to implement protection programs for designated species and to use their authorities to further the purposes of the ESA. The Secretary of the Interior and the Secretary of Commerce have the responsibility for the identification of a threatened or endangered species, development of any potential recovery plans, and designation of critical habitat.

The USFWS and the NMFS are the primary agencies responsible for implementing the ESA. The ESA applies to both plant and animal species. The implementing agencies' responsibilities under the ESA include: (1) the identification of threatened and endangered species, (2) the identification of critical habitats for listed species, (3) implementation of research on, and recovery efforts for, these species, and (4) consultation with other Federal agencies concerning measures to avoid harm to listed species (known as Section 7 consultation).

The ESA also calls for the conservation of what is termed Critical Habitat - the areas of land, water, and air space that are essential to the survival of a threatened or endangered species. Critical Habitat includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of essential habitat by uncontrolled land and water development.

USACE will coordinate with the USFWS and/or the NMFS during the development of each project-specific NEPA document and will enter into Section 7 consultation with the USFWS and/or the NMFS if USACE determines that there is the potential for any project-specific measure to have an adverse impact on a protected species.

6.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA)(16 U.S.U.S.C. §703, *et.seq.*) requires that a construction permit be obtained if the construction activity is scheduled during nesting seasons (March through August). Surveys shall be performed to identify active nests, so that these nests could be

avoided during construction. A mitigation measure that will be considered is scheduling all construction activities outside the nesting season (September through February) to avoid impacts to migratory birds.

6.3 Executive Order 11988

EO 11988 was considered in the preparation of this PEIS. The objective of the EO is to avoid, to the extent possible, long and short-term adverse impacts associated with occupancy and modification of the base floodplain. Further objectives are the avoidance of direct and indirect support of development in the base floodplain wherever there is a practicable alternative and the protection and restoration of natural floodplain functions. Feasible alternatives may remain that require further evaluation prior to final determination of whether activities proposed within the 100-year floodplain of the Colorado River are compliant with the Executive Order. USACE regulations for the implementation of EO 11988 (ER 1165-2-26) define the base floodplain as the one percent chance, or 100-year floodplain. For the most part, lakes and wetland features and flood damage reduction measures require siting within the floodplain to provide their intended function. Parkways, recreational features and associated support do not need to be located within the floodplain to fulfill their basic purposes. Additional analysis will be required of the USACE and other Federal decision agencies prior to final determination of compliance of various project alternatives with this EO. Review of policy issues associated with the various project proposals being investigated is continuing by USACE higher authority to assure compliance with EO 11988 directives.

6.4 Section 202 (c) of the Water Resources Development Act of 1996

This guidance requires the preparation of a comprehensive Flood Plain Management Plan (FPMP) by the local sponsors for any projects that are cost shared with the USACE. This requirement will have future floodplain impacts within the study area. The project sponsors are required to develop a FPMP within one year after the signing of the Project Cooperation Agreement, and then implement the plan within one year after completion of construction of the project. Thus, cost-sharing sponsors will be required to complete a FPMP for projects prior to the development of any additional USACE projects within their area of jurisdiction.

6.5 Section 176 (c) Clean Air Act

Federal agencies are required by this Act to review all air emissions resulting from Federal funded projects or permits to insure conformity with the State Implementation Plans in non-attainment areas. Within the project area there are currently no non-attainment areas.

6.6 Section 404 Clean Water Act

USACE has been directed by Congress, under Section 404 of the Clean Water Act (33 USC 1344), to regulate the discharge of dredged and fill material into all waters of the United States, including adjacent wetlands. The intent of Section 404 is to protect the nation's waters from indiscriminate discharge of material capable of causing pollution, and to restore and maintain the chemical, physical and biological integrity of these areas. Although USACE does not issue itself permits for proposed activities that would affect waters of the United States, USACE must meet the legal requirements of the Act.

Each of the other potential projects in this PEIS would be evaluated on its own merits as alternatives are selected and plans are firm. At this point it is presumed that many of the project alternatives would impact jurisdictional areas, including wetlands, and would result in a requirement for USACE to conduct and incorporate Section 404(b)(1) analyses into subsequent NEPA and agency decision documents.

6.7 Sections 9 and 10 Rivers and Harbors Act

Section 9 (33 USC 401) and Section 10 (33 USC 403) of the Rivers and Harbors Act of 1899 direct USACE to regulate all work or structures in or affecting the course, condition, or capacity of navigable water of the United States.

The main stem Colorado River is navigable from the Gulf of Mexico upstream to Longhorn Dam in Austin and commercial navigation does occur on the lower reaches of the Colorado.

Project features implemented in the coastal reach of the lower Colorado River, evaluated in this PEIS could affect navigation. Further evaluation of all main stem alternatives would be required to determine compliance with Section 10.

6.8 Executive Order 11990 – Protection of Wetlands

In addition to Section 404 and EO 11988, EO 11990 for Protection of Wetlands was considered during the evaluation of the proposed program. The purpose of this EO is to assure that Federal

agencies in the process of carrying out their missions, take all reasonable action to preserve and protect the functional values of wetlands. Further project-specific evaluation will be necessary, as the alternatives evaluated in this PEIS would clearly impact jurisdictional areas including wetlands. Wetland impacts would be appropriately mitigated with coordination from state and Federal agencies.

6.9 Executive Order 13112 – Invasive Species

To comply with EO 13112 on Invasive Species (64 FR 6183, February 8, 1999), operation and construction activities will minimize ground disturbance when possible. However, when disturbance is unavoidable, USACE will coordinate with the USFWS and other land managers to determine revegetation measures. Revegetation of disturbed areas to minimize the spread of invasive species will be addressed under project-specific NEPA documents.

6.10 Section 106 of the National Historic Preservation Act

Assessment, avoidance, and potentially, mitigation, of resources identified during future studies that would be impacted by any aspect of the federal projects would be required. For purposes of Section 106 of the NHPA, a programmatic agreement to address types of studies needed and actions necessary to mitigate cultural resource losses is being pursued with the Texas SHPO and Advisory Council on Historic Preservation. Other groups are being consulted with regarding potential properties of traditional significance.

6.11 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires USACE to coordinate with the USFWS on water resources related projects to obtain their views toward preservation of fish and wildlife resource values and mitigation of unavoidable impacts. The USFWS has provided information that was utilized during the planning of the PEIS and has assisted in the early planning process for other projects proposed by USACE. Subsequent detailed studies, including development of appropriate fish and wildlife resources mitigation, would be conducted with the USFWS prior to recommendation of any specific project alternative for construction authorization.

6.12 USACE Habitat Mitigation Process

USACE has established a goal of no net loss of resource value for bottomland hardwoods as a part of the planning process. This goal is similar to the mitigation objectives established by the USFWS as part of its mitigation policy. USACE will continue within its planning process to minimize impacts to bottomland hardwoods and to fully mitigate unavoidable losses. USACE will continue to pursue ecosystem restoration activities under the Continuing Authorities Program. Coordination will continue with resource agencies to determine the most efficient use of program resources to maximize forested resource benefits. In particular, efforts will be pursued to minimize fragmentation of forests and to restore linear corridors of sufficient width to be utilized by migratory songbirds and local wildlife.

Recent trends indicate that emergent wetland resources are being conserved or compensatory mitigation has been appropriately required within the study area. Similar to USACE's mitigation policy for bottomland hardwoods, forested wetlands, and riparian corridors, USACE policy specifies no net loss of wetlands. Resource values of emergent wetlands will be considered during the USACE planning process. Wetland restoration in addition to mitigation of unavoidable losses will continue to be supported as project features for USACE projects.

6.13 Coastal Zone Management Act of 1972 – Texas Coastal Management Plan

The Coastal Zone Management Act of 1972 authorizes the federal Coastal Zone Management Program with the daily management activities delegated to the State of Texas through their federally approved Texas Coastal Management Plan (TCMP). Projects that fall within the boundaries of the TCMP will be reviewed for consistency with the goals and policies of the TCMP. The project-specific review of consistency will be submitted to the Texas Coastal Coordination Council for their concurrence.

6.14 Advisory Circular – Hazardous Wildlife Attractants on or Near Airports

The advisory circular provides guidance on locating certain land uses having the potential to attract hazardous wildlife to or in the vicinity of public-use airports. It also provides guidance concerning the placement of new airport development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attracts. The circular provides guidance on wetlands in and around airports and establishes notification procedures if reasonably foreseeable projects either attract or may attract wildlife.

In response to the Advisory Circular, the United States Army as well as other Federal agencies, signed a Memorandum of Agreement (MOA) with the Federal Aviation Administration (FAA) to address aircraft-wildlife strikes. The MOA establishes procedures necessary to coordinate their missions to more effectively address existing and future environmental conditions contributing to aircraft-wildlife strikes throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety, while protecting the Nation's valuable environmental resources.

This PEIS involves alternatives that will have to be coordinated with the FAA. Currently the Onion Creek Interim Feasibility Study would need to be coordinated with the FAA because of its proximity to Bergstrom International Airport in the COA. The coordination would take place in the project-specific environmental document as project specific alternatives have not been fully identified. All future tiered documents would undergo coordination with the FAA as per the guidance in the circular if they are located in or around airports or approach or departure airspace.

6.15 Magnuson-Stevens Act

The USACE will consult with the NMFS as required by the Magnuson-Stevens Act prior to any final federal action on proposed projects pursued under the Lower Colorado River Basin Study. All adverse impacts to EFH and associated living marine resources will be avoided and minimized to the greatest practicable extent. All unavoidable impacts will be mitigated in consultation with NMFS.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), created procedures to identify, conserve, and enhance EFH for those species regulated under a FMP. Section 305(b)(2) of the Magnuson-Stevens Act requires Federal action agencies to consult with the National Marine Fisheries Service (NMFS or NOAA Fisheries) on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH. The main purpose for consultation with NMFS is to ensure that Federal actions are consistent with resource management goals and to maintain sustainable fisheries.

CHAPTER 7.0
CONCLUSIONS AND RECOMMENDATIONS

CHAPTER 7 - CONCLUSIONS AND RECOMMENDATIONS

This PEIS was prepared to address the cumulative effects of potential USACE projects being formulated under the LCRBS in relation to reasonably foreseeable projects of other entities within the study area. Because this document has been prepared primarily to address the impact of the USACE program, it focuses on water and related land resources and potential projects of others that would affect those resources. The primary study area for this document is the lower Colorado River basin.

Existing environmental and socioeconomic resources of the study area are described in the PEIS. Likewise, past actions of USACE and other entities within the study area are identified. Past actions have included the construction of 18 reservoirs in the study area, 12 USACE projects, operations of the Highland Lakes as well as irrigation districts within the basin by LCRA, numerous projects by TxDOT and numerous flood control and transportation projects by the COA. Regulatory documents indicate that in excess of 1,200 regulatory actions have occurred in the study area just during the period from 1999 to 2004. Additionally, numerous undocumented projects have been implemented within the study area in the last 20 to 30 years. Collectively, these projects have had a direct impact on altering the region's natural and cultural resources and have contributed to secondary impacts on these resources as population growth and land use has intensified within the study area.

This document describes all USACE recommended future flood damage reduction and ecosystem restoration measures within the lower Colorado River basin including the interim feasibility studies described in the LCRBS and two Section 206 projects. The interim feasibility studies are the Highland Lakes, Shoal Creek, Walnut Creek, Onion Creek, and Wharton Interim Feasibility Studies. Section 206 studies are the Mad Island and Austin Area Lakes Section 206. In addition any of the structural, non-structural, and ecosystem restoration measures may be combined in different scales to serve as a future project or multiple projects. Currently, five projects have local sponsor support. These are the Highland Lakes, Shoal Creek, Walnut Creek, Onion Creek, and Wharton Interim Feasibility Studies. General USACE flood damage reduction projects could include combinations of structural and non-structural measures as well as ecosystem restoration or recreational features. Structural measures may include one or a combination of levees, floodwalls, relief channels, diversion channels, tunnels, dry detention basins, multipurpose reservoirs, detention basins and channel improvements. Non-structural measures could consist of evacuation of the 25-year

floodplain (buyouts), flood warning systems, changes in gate operations at existing reservoirs, floodproofing, and/or zoning.

Impacts of each proposed action and the cumulative impacts of the proposed action in combination with other projects proposed by USACE, and projects of others, are analyzed to the extent that details of the various alternatives are available. Pertinent resources for which each project is evaluated include land use, socioeconomics, hydraulics and hydrology, floodplains, vegetational areas and soils, wildlife resources, aquatic resources, wetlands, marine resources including EFH, air quality, water and sediment quality, threatened and endangered species, cultural resources, recreation, and open space, HTRW, and environmental justice. Impacts vary by measure and affected resource. In addition to addressing the relative impacts of various structural and non-structural flood damage reduction measures and ecosystem restoration alternatives, the PEIS attempts to also address the cumulative effects that implementation of the program in any combination with reasonably foreseeable projects by others, might have on resources of the overall study area. At the level of detail available for these evaluations, some of the impacts of structural flood damage reduction measures were found to potentially cause significant impacts to study area resources. However, future projects will require additional NEPA evaluation and those project-specific documents will be tiered from this PEIS. Each individual project evaluation will address both the project-specific impacts and the cumulative impacts, using the cumulative impact analysis guidance provided in this PEIS.

CHAPTER 8.0
PUBLIC INVOLVEMENT / AGENCY COORDINATION

CHAPTER 8 - PUBLIC INVOLVEMENT / AGENCY COORDINATION

On July 31, 2001, the USACE issued a NOI to prepare a DPEIS for potential multi-objective projects in the lower Colorado River basin and associated tributaries for flood damage reduction, ecosystem restoration, and recreation currently in and around Austin, Texas (66 FR 39499) (see Appendix 1). The NOI identified five specific areas along the Colorado River and its tributaries where multi-objective flood reduction and ecosystem restoration solutions appear feasible. Three of these, Onion, Shoal, and Walnut creeks, are located within an urban growth corridor for the COA; one is upstream from Austin on the Highland Lakes; and the other is located downstream at the City of Wharton, Texas.

8.1 Public Scoping Meetings

Scoping is the process utilized under NEPA to identify concerns of individuals, organizations, and agencies regarding a proposed project. It is an integral part of the NEPA process because it allows interested parties to participate in developing a list of issues or alternatives to be discussed in the NEPA document.

A notice of public scoping meetings was mailed to over 800 individuals and city and county officials within the study area (see Appendix 1). Three public scoping meetings were conducted in September 2003. The first scoping meeting was held at the LCRA Western District Complex at Buchanan Dam, Texas on September 16, 2003. The second scoping meeting was conducted at the LCRA McKinney Roughs facility located near the City of Bastrop, Texas, on September 17, 2003. The last scoping meeting was held at the Bay City Civic Center in Bay City, Texas, on September 18, 2003. The meetings were held in an open house format, allowing the public to view project information and displays and ask questions of USACE and LCRA personnel and other project representatives in an informal atmosphere. A court reporter was present at each meeting to record oral comments from the public. A personal computer was made available to the public at each meeting to type comments, and paper copies of the comment form were made available to the public.

8.2 Public Comments

Three written comments were received during the public comment period:

- One commenter was concerned about old cars that had been used as rip rap along the river north of Dinosaur Park on the north side of the City of Wharton
- One commenter noted that two abandoned homes are collapsing into the river in the River Run Subdivision at Bay City, and that erosion needs to be arrested in this area
- One commenter in the Austin area expressed concern that Onion Creek should continue to serve as wildlife habitat and that structural means of flood reduction should be secondary to buy outs, but also suggested that people might prefer to have funds made available to flood-proof their homes as opposed to a full buyout.
- Oral comments were also recorded at the public scoping meetings.

The following summarizes the oral comments received at the scoping meetings:

- Impacts of flooding on the Llano River and its effects on Lake LBJ
- Ecosystem restoration opportunities in and near Bastrop near Fisherman's Park
- Flooding in Austin and the potential for economic damages
- Mitigation opportunities for lands adjacent to the river including abandoned sand and gravel operations
- Flooding on Lake Austin and its impact to homes along the lake
- Siltation in Lake Austin and Lake Buchanan
- Increased impervious cover in the Highland Lakes chain
- Construction of reservoirs upstream of Lake Buchanan and possibly on the Llano River
- Changes in reservoir operations and real-time meteorological stations placed throughout the watershed
- Development controls for impervious cover in the watershed
- Ecological restoration as an erosion control
- Use of oxbows for non-structural flood control measures
- Potential for partnership with Texas Corporate Wetlands Restoration Program
- Invasive management issues concerning herbicides and biological controls
- Preventive measures to create fisheries habitat that would benefit local economies
- Loss of natural filtration and flood reduction by wetlands around reservoirs

- Keep various stakeholders informed on project issues
- Meeting notice was not published in the Bastrop or Smithville newspapers
- Future meetings should be held in Bastrop rather than at McKinney Roughs

8.3 Agency Scoping and Coordination

On July 15, 2002, an agency coordination meeting was held with LCRA at their offices. Agencies and entities in attendance included representatives from USACE Fort Worth and Galveston districts, USFWS Austin and Clear Lake offices, TPWD, and LCRA. The purpose of the meeting was to present an overview of the Lower Colorado River Basinwide Feasibility Study to the resource agencies and advise them of the five proposed feasibility studies to be conducted under the basinwide study. USACE also requested that the resource agencies provide information concerning data sources for determining the baseline conditions.

An agency scoping meeting was conducted at the LCRA Hancock Building on July 10, 2003. In attendance were representatives from USACE Fort Worth and Galveston districts, USFWS Austin and Clear Lake offices, NMFS, Texas General Land Office (GLO), TPWD, TWDB, LCRA, and SWCA® Environmental Consultants (SWCA). The purpose of the meeting was to introduce the PEIS to the resource agencies, inform them of the schedule and implementation plan, and request identification of agency concerns and potential areas of interest. Comments/concerns/suggestions and questions received during the meeting included the following topics:

- Suggestions and contacts for ecosystem restoration opportunities
- Questions concerning structural and non-structural methods proposed for flood damage reduction
- Concerns for river flows and channel morphology
- Landownership issues
- Contacts for identifying projects by others

Detailed minutes for this meeting can be found on the Internet at www.fdep.org/peismet.shtml.

On February 4, 2004, an agency coordination meeting was held at the LCRA McKinney Roughs facility. Objectives of the meeting were to discuss reasonably foreseeable projects by others in the lower Colorado River basin, discuss methodology for assessing cumulative impacts, and present the data management system to the resource agencies. Agencies and entities represented included USACE Fort Worth and Galveston districts, USFWS Austin and Clear Lake of-

fices, TPWD, TWDB, LCRA, SWCA, and Gulf South Research Corporation (GSRC). Meeting minutes can be found on the Internet at www.fdep.org/peismet.shtml.

8.4 Draft PEIS Comments

The draft PEIS was issued on March 17, 2005. Copies of the document were placed in the main libraries in Marble Falls, Austin, Bastrop, Wharton, and Bay City, Texas. The mailing list for distribution of the draft PEIS contained 854 Federal agencies, state agencies, county and local agencies, organizations and individuals. Public meetings to receive comments on the draft PEIS were held at locations throughout the study area. Meetings were held on April 12, 13, and 14, 2005 at Bastrop, Buchanan Dam and Bay City, Texas respectively.

A total of seven (7) comment letters were received in response to the draft PEIS. Comment letters were received from the Coastal Coordination Council, TCEQ (2 letters), USFWS (with two attachments; Values of Diverse Marsh Types Along the Mid-Texas Coast and an untitled Fish and Wildlife Coordination report on the USACE Mouth of the Colorado River-Diversion Feature Project), EPA, LCRA, and NMFS. Specific comments within each letter were identified and numbered. Responses to those comments were then prepared. Individual comments in each letter have been identified by a black bar in the margin and a comment number. Comment numbers correspond to numbered USACE responses. Copies of these letters and the responses are contained in Appendix 1. A total of seven (7) individuals spoke at the Public Meetings. Their specific comments were also identified and numbered and responses prepared. Copies of the transcripts from the Public Meetings are contained in this section.

CHAPTER 9.0
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The people named below contributed to the review and preparation of the Flood Reduction and Ecosystem Restoration Colorado River, Texas PEIS.

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Geology and Soils
HTRW
Water and Sediment Quality

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