

RECLAMATION

Managing Water in the West

Finding of No Significant Impact and Final Environmental Assessment

**Laguna Division Conservation Area
Yuma County, AZ and Imperial County, CA**



**U.S. Department of the Interior
Bureau of Reclamation
Lower Colorado Region
Boulder City, Nevada**

February 2011

**FINDING OF NO SIGNIFICANT IMPACT
(FONSI)**

LC-10-030

**Laguna Division Conservation Area
Yuma County, Arizona
Imperial County, California**

Based on a thorough review of the analysis of the environmental impacts presented in the Final Environmental Assessment (EA) Reclamation concludes that implementation of the Proposed Action Alternative will not significantly affect the quality of the human or physical environment within or adjacent to the project area, therefore an Environmental Impact Statement will not be prepared.

This Finding of No Significant Impact has, therefore, been prepared and is submitted to document environmental review and evaluation of Environmentally Preferred Alternative in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Prepared:  Date: 2-8-11
Environmental Protection Specialist

Recommended:  Date: 2-8-11
Acting Manager, Environmental Compliance Group

Approved:  Date: 2-8-11
Chief, Multi-Species Conservation Program



BACKGROUND

The Bureau of Reclamation (Reclamation), under the Lower Colorado River (LCR) Multi-Species Conservation Program (MSCP) prepared an Environmental Assessment (EA) for a large scale riparian and marsh restoration and enhancement project at the Laguna Division Conservation Area (LDCA).

The objectives of the LCR MSCP are to conserve habitat and work towards the recovery of listed and included species within the 100-year floodplain of the LCR pursuant to the ESA; attempt to reduce the likelihood of additional species listings under the ESA; and to accommodate current water diversions and power production and optimize opportunities for future water and power development, to the extent consistent with law.

The purpose of the proposed action is to restore, enhance and protect native riparian, wetland, and aquatic habitats within the LDCA for the benefit of LCR MSCP covered species and other plants and wildlife. Currently LDCA is covered in an extensive and dense monoculture of saltcedar (*Tamarix spp*), providing little beneficial habitat. The LDCA is a relatively wide, undeveloped area with a series of low linear depressions, which are remnants of former river meanders.

The proposed project site would be located along the Laguna Reach (Reach 6) of the lower Colorado River floodplain, 13 miles North of Yuma, Arizona (between river miles (RM) 43 and 49) and includes acreage in two states, Arizona in Yuma County, and California in Imperial County. The proposed project includes 1,800 acres, in which approximately 1,200 acres will be restored and enhanced. The site is within the Laguna Division, North of Laguna Dam (RM 43) and South of Imperial Dam (RM 49), bounded by the Laguna Settling Basin and the Historic River Channel to the East.

ALTERNATIVES CONSIDERED

A No Action Alternative and a Proposed Action were considered in detail. Under the No Action Alternative, the restoration and enhancement of the LDCA would not occur. Reclamation considered but did not evaluate in detail an alternative that utilized only mechanical and other hydraulic equipment to clear non-native vegetation from the site. This alternative was incorporated into the Proposed Action in the final EA to allow for flexibility in possible clearing methods. No other alternatives were considered.

THE RECOMMENDED ALTERNATIVE

Under the Proposed Action Alternative, Reclamation would restore, enhance, and create large scale riparian and marsh habitat within a 1,800 acre project area through the creation of natural channels; restoration of water flows in degraded wetlands and aquatic habitats with up to 100 cfs of water that would be available for project use; and enhancement of riparian habitats with re-vegetation

The Proposed Action Alternative would be conducted in three proposed phases; a removal/clearing phase, a levied wetlands water delivery system construction phase and a re-vegetation phase. Removal and clearing of non-native vegetation would be accomplished with a combination of mechanical and prescribed fire methods. The levied wetland system would be designed with multiple channel networks to spread available water and maximize habitats. Water would be delivered from the Gila de-silting basin to the proposed project site. The site would be re-vegetated with native riparian species along with honey mesquite in upland areas.

ENVIRONMENTAL IMPACTS AND FINDINGS

Implementation of the Proposed Action will not result in significant impacts to any of the resources evaluated in the EA. The reasons for this determination are summarized by resource below.

Hazardous Materials

There are no known hazardous materials and contaminants on the project site. Should contaminants be identified, activity on the site shall cease until appropriately remediated.

Indian Sacred Sites and Tribal Lands

There are no known Indian Sacred Sites and Tribal lands in the project site.

Indian Trust Assets

There are no Indian Trust Assets in or adjacent to the proposed project site.

Air Quality

Temporary impacts to air quality are expected from emissions from vehicles during construction. These emissions would not violate any air quality standard or contribute substantially to existing or projected air quality violations set by the Environmental Protection Agency and Arizona Department of Environmental Quality. There would be no measurable long-term detrimental impacts to air quality as a result of this proposed project. Long-term improvements to air quality and the emissions of Greenhouse Gases (GHG) would potentially occur from the re-vegetation of the proposed project site. A decreased risk of wildfire will result in decreased probability of reduced air quality from smoke. The GHG emissions were calculated at 1,232 metric tons of CO₂, well below the 25,000 metric ton threshold at which quantitative and qualitative analysis is recommended in draft guidance provided by the Council on Environmental Quality.

Biological Resources (Threatened and Endangered Species)

No designated critical habitat would be impacted by the implementation of the proposed project. Construction activities may have the potential to impact the targeted species and other wildlife on lands immediately adjacent to the proposed project site. These impacts may manifest themselves as habitat avoidance by the targeted species. Impacts resulting from vegetation clearing and construction activities would be considered short-term in duration. Once this

project is fully implemented there would be benefits to all wildlife occupying the proposed project site. Displaced wildlife would not likely return to the proposed project site until after construction and restoration activities would be completed.

On May 13, 2010, the USFWS sent a letter of concurrence to Reclamation's request to include the LDCA as part of the conservation requirements mentioned in the 2005 Biological Opinion; a finding of "may affect, but not likely to adversely affect" was determined for the Yumma clapper rail (*Rallus longirostris yumanensis*) and the Southwestern willow flycatcher (*Empidonax trailii extimus*).

Cultural Resources

The proposed action will not adversely affect cultural resources as known cultural resources have been avoided through project design.

Floodplains

Short-term impacts will result from the excavation activities. Excavation activities will restore water flows to degraded wetland areas and when the project is completed would allow for increased and improved flows to existing wetland areas.

Land Use and Recreation

The Proposed Action Alternative will result in short-term closure of roads and public access within and in proximity to the project site and Mittery National Wildlife Refuge, impacting recreational activities in those areas. In the long term it is anticipated that there will be increased recreational opportunities resulting from the enhancement, creation, and restoration of riparian and wetlands habitats

Noise

Temporary noise may be detected by individuals such as fishermen, campers, and other recreational users resulting from the removal activities, prescribed fire, and construction operations. These noise levels are not anticipated to be excessive. Individuals working on construction activities will experience higher levels of noise.

Water Quality

Short-term impacts to water quality could result from removal activities, construction operations, and maintenance activities by increasing the amount of suspended soil particles, dissolved inorganic nutrients, and other materials in runoff due to rainfall and transport these materials into adjacent streams and lakes. In the long-term the reduction in risk of wildfire and creation of habitat will result in improvements to water quality.

Visual Resources

Short-term impacts will result from the removal activities, construction operations, restoration activities and maintenance activities that will temporarily lessen the visual quality of the conservation area on or near visually sensitive resources. The conservation, restoration and

creation of habitat will restore the site to a more natural appearance that will benefit and enhance aesthetics and value to the area and the view shed.

Environmental Justice

Implementation of the proposed action will not result in disproportionately high and adverse human health effects or produce any environmental effects to minority or low income populations within Yuma County and parts of Imperial County.

Cumulative Impacts

Positive cumulative impacts to Biological Resources, Land Use through the development of potential recreation opportunities, Water Quality, and Visual Resources are anticipated. No negative cumulative impacts are anticipated.

ENVIRONMENTAL COMMITMENTS

The Proposed Action Alternative incorporates the following environmental commitments to avoid or minimize impacts to specific resources.

Air Quality

Production of dust emissions exceeding an ambient 24-hour PM10 standard that would result in the potential impact to air quality must implement standard operating practices to minimize dust (PM10) emissions during establishment, construction and maintenance activities in accordance with the National Ambient Air Quality Standard.

For the removal, construction and maintenance activities producing emissions that contributes to the excess of an ambient 24-hour PM10 standard, Prescribed Burn Plan (PBP) and a smoke management plan for all establishment, construction, and maintenance activities involving the use of fire will be drafted by the Prescribed Fire Implementing Agency (PFIA) and implemented to avoid and minimize affects to wildlife and human health and safety, air, and water quality.

The PFIA in cooperation with Reclamation and other federal, state and local agencies/parties will draft a prescribed fire plan that will reflect best management practices (BMP) to control dust, smoke, and maintain air quality that will

- Avoid wind direction, temperature, humidity, and weather conditions that could send smoke, ash/soot and particulates into human habituated, agricultural and recreational areas (i.e. Tribal Trailer Park, Hidden Shores Village RV Park, YPG and other surrounding areas) and avoid spread of smoke into wildlife areas
- The prescription for the prescribed fire will follow the acceptable prescription range obtained through weather and smoke management forecasts
- Restrict burning conditions to winds traveling from the Southwest

The following mitigation measures will be followed unless it is determined through notification with local agricultural growers that prescribed fire can occur within these time constrictions.

Written or verbal notification is required prior to the implementation of the prescribed fire method.

- Prescribed fire activities will not occur during planting and harvest season from August 1 to August 31, and November 1 to February 15
- Prescribed fire activity is permitted if necessary during the early stages of planting between September 1 to October 31 and the late stages of harvesting after February 15.
- Avoid or minimize the effects of ash/soot in the neighboring agricultural fields

The following mitigation measures will be followed with the implementation of the air curtain burner/incinerator method and manual clearing:

- Dust control measures (e.g. site watering) in accordance to federal and state requirements for air quality will be implemented to control dust.
- Fire Protection Protocols/Plan will adhere to all applicable wildfire regulations and address the accidental ignition of wildfire. This plan should include, but is not limited to, fire prevention measure and fire suppression activities.
- Buffer zones and setbacks will be established for standing trees, vegetation, and other material or debris that can cause accidental fires.

Biological Resources (Threatened and Endangered Species)

To avoid and minimize potential impacts on the Targeted Species and other wildlife the following mitigation measures will be implemented to the extent practicable (Reclamation, HCP Section 5.6.1):

In order to avoid impacts to nesting migratory bird species protected under the Migratory Bird Treaty Act (MBTA), prescribed fire activities will not be allowed from February 15 through mid-September.

The speed and intensity of the prescribed fire should be reduced as it approaches locations known to contain either Yuma clapper rail or California black rail (*Laterallus jamaicensis*)

The prescribed fire will be conducted so that the fire burns in a direction that will allow Yuma clapper rail and California black rail to escape into the Mittry Lake Wildlife Area (MLWA).

Perimeter clearing to create a fire break will occur to avoid or minimize impacts to habitat utilized by Yuma clapper rail and California black rail.

During prescribed fire operations the following elements will be required where applicable to avoid the introduction and/or spread of noxious and invasive species:

- During incident management planning process determine the potential for spreading noxious and or invasive weeds while traveling to and from an incident and during suppression activities and taking appropriate action to reduce the potential for spread.

- Resource advisors will be aware of noxious/invasive weed problems at the fire and around fire camps.
- Material such as gravel, hay, etc needed for camp setup, etc will be certified weed free and/or source location inspected or researched for weed seed potential.
- Resource advisors will make a determination if equipment to be demobilized from a fire needs to be cleaned at site prior to release.
- All engines, water tenders, and fire suppression vehicles will use non-contaminated water (Colorado River water is acceptable for suppression use), including when refilling. Refilling will be done at the nearest fire hydrant or approved refilling stations (i.e. on site fold up tanks or pumpkins) to prevent contamination from invasive species.

To avoid additional habitat degradation on the proposed project site during project activities, all dredge and excavated material will be placed on pre-existing spoil sites or in locations of low habitat value.

In order to avoid impacts to nesting migratory bird species protected under the MBTA and Targeted Species, construction and maintenance activities will be minimized from February 15 through mid-September.

During removal, construction and maintenance phases of the project, equipment will be thoroughly cleaned prior to entering the proposed project site. The cleaning process will ensure that all dirt and debris that may harbor noxious or invasive weeds seeds are removed and disposed of at an appropriate facility. Reclamation's *Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species: 2010 Edition* can be found at <http://www.usbr.gov/mussels/> and should be reference for inspection and cleaning activities.

Cultural Resources

Reclamation will implement requirements resulting from consultation with the Arizona State Historic Preservation Office and California State Historic Preservation Office.

Should cultural resources be discovered during construction, all work in the area of the resource will be stopped, and Reclamation's Project Archaeologist will be contacted. Work will not resume at the cultural resource locale until all mitigation measures, developed in consultation with the Arizona State Historic Preservation Office and the California State Historic Preservation Office, have been implemented and completed.

Floodplains

No environmental commitments have been identified for floodplains.

Land Use and Recreation

Prescribed fire activities will not occur if the proposed project area is occupied by unauthorized persons defined in the PBP. The proposed project site will be thoroughly surveyed for the presence of unauthorized persons immediately prior to the implementation of the prescribed fire to ensure public safety.

The perimeter of the prescribed fire must be sufficiently patrolled to prevent unauthorized entry during prescribed fire operations.

Do not allow fire to cross North of Laguna Dam Road or S24, West of California Sluice Way because there are power lines and buildings north of the proposed project site.

Notify federal, state, and local agencies to coordinate closure of roads and public access.

Proper authorizations and permits from Yuma County must be obtained prior to initiating the proposed project activities.

Coordination will occur between state and federal agencies, the public, and the PFIA project lead to minimize impacts to the public during the prescribed fire.

The public will be notified of the burn schedule prior to ignition to limit conflicts with the pile burn areas.

The treatment unit will be closed to the public during prescribed fire activities.

Prevent the spread of fire beyond the eastern boundary of the proposed project site and into the MLWA. The MLWA is included in the maximum management area however avoidance is requested. To prevent spread of fire into MLWA, contain fire east of proposed site boundary.

Notification and coordination with Arizona Game and Fish Department (AGFD) for closure of MLWA and the surrounding recreational areas and trail prior to the implementation of the prescribed fire.

Where proposed work involves tribal lands, approvals will be obtained prior to initiating construction activities, in accordance with regulations and requirements.

At National Preparedness Level IV, concurrence by the State Fire Management Officer (SFMO) must be obtained before implementing the local Agency Administrator's recommendation for a prescribed fire.

The following mitigation measures will be followed unless it is determined through coordination with AGFD that prescribed fire can occur within these time constrictions. Concurrence is required either written or verbal prior to the implementation of the prescribed fire.

- Avoid dove hunting season during the first two weeks of September
- Avoid prescribed fire activities during the week-ends

Noise

Appropriate individuals entering and working in the proposed project site will be required to wear personal protective equipment (i.e. ear plugs and ear muffs).

Water Quality

Through the 404 and 401 permit applications, mitigation measures will be imposed to ensure water quality standards will be observed during the implementation of the Proposed Action Alternative. All mitigation measures from the 404 and 401 permit will be followed.

Visual Resources

No environmental commitments have been identified for visual resources.

Environmental Justice

No environmental commitments have been identified for Environmental Justice.

Final Environmental Assessment

Laguna Division Conservation Area

Yuma County, AZ and Imperial County, CA

Prepared by:

U.S. Department of the Interior

Bureau of Reclamation

Lower Colorado Region

Boulder City, Nevada



U.S. Department of the Interior

Bureau of Reclamation

Lower Colorado Region

Boulder City, Nevada

February 2011

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

Term	Acronym or Abbreviation
Acre Feet	af
Arizona Department of Environmental Quality	ADEQ
Arizona Game and Fish Department	AGFD
Biological Assessment	BA
Biological Opinion	BO
Bureau of Land Management	BLM
Bureau of Reclamation	Reclamation
California black rail (<i>Laterallus jamaicensis</i>)	BLRA
Corps of Engineers	Corps
Council on Environmental Quality	CEQ
Cubic Feet Per Second	cfs
Decibels	dBA
Departmental Manual	DM
Endangered Species Act	ESA
Environmental Assessment	EA
Environmental Protection Agency	EPA
Final Environmental Impact Statement	FEIS
Greenhouse Gas	GHG
Habitat Conservation Plan	HCP
Imperial County Air Pollution Control District	ICAPCD
Indian Trust Asset	ITA
Interagency Standards for Fire and Fire Aviation Operations	ISFFAO
Intergovernmental Panel on Climate Change	IPCC
Isolated Objects	IO
Laguna Division Conservation Area	LDCA
Laguna Reservoir Restoration Project	LRRP
Long Term Visitor's Area	LTVA
Lower Colorado River	LCR
Migratory Bird Treaty Act of 1918 as amended	MBTA
Mittry Lake Wildlife Area	MLWA
Multi-Species Conservation Program	MSCP
National Ambient Air Quality Standard	NAAQS
National Environmental Policy Act of 1969 as amended	NEPA
National Prescribed Fire Handbook	NPFH
Prescribed Burn Plan	PBP
Prescribed Fire Implementing Agency	PFIA
Reasonable and Prudent Alternative	RPA
Recreational Vehicle	RV
River Miles	RM
Sediment Disposal Site or Dredge Spoil Area	SDS
Southwestern willow flycatcher (<i>Empidonax trailii extimus</i>)	SWFL

State Fire Management Officer	SFMO
Threatened and Endangered	T&E
U. S. Fish and Wildlife Service	USFWS
Western least bittern (<i>Ixobrychus exilis hesperis</i>)	LEBI
Yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	YBCU
Yuma clapper rail (<i>Rallus longirostris yumanensis</i>)	YCRA
Yuma Field Office Resources Management Plan	YFO RMP
Yuma Proving Grounds	YPG

1.0 Introduction

This Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA. The purpose of this EA is to evaluate the potential impacts of the proposed project and its alternative on the human and natural environment and determine if the impacts would be significant warranting the preparation of an Environmental Impact Statement. The Bureau of Reclamation (Reclamation), under the Lower Colorado River (LCR) Multi-Species Conservation Program (MSCP) is proposing a large scale riparian and marsh restoration/enhancement project at the Laguna Division Conservation Area (LDCA).

The proposed project site would be located along the Laguna Reach (Reach 6) of the lower Colorado River floodplain, 13 miles North of Yuma, Arizona (between river miles (RM) 43 and 49) and includes acreage in two states, Arizona in Yuma County, and California in Imperial County, (see Figure 1). The proposed project includes 1,800 acres, in which approximately 1,200 acres (shown as Laguna riparian area in Figure 2) will be created and restored/enhanced into riparian and marsh/open water habitat, that lies within the Laguna Division, North of Laguna Dam (RM 43) and South of Imperial Dam (RM 49) and is bounded by the Laguna Settling Basin and the Historic River Channel to the East (see Figure 2).

In Arizona the proposed project site lies within Section 31 of Township 6 South, Range 21 West; Section 36 of Township 6 South, Range 22 West; Sections 6 and 7 of Township 7 South, Range 21 West; and Section 12 of Township 7 South, Range 22 West. In California the proposed project site lies within Sections 17, 20, 21, 28, 29, 31, and 32 of Township 15 South, Range 24 East. Approximate coordinates of the middle of the proposed project site are 32.84635° north latitude, 114.46298° west longitude, Datum WGS 1984.

1.1 Background

In 1994, the US Fish and Wildlife Service (USFWS) designated the Colorado River Basin critical habitat for listed species, which required consultation under Section 7 of the Endangered Species Act (ESA). After a Biological Assessment (BA) was completed, Reclamation initiated consultation with the USFWS. In 1997 the USFWS issued a Biological Opinion (BO) in compliance with Section 9(a)(1)(B) of the ESA that prohibits the take by any persons of any listed endangered fish or wildlife species and Section 9(a)(1)(G) of the ESA that prohibits the take of any listed threatened fish or wildlife species in violation of any regulation promulgated by the USFWS. The BO specified a Reasonable and Prudent Alternative (RPA) with 17 provisions that would minimize the impacts of take or avoid the likelihood of jeopardizing the continued existence of listed species or adverse modification of critical habitat. One of the specified provisions (RPA 12) is active Reclamation participation, and encouragement of other federal and non-federal agencies to participate, in the LCR MSCP.

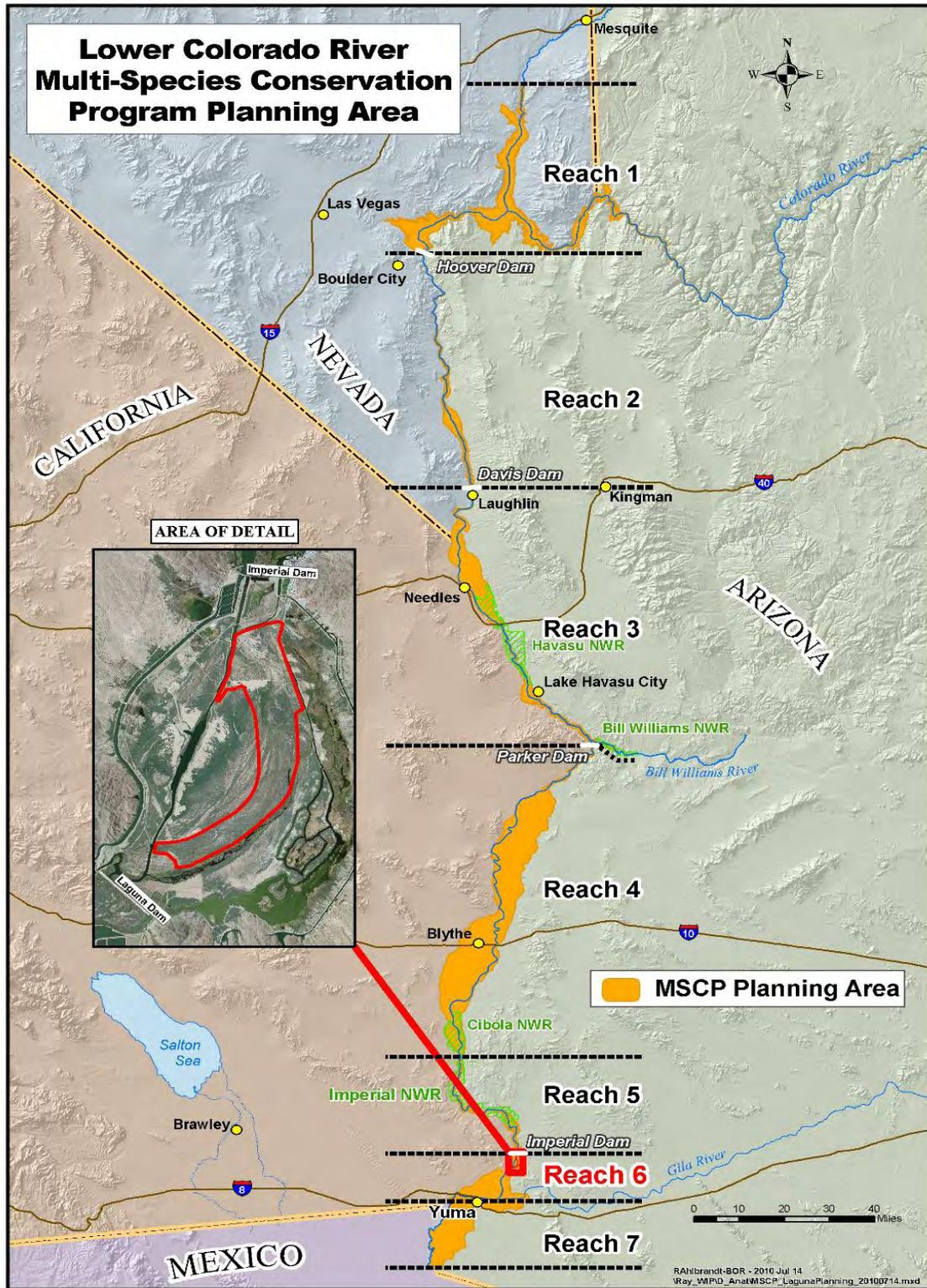


Figure 1. The LCR MSCP Planning Area and the Laguna Reach (Reach 6) Vicinity Map.

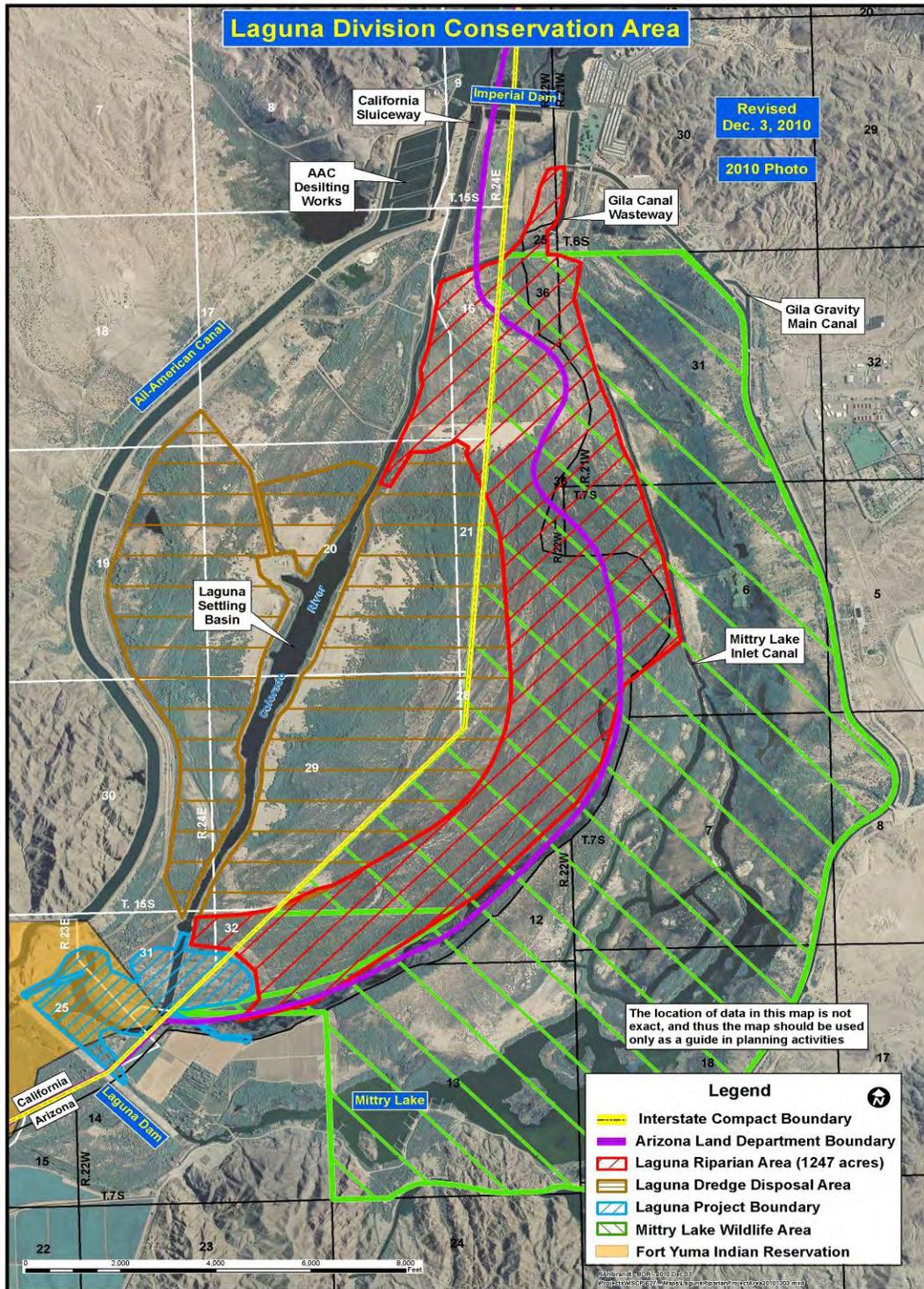


Figure 2. Site Map of the Proposed Laguna Division Conservation Area.

Water and power agencies in Arizona, California and Nevada share the current estimate of LCR MSCP costs equally with the United States on a 50/50 Federal/non-Federal basis.

The objectives of the development of the LCR MSCP are to conserve habitat and work towards the recovery of listed and included species within the 100-year floodplain of the LCR pursuant to the ESA; attempt to reduce the likelihood of additional species listings under the ESA; and to accommodate current water diversions and power production and optimize opportunities for future water and power development, to the extent consistent with law. In December 2004, a Final Environmental Impact Statement (FEIS) for the LCR MSCP, which included a BA and a Habitat Conservation Plan (HCP), was completed, which specified three primary goals to meet the requirements under the ESA to:

1. Avoid, minimize and fully mitigate adverse effects of covered activities by implementing the LCR MSCP habitat and species conservation measures consistent with the ESA Section 10 on incidental take regulations (50 C.F.R. § 17.22 (b) (2) (B))
2. Contribute to the recovery of Federally listed species within the LCR MSCP planning area
3. Reduce the likelihood of future Federal listing of non-listed species within the LCR MSCP planning area

In March 2005, Reclamation completed formal consultation with the USFWS on effects to listed species and was issued a 50 year BO that addressed the continuing operations of the Colorado River and habitat creation in support of the Threatened and Endangered (T&E) species listed under the ESA.

In 2007, the Laguna Division Planning Group was formed to identify potential restoration projects within Reach 6 of the LCR MCSP planning area. The intent was to identify potential restoration projects and combine resources to ensure any actions taken in the area would not affect other potential restoration projects or ongoing river operations. Currently, there are three river operational requirements and constraints that include water delivery, sediment removal, and power generation. The Laguna Division Planning Group consists of representatives from the following organizations:

- Arizona Game and Fish
- California Department of Fish and Game
- Pacific Institute
- U.S. Fish and Wildlife Service
- U.S. Bureau of Land Management
- U.S. Bureau of Reclamation

The following EA is tiered to and incorporates by reference the 2004 LCR MSCP FEIS, BO and HCP.

Site History

The LDCA is located within the stabilized and highly modified reach of the LCR MSCP planning area between Laguna Dam and Imperial Dam. The topography of the LDCA is dominated by the Gila River Valley and is comprised of relatively flat terrain. Laguna Dam was constructed in 1909 to provide a consistent delivery of water from the LCR to the growing agricultural industry. High sediment loads prior to the construction of Hoover Dam contributed to the rapid siltation upstream of the dam. Imperial Dam was completed in 1938 and allows delivery of water through the All-American Canal and the Gila Main Gravity Canal. The majority of the Colorado River is diverted for agricultural or domestic purposes at Imperial Dam, with the exception of sluicing flows and a small inflow into Mittry Lake, a water body along the eastern edge of the area. Mittry Lake was dredged by Reclamation and provides significant recreational opportunities, as well as valuable riparian and marsh habitat.

The Laguna Settling basin is located within this reach, downstream of the Imperial Dam. Sediment derived from the Parker, Palo Verde, Cibola, and Imperial divisions accumulates at the upstream face of Imperial Dam, and at the head-works for the All-American Canal and the Gila Gravity Main Canal. The sediment is then sluiced or dredged into the Laguna settling basin where suspended materials are removed from the water column. After deposition in the settling basin the sediment is dredged and disposed of in the adjacent areas. The Gila Wasteway Canal provides a similar sluiceway for sediment accumulated above Gila Gravity Canal headworks.

Currently the proposed project site is generally covered in an extensive and dense monoculture of saltcedar (*Tamarix spp*), providing little beneficial habitat. The LDCA is a relatively wide, undeveloped area with a series of low linear depressions, which are remnants of former river meanders.

The information in Section 1.1 is taken from the *Laguna Division Conservation Area: Task 4: Final/Preferred Habitat Restoration Concept* (NCD, 2009).

1.2 Purpose and Need for the Proposed Action

The purpose of the proposed action is to restore, enhance and protect native riparian, wetland, and aquatic habitats within the LDCA for the benefit of LCR MSCP covered species and other plants and wildlife. The LCDA would also provide opportunities for low impact recreation, preservation of cultural sites, and opportunities for environmental education. The project proposes to create marsh and riparian land cover types by shaping and contouring multiple meandering channels. Reclamation has identified the LDCA as having potential for large scale riparian and marsh restoration and enhancement that proposes to utilize the four specific land cover types; cottonwood-willow, honey mesquite, marsh, and backwater.

The need for the proposed action is for Reclamation to satisfy the requirements of the LCR MSCP BO and the FEIS. A major component of the LCR MSCP program is the restoration of 8,132 acres of habitat. The proposed action would restore approximately 1,200 acres of habitat within the proposed 1,800 acre project site that would contribute to the wellbeing of the public at large by preserving and conserving wildlife, recreation and aesthetic amenities. In addition, the LDCA would assist federal, state, tribal and local governments in the development of wetlands

and endangered species habitats and low impact recreation opportunities on Reclamation lands, provided the purpose and need of the proposed action meets one of the primary purposes and criteria of the federal authorities listed in Section 1.3 in this EA.

1.3 Related Laws, Policies, and Planning Documents

In addition to fulfilling the requirements of NEPA, this EA complies with all applicable environmental, natural resource, and cultural resource statutes, regulations, and guidelines. These additional statutes, regulations, and guidelines may require permits, approvals, consultations with outside agencies, or implementation of mitigation measures. These considerations are included in the analyses set forth in this EA. The additional statutes, regulations, and guidelines are listed below.

The following federal, state, and local statutes, regulations, management plans, and studies are relevant to the proposed project.

- National Environmental Policy Act of 1969 (42 USC 4321)
- The Fish and Wildlife Coordination Act of 1958 (P.L. 93-205)
- The Endangered Species Act of 1973, December 28, 1973 as amended (P.L. 93-205)
- The Reclamation Recreation Management Act, Title 28, of October 30, 1992 (P.L. 102-575)
- The North American Wetlands Conservation Act, December 13, 1989 (P.L. 102-575)
- National Historic Preservation Act of 1966 (P.L. 89-665), as Amended 1992 (P.L. 102-575)
- Archaeological Resources Protection Act of 1979 (P.L. 96-95)
- Native American Graves Protection and Repatriation Act of 1990 (P.L. 101-601)
- The Reclamation Recycling Water Conservation Act of 1993, October 9, 1966
- Clean Air Act of 1970 (33 USC 7401) and amendments of 1977
- Clean Water Act of 1977 (33 USC 1251 et esq.) and amendments of 1987 (Water Quality Act)
- Migratory Bird Treaty Act of 1918 as amended (P.L. 96-616)
- Noise Control Act of 1972
- Department of the Interior, Department Manual, Part 613, Chapter 1
- Memorandum of Understanding Between the Bureau of Land management, Arizona State Office and Bureau of Reclamation, Lower Colorado Region for the Management of the Lower Colorado River, July, 15, 1991.
- Yuma Field Office Approved Resource Management Plan and Record of Decision, Bureau of Land Management, January 2010

- Interagency Standards for Fire and Fire Aviation Operations, January 2011
- Secretarial Order 3226, Evaluating Climate Change Impacts in Management Planning, January 19, 2001.

2.0 Description of Proposed Actions and Alternatives

This Section of the EA provides a detailed description of the No Action Alternative, the Proposed Action Alternative, and the alternative considered but eliminated.

2.1 The No Action Alternative

Under the No Action Alternative, Reclamation would not move forward in creating natural channels; restoring water flows in degraded wetlands and aquatic habitats; and enhancing riparian habitats with re-vegetation within the LDCA. Planting would not occur to create and provide a large scale riparian and marsh habitat ideal for T&E species, as well as native wildlife along this section of the lower Colorado River.

Table 1. LCR MSCP Design and Target Criteria for the Proposed LDCA Restoration Project

2.2 The Proposed Action Alternative

Under the Proposed Action Alternative, Reclamation would restore, enhance, and create large scale riparian and marsh habitat through the creation of natural channels; restoration of water flows in degraded wetlands and aquatic habitats with up to 100 cubic feet per second (cfs) of water that would be available for project use; and enhancement of riparian habitats with re-vegetation (see Table 1).

The Proposed Action Alternative would fulfill the general design and target criteria established by the LCR MSCP FEIS by maximizing the creation of native riparian and marsh land cover types using the assumed water resources, while minimizing the amount of earthwork required. This would include the removal of approximately 1,200 acres of primarily dense tamarisk species monoculture habitat that would create potential habitat for T&E listed species and native species such as open water or

LCR MSCP Design and Target Criteria for the Proposed LDCA Restoration Project

- There would be up to 100 cfs of water available for project use
- Habitat Targets that would be created:
 - 50-100 acres of open water/marsh
 - 200 acres of cottonwood/willow
 - 500 acres of upland (mesquite)
- Specific habitat for threatened and endangered species including California black rail (*Laterallus jamaicensis*), Yuma clapper rail (*Rallus longirostris yumanensis*), Southwestern willow flycatcher (*Empidonax trailii extimus*), Yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Yuma hispid cotton rat (*Sigmodon arizonae plenus*), and Western least bittern (*Ixobrychus exilis hesperis*) would be created
- Minimize detrimental effect on existing Mittry Lake or Old River Channel habitats
- Impacts should be avoided to existing operations (sluicing, dredge disposal, water delivery, etc.)
- There should be minimal costs to both initial construction and long-term operating costs

Additional and technical information about the LCR MSCP design and target criteria can be found in the LCR MSCP FEIS and Appendix A.

marsh habitats, cottonwood willow habitat, and upland (mesquite) habitat. The project design would incorporate the proposed project area of 1,800 acres, with the intent of restoring approximately 1,200 acres. A mosaic of native vegetation such as Fremont cottonwoods (*Populus fremontii*), Goodding willow (*Salix gooddingii*), coyote willow (*Salix exigua*), honey mesquite (*Prosopis glandulosa*), and quail bush (*Atriplex lentiformes*) would be planted on various land configurations to enhance and restore riparian, marsh and upland habitat. Various types of planting methods would be used to establish vegetation based on the site condition and desired outcome. The Proposed Action Alternative would be conducted in three proposed phases; removal/clearing phase, levied wetlands water delivery system construction phase, and a re-vegetation phase (see Table 2 for proposed project timeline).

Table 2. Proposed Timeline for the Proposed LDCA Restoration Project

2010	Compliance Activities, Annual Monitoring
2011	Prescribed Fire
2012-2013	Earthwork, Construction, Maintenance
2014	Plant Establishment, Maintenance

Phase One - Removal and Clearing

The removal and clearing phase of the Proposed Action Alternative would consist of the removal of approximately 1,200 acre of existing dense vegetation that is primarily non-native plants such as saltcedar. This would be accomplished by a combination of manual clearing with land-based mechanical and hydraulic equipment, and the implementation of a prescribed fire and/or through a fire box incinerator that uses an curtain of air as a barrier to reduce the amount of emitted particulates and smoke, also known as an air curtain burner/incinerator. This phase would be carried out in three stages.

Stage One of the Removal and Clearing Phase

The first stage would involve manual clearing with the use of mechanical and hydraulic equipment that would remove and clear vegetation beginning along the perimeter of the project site to prepare the project site for Phase Two and Phase Three. The vegetation and debris collected from manual clearing would be disposed of through either one or a combination of prescribed fire, air curtain burner/incinerator, on site burial, and off-site disposal. The choice of method for removal and clearing of vegetation is dependent on a variety of factors including, but not limited to, suitable weather conditions, timing restrictions related to biological factors and agricultural activities, and site conditions.

The implementation of the prescribed fire method would include close coordination between the prescribed fire implementing agency (PFIA), Reclamation, and other federal, state, and local agencies. In addition, prior to the implementation of a prescribed fire, a Prescribed Burn Plan (PBP) would be written by the designated PFIA in accordance with the goals, objectives, and mitigation measures of this EA, and all necessary requirements stated under federal, state and local regulatory requirements for the implementation of a prescribed fire. The PBP would include a fire ignition and contingency plan.

During the implementation of the prescribed fire method, removal/clearing and maintenance of fire breaks as established in the PBP and according to the specifications of the PFIA, would be implemented. The removal and clearing of the site would continue until the favorable prescribed fire window(s) occur and all environmental and safety conditions established in the PBP are confirmed by the PFIA (see Appendix C). Manual clearing would continue with the use of land-based mechanical and hydraulic equipment until a suitable burn window occurs.

The implementation of the air curtain burner/incinerator method would include the manual clearing of the site with land based mechanical and hydraulic equipment. The vegetation and debris would be placed into an air curtain burner/incinerator. Manual clearing would be accomplished by a track hoe with a cutter attachment to breakdown the vegetation and debris into manageable pieces for the air curtain burner/incinerator. A bulldozer would be used to pile and stage the material within the project site until it would be placed in the air curtain burner/incinerator to be burned.

The air curtain burner/incinerator would be approximately 30' x 8' x 8' in size and would be powered by a diesel fueled engine. The diesel fuel would be used as an igniter to achieve and maintain a hot base fire within the fire box of the equipment. Smoke would be released at start up until the air curtain burner/incinerator reaches operating temperatures. Smoke would also be generated when the equipment is shut down due to the reduction of air speed of the air curtain.

Stage Two of the Removal and Clearing Phase

The prescribed fire method would be followed by additional removal and clearing of the remaining debris/vegetation material or biomass not consumed by the prescribed fire using land-based mechanical and hydraulic equipment. The cleared and/or left over debris/vegetation material would be either stockpiled for future prescribed fire activities, buried within the project area, burned in an air curtain burner/incinerator, or disposed of at an appropriate offsite facility.

The air curtain burner/incinerator method would involve concurrent manual clearing, piling, and burning as described in stage one of the removal and clearing using the air curtain burner/incinerator method.

In the event that favorable prescribed fire conditions and window(s) to implement a prescribed fire or use of the air curtain burner/incinerator method do not occur, manual clearing would continue with the use of land-based mechanical and hydraulic equipment until the project site is cleared and prepared for Phase Two and Phase Three of the proposed project.

Stage Three of the Removal and Clearing Phase

Stage three would involve the maintenance of the cleared area to prevent re-growth of vegetation and would be accomplished using herbicides until the clearing and preparation of the project area for construction of Phase Two and Phase Three is complete.

Phase Two - Levied Wetlands Water Delivery System Construction

A managed, levied wetland system in order to maximize limited water resources would be constructed. The levied wetland system would be designed with multiple channel networks to spread available water and maximize habitats. Water would be delivered from the Gila de-silting basin to the proposed project site through the construction of the levied wetland system.

The proposed project site would be split into three reaches based on existing topography (see Appendix A). These reaches differ from the overall LCR MSCP planning area reaches. The three reaches would deliver water to maximize the amount of restored area and would increase planting success by tying the levees into existing topography. The proposed design would include a dedicated pipeline that would minimize any impact to current operations of Imperial Dam headworks or any current water deliveries (see Figure 3).

The proposed levied wetlands water delivery system design would also include several water control structures that would temporarily pool and spread available water to provide management flexibility. An outlet water control structure in Reach 1 would pass water to the Mittry Lake inlet canal, which would act as an alternative outlet for passing flood flows around Reach 2 and Reach 3. Additionally, the structure would be utilized to augment flows into Mittry Lake when Arizona Game and Fish Department (AGFD) has completed a final analysis and permitting of additional habitat needs for Mittry Lake. The water control structures would be utilized to manage water levels in the proposed project site (see Appendix A).

The proposed design would incorporate overshot gates that would be utilized to manage water surface elevations in Reach 1, Reach 2, and the Historic Channel. These gates allow easy water elevation adjustment. The overshot gates would allow irrigation of cottonwoods and willows at higher elevations through simulated flood events (pulse flows). The overshot gates would allow adaptive management as seasonal habitat and wildlife needs dictate and as vegetation matures. Existing overflow channels in the proposed project site would be utilized, where possible, to convey water through the proposed project site. This should minimize excavation. Two typical channel sections would be utilized in the proposed project site: a primary channel to convey base/normal flows and a secondary channel to convey pulse flows (see Appendix A).

Additional grading and habitat enhancement on 80 acres of the historic river channel below Reach 1 and outside of Reach 2 would also be incorporated into the design. This habitat enhancement is specifically designed to improve habitat for California black rail (*Laterallus jamaicensis*) (BLRA). This marsh habitat would be operated as a steady flow habitat during BLRA nesting season and water would be supplied from a designated outlet structure in Reach 1.

Furthermore, 104 acres to the west of the proposed project site, within the dredge spoil disposal area, would be used for excavation of an additional primary channel in Reach 2. Spoils from channel excavations would be placed in perimeter maintenance access levees and roads and other designated fill areas (see Appendix A, Sheets 1 and 2). Through excavation, extra materials would be used onsite to create access roads and conduct restoration activities or stockpiled in areas of low habitat value.

Phase Three - Establishment/Re-Vegetation

The last phase would be the establishment/re-vegetation phase. The proposed re-vegetation design follows the recommendations outlined in the LCR MSCP FEIS.

This would include creating widths of approximately 33 ft of open water/deep water marsh habitat that would include cattail, approximately 30 ft for a transitional zone or firebreak zone, and about 60 ft of cottonwood/willow habitat. In addition, the proposed design includes

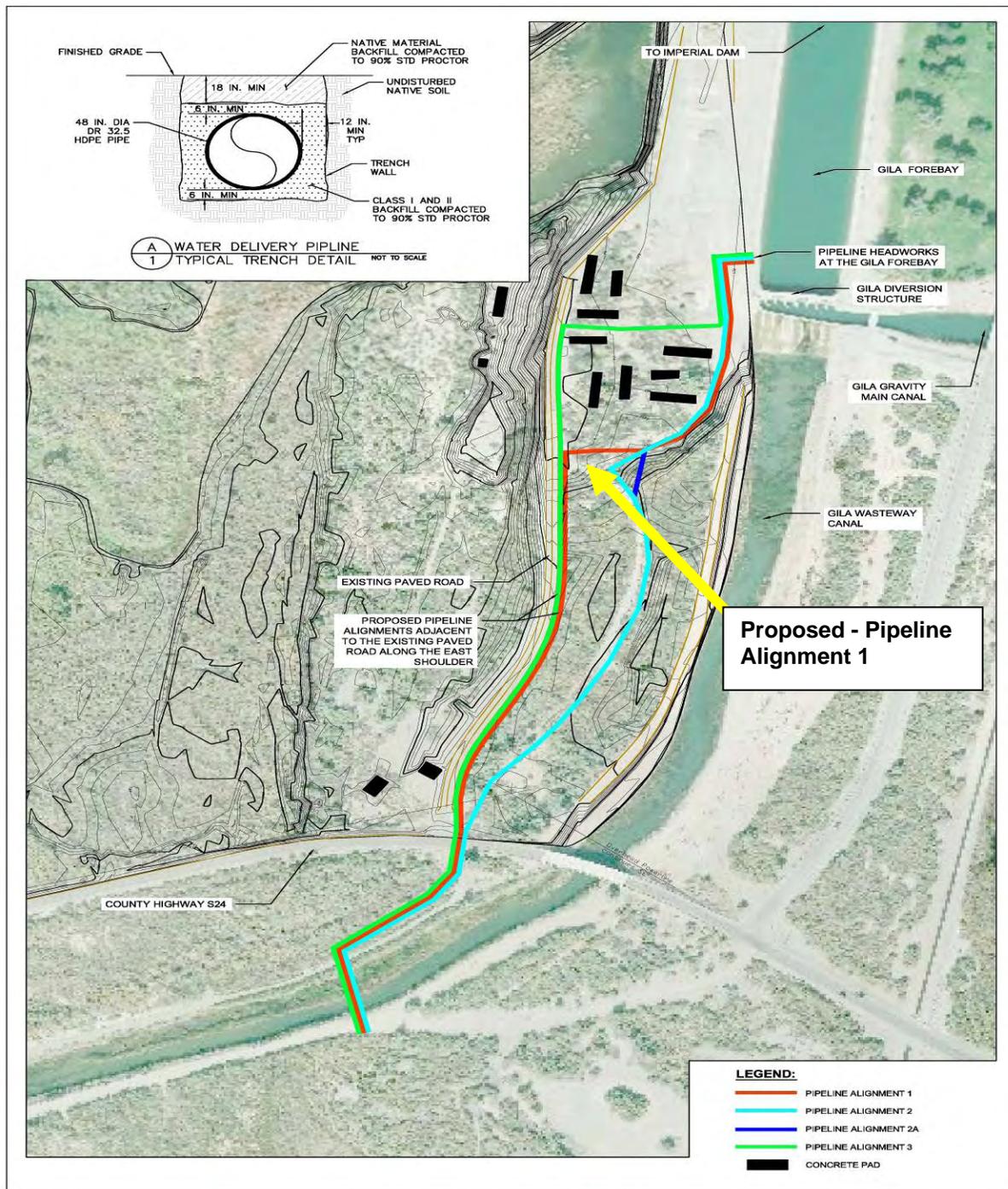


Figure 3. Proposed Pipeline Alignment for Water Delivery to the Proposed Project Site

an area in the uplands where non-irrigated and irrigated honey mesquite will be planted. The majority of the planting activities would be conducted during the fall, winter, and early spring of each year.

The land cover types would be irrigated with up to 100 cfs of water from Gila de-silting basin (Gila Basin). Open water areas could be created in the form of linear excavations aligned with historic river meanders east of lands identified as future stockpiling areas for dredged silt removed from the Laguna settling basin. To minimize earthwork, cuts and fills would follow the existing topography where feasible. Adjacent terraces would be graded to allow flooding and promote the establishment of native riparian species. Upland vegetation would receive water either by flooding or drip irrigation (see Table 3). Weeds would be treated through chemical and mechanical methods for two to three years and then on an as needed basis until the site is established to the point where weed management is no longer needed.

Table 3. LCR MSCP FEIS Re-Vegetation Design Criteria for the LDCA Restoration Project

LCR MSCP FEIS Re-Vegetation Design Criteria for the LDCA Restoration Project

- Planting would be based on topography, moisture, and salt tolerance of plants
- Bands of vegetated communities would be relative to water level.
- Pulse flows would be utilized as irrigation for cottonwood/willow
- Temporary drip irrigation would be utilized for mesquite planted on higher terraces
- There would be high density planting of vegetation plugs, poles, seeds, and rooted materials for rapid establishment of cover
- There would be required weed maintenance and weed management for 2-3 years
- Planting would be expected to be self sustaining in the long-term

Additional and detailed information about the LCR MSCP re-vegetation design criteria can be found in the LCR MSCP FEIS and Appendix A.

This Section (2.2) references *Laguna Division Conservation Area: Project Update for the Steering Committee* that can be found in Appendix A for more technical information about the proposed project (NCD, 2010).

2.3 Other Action Alternative Considered But Eliminated from Detailed Analysis

Reclamation considered a third alternative that featured LCR MSCP general design criteria and targets outlined in Section 2.2. However, the third alternative only utilized manual and other various types of land based mechanical and hydraulic equipment to uproot and collect saltcedar from approximately 1,200 acres. The work would continue until removal of vegetation such as saltcedar would be accomplished. The levied wetlands water delivery system construction phase and a re-vegetation phase in the Proposed Action Alternative would remain the same within this alternative.

This alternative was initially dropped because initial review showed greater impacts and disturbances to the site; thus removal process would have to be staged over a multi-year period to

ensure the project would not impact T&E and migratory bird species and birds protected under the Migratory Bird Treaty Act of 1918 (MBTA).

This alternative is now incorporated into the Proposed Action Alternative to allow for a wide range of removal and clearing activity options in the event a favorable and suitable prescribed fire window(s) do not occur. The Proposed Action Alternative described in this EA provides greater flexibility to achieve burn conditions and to ensure environmental and human health and safety. Mitigation has been included in the Proposed Action Alternative to minimize impacts to T&E and migratory birds.

Further analysis of the incorporation of this alternative is discussed in Section 4 according to each identified critical element and the analysis.

3.0 Affected Environment

The following Section presents a list of critical elements of the human and natural environment that may or may not be affected by the No Action Alternative and the Proposed Action Alternatives (Table 4). This section provides a description of the existing condition being reviewed and analyzed in Section 4.0 in this EA.

Table 4. Summary of Critical Elements

Critical Element	Potential Affect		Critical Element	Potential Affect	
	Yes	No		Yes	No
Air Quality	X		Hazardous Materials		X
Biological Resources	X		Water Quality	X	
Cultural Resources	X		Indian Sacred Sites or Tribal Lands		X
Floodplains	X		Indian Trust Assets		X
Land Use and Recreation	X		Visual Resources	X	
Noise	X		Environmental Justice	X	

Note: The table shows critical elements that may or may not be affected by the proposed action or alternatives

Critical Elements Topics Removed from Further Analysis

The following topics are not further addressed in this document. These resources were dismissed because the Proposed Action would not impact or raise concerns about these elements during the construction, operation, and maintenance of the proposed project.

- Hazardous Materials – There are no known hazardous materials and contaminants on site. Should contaminants be identified, activity on the site shall cease until appropriately remediated. Excavated material would not be placed on culturally sensitive lands and other lands until the material is remediated to meet all applicable Federal and State standards.
- Indian Sacred Sites and Tribal Lands – There are no known Indian Sacred Sites and Tribal lands in the proposed project site. There are no identified impacts to Indian Sacred Sites or Tribal lands as a result of the proposed action.
- Indian Trust Assets (ITA) - There are no ITA in or adjacent to the proposed project site. There are no identified impacts to ITA as a result of the proposed action.

Critical Element Topics Identified for Further Analysis

The following topics are discussed in Section 3.0.

- Air Quality
- Biological Resources (T&E Species)
- Cultural Resources

- Noise
- Floodplains
- Land Use and Recreation
- Water Quality
- Visual Resources
- Environmental Justice

Some general impacts to air quality, land use, water quality, and visual resources are discussed and analyzed in the LCR MSCP FEIS (Chapter 3.3; Chapter 3.11).

3.1 Air Quality

The Proposed Action is located within Yuma County in southern Arizona and borders California and is within the air quality region (9) of the Pacific Southwest. The State of Arizona determines planning and zoning management for environmental quality based on the jurisdiction of the local municipality where the property is located (ADEQ 2010).

The climate in and around LDCA is hot and dry. Moisture comes from intense thunderstorms during the monsoon season, July through September, and from more gentle winter rains that typically occur December through March. The LDCA receives similar levels of precipitation to Yuma, 2.96” per year. The weather hazards experienced in the area are strong wind events that can potentially generate blowing dust and sand.

The surrounding areas including Yuma Proving Grounds (YPG), Hidden Shores Village Recreational Vehicle (RV) Park, Mittry Lake, Imperial Dam Long Term Visitors Area (LTVA), and the farms to the southeast of the proposed project site experience similar air quality conditions.

Regulatory Setting

Federal

The Federal Clean Air Act of 1970, 42 USC 7401 et seq. as amended in 1977 and 1990, establishes National Ambient Air Quality Standards (NAAQS). The Environmental Protection Agency (EPA) has developed primary and secondary NAAQS for six criteria air pollutants, including: ozone (O₃), oxides of nitrogen (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM)-10, and PM-2.5. Areas of the country that are currently in violation of NAAQS are classified as non-attainment areas, and new sources to be located in or near these areas are typically subject to more stringent air permitting requirements than similar sources in attainment areas.

State

The State of Arizona’s air pollution statutes (Title 18, Chapter 2 of the Arizona Administrative Code) seeks to protect and enhance public health and the environment by controlling present and

future sources of air pollution. These statutes require the use of reasonably available methods to prevent, reduce, or control air pollution throughout the State of Arizona.

Local

The Arizona Department of Environmental Quality (ADEQ) implements and enforces the air pollution control program in La Paz and Yuma County, Arizona. ADEQ applies and enforces La Paz and Yuma County Air Quality Regulations, monitors ambient air quality, develops proper control measures, and educates the citizens of Yuma County on air quality issues.

Imperial County, located in the Imperial Valley is adjacent to the west boundaries. Air quality in the Imperial Valley is planned and monitored by the Imperial County Air Pollution Control District (ICAPCD).

Ambient Air Quality Standards and Pollutants of Concern

Ambient air quality is primarily a result of the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and meteorological conditions. NAAQS are the maximum levels of background pollution considered safe for public health and welfare. Primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The ADEQ operates and maintains an ambient air monitoring network throughout Yuma County and La Paz County that measure the ambient concentrations of EPA criteria pollutants including NO₂, oxides of sulfur (SO_x), volatile organic compounds (VOCs) that are precursors to O₃, CO, lead (Pb), total PM, and particulate matter 10 microns or less in diameter (PM-10) (ADEQ, 2010). According to the ADEQ, Yuma County is in attainment for PM 10 (ADEQ, 2005). The Yuma County Developmental Services has an air quality division that is responsible for ensuring the implementation of “Best Management Practices” at construction sites to eliminate air quality complaints and issuing open burning permits in Yuma County (Yuma County, 2010). Open burning is allowed in Yuma County (Yuma County, 2010). The ICAPCD operates and maintains ambient air monitoring networks that measure ambient concentrations for similar criteria pollutants throughout Imperial County (ICAPCD, 2010).

To the Southwest, between the LDCA and Yuma, AZ are agricultural farming areas such as the cities of Winterhaven, CA and Bard, CA. Farms in this area are under cultivation (i.e. all types of leafy greens, wheat, etc.). The agricultural farms are irrigated by Colorado River water diverted from the All American Canal and the main channels of the river.

The most critical times for growers in the area are during planting and harvest season when crops are vulnerable to the ambient air quality. Planting begins in August and harvest begins in November.

Greenhouse Gas (GHG) Emissions and Climate Change

In 1997, The Intergovernmental Panel on Climate Change (IPCC) stated in their third report, *Stabilization of Atmospheric Greenhouse Gases: Physical, Biological and Socio-economic Implications*, that GHG emissions and climate conditions are associated. Although future

climate conditions cannot be predicted by the current patterns of more frequent human induced emissions, the IPCC argues that due to these patterns there would be different degrees of change in climate conditions that include local and regional "...changes in the lengths of growing seasons, the availability of water, and the incidence of disturbance regimes (extreme high temperature events, floods, droughts, fires and pest outbreaks), which, in turn, will have important impacts on the structure and function of both natural and human-made environments" (IPCC, 1997). In addition, the IPCC reports that "systems and activities that are particularly sensitive to climate change and related changes in sea level [that] include: forests; mountain, aquatic and coastal ecosystems; hydrology and water resource management (including the cryosphere); food and fiber production; human infrastructure and human health."

There are various types of GHGs that are present in the atmosphere such as Carbon Dioxide (CO₂), Nitrous Oxide (N₂O) and Sulfur Dioxide (SO₂) and other types of halocarbons. However, the IPCC study focuses on one of the GHGs, CO₂, within the atmosphere since it is believed to have the largest impacts on climate conditions and climate change.

The 1997 IPCC report indicated that the projected global mean temperature will increase about 2.5°C if it is assumed that CO₂ concentration stabilizes from the years 1990 to 2100 and other non-CO₂ gases, SO₂, and N₂O remain constant from its reported concentrations in 1990.

The release of GHGs in the atmosphere, especially CO₂, is a result of human induced emissions such as the burning certain types of fuels and other various natural cycles. However, federal guidelines request that federal, state and local agencies consider the amount of emissions that may be produced as a result of proposed federal actions and projects.

3.2 Biological Resources (T&E Species)

Vegetation

In December 2010, Reclamation drafted the *Laguna Restoration Wetland Investigation Draft Report: Yuma County, Arizona; Imperial County, California Final Report*. The types of vegetation found in the LDCA included upland scrub/shrub, riparian-wetland scrub/shrub, emergent wetland areas with open water, disturbed wetlands and disturbed uplands (Bio-West, 2009). The draft report noted that the overall vegetation diversity was low due to the presence of invasive species. Dominant species observed within the proposed project site include saltcedar, quail bush, cattail (*Typha latifolia*), common reed (*Phragmites australis*), giant reed (*Arundo donax*), and honey mesquite (see Appendix B). In the upland areas saltcedar and arrowweed (*Pluchea sericea*) were the most prevalent species. In the open water/emergent marsh areas, cattail, giant reed, and common reed were observed as dominant (Bio-West, 2009). Overall, the vegetation at the LDCA site is characterized by dense monoculture stands of saltcedar that have outcompeted a more desirable native plant community.

Wildlife

The LDCA is covered with dense monoculture vegetation (saltcedar) that provides poorer conditions and habitat for wildlife than native vegetation. The species targeted to benefit from the Proposed Action Alternative include the BLRA, Yuma clapper rail (*Rallus longirostris yumanensis*) (YCRA), Southwestern willow flycatcher (*Empidonax trailii extimus*) (SWFL), Yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (YBCU), Yuma hispid cotton rat

(*sigmondon arizonae plenus*), and Western least bittern (*Ixobrychus exilis hesperis*) (LEBI). Hereafter in this EA the term Target Species and Targeted Species may be used to refer to the above listed species as a group.

Along the LCR, male YCRA begin the breeding season in February by advertising with “kek” calls and pair bonding behavior occurs shortly thereafter (Eddleman and Conway 1998). There is a record of YCRA with eggs in the nest in February, although nests that early are not common (C. Conway pers. comm., 2010). Most nesting occurs in March with a peak in mid-May on the LCR (Eddleman 1989). According to the LCR MCSP HCP the observed breeding season in the LCR MSCP planning area for the targeted bird species is between mid-March and mid-September (see Table 5) (Reclamation, HCP Section 5.6.1, 2004)

Table 5. Covered Species Breeding Season in the LCR MSCP Planning Area.

Species	Breeding periods
Yuma clapper rail	March 15 to August 1
Southwestern willow flycatcher	May 10 to August 25
Western least bittern	April 1 to August 1
California black rail	March 15 to August 1
Yellow-billed cuckoo	June 1 to August 15

Source – LCR MSCP HCP Section 5.6.1, Table 5-9, 2004.

AGFD conducts marsh bird surveys in the North Old River Channel annually (see Figure 4). In 2009 the survey reported a total of 20 YCRA and 5 BLRA residing adjacent to the proposed project site (see Table 6). Although the existing vegetation is not considered ideal habitat, the surveys indicate the YCRA, BLRA, and LEBI use the areas within the proposed project site boundaries. Target species and other wildlife reside along the border of LDCA within the Mittry Lake Wildlife Area (MLWA) which provides a variety of habitat (riparian, wetland, and aquatic) for targeted species, as well as mammal species including mule deer, javelina, bobcat, desert bighorn sheep, and wild burros (AGFD, 2009). The mammal species mentioned in the previous sentence is not an all inclusive list.

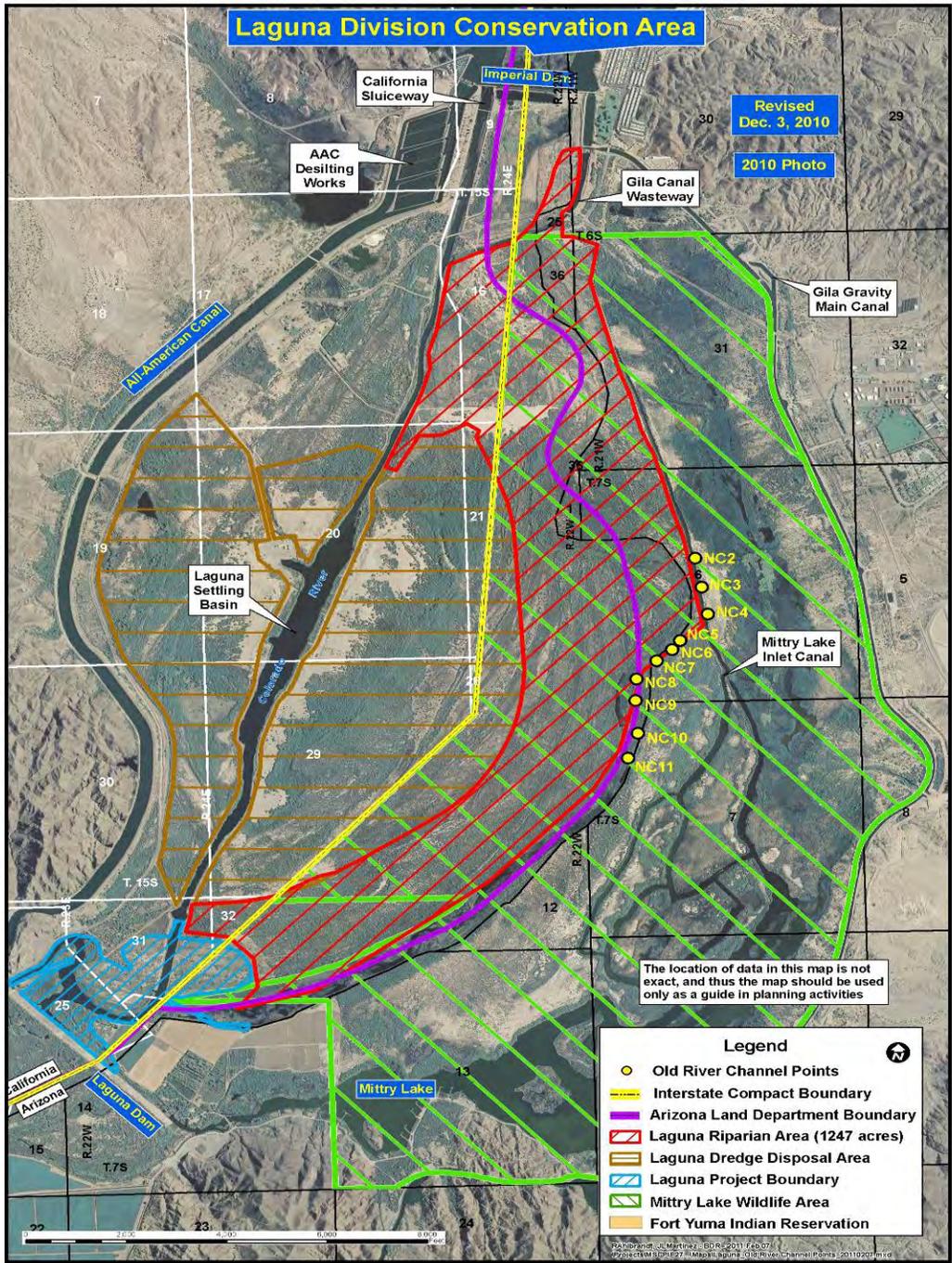


Figure 4. North Old River Channel Survey Points for Yuma Clapper Rail and California Black Rail (See Table 2 for corresponding data for survey points). Source – AGFD.

Table 6. 2005-2009 North Old River Channel Survey for the Yuma Clapper Rail (YCRA) and California Black Rail (BLRA)

Point Identification Number*	Number of Individual YCRA and BLRA Found Per Location									
	2005		2006		2007		2008		2009	
	YCRA	BLRA	YCRA	BLRA	YCRA	BLRA	YCRA	BLRA	YCRA	BLRA
NC2	0		1	0	2	0	2	0	1	0
NC3	0		1	1	2	0	2	0	1	0
NC4	0	0	1	1	2	0	3	0	4	0
NC5	0	0	2	0	1	0	1	0	1	0
NC6	0	0	1	0	2	0	2	0	5	1
NC7	0	0	0	0	1	0	1	0	1	1
NC8	0	0	0	0	0	0	2	0	2	0
NC9	0	0	0	0	0	0	3	0	3	2
NC10	0	0	0	0	1	0	3	1	2	1
NC11	0	0	0	0	2	0	3	1	0	0

Source – AGFD.

*Reference Figure 4 for specific point locations.

3.3 Cultural Resources

Native American tribes were contacted and cultural resource studies and surveys were conducted by Reclamation in 2010. Initial impressions indicated appreciation about the idea of restoring the proposed project site to native habitat. The Class I records check indicated that thirty-seven cultural resource sites were within one mile of the project area; no previously recorded sites were found in the project area.

The pedestrian survey of the acreage was conducted by SWCA Environmental Consultants (SWCA) (see Tucker and Hesse 2010) and Reclamation. Dense saltceder have made portions of the proposed project site inaccessible and not all areas were surveyed. The SWCA work resulted in the identification of two sites and three isolated objects (IO) within the survey areas. The two sites, AZ X:3:549 (ASM) and AZ X:3:550 (ASM), are concrete foundations that date to Army use of the area until 1948. Two of the IOs are car bodies that were dumped here and the remaining IO is the remains of a utility pole. Below Imperial Dam, within the security zone for the dam, are concrete pads associated with the Army's use of the area. No resources were found that predate the World War II use of the area.

In preparing for Operation Overlord (the Invasion of Normandy) in World War II, the U.S. Army established a bridge testing facility at the base of Imperial Dam. This facility allowed engineers to test bridges against a variety of stream velocities to see if these would withstand the crossing of tanks and other equipment. This unique testing was afforded by the Imperial Dam's Gila desilting basin and Gila sluiceway. Water from the Colorado River enters the basin and the silt and sediment would settle while water was diverted from the basin into the Gila gravity canal. The Yuma Test Branch played a key role in the continuous testing of engineer bridging materials, in particular the Half-Boat Pontoon Bridge, Model M-4. The war ended and in 1948 the testing facilities were moved away from this location and all of the structures removed, except for the concrete pads and paint storage structure.

3.4 Floodplains

The proposed LDCA would be located within the floodplain of the lower Colorado River, also known as the Historic Channel of the Colorado River about 0.5 miles downstream of Imperial Reservoir. Hydrologic connections between the proposed project site and Imperial Reservoir are present through groundwater flows and surface water runoff. Hydrologic indicators, including salt crust and surface water, exist throughout a significant portion of the proposed project site (Bio-West, 2009). The proposed project site is located where soils are Salothids and Indio-Silt. Although the proposed project site has been highly modified, conditions have normalized to a degree that routine wetland delineation is appropriate. The wetlands investigations reports that hydrologic indicators were generally present despite dry season conditions. Soils textures generally ranged from clay to sand depending on their position in the landscape. The proposed project site contains large areas that are covered with a salt crust and the soils that commonly contain salt concentrations.

Groundwater flows from the Imperial Reservoir, and surface-water runoff provide hydrologic connection to the proposed project site. A large, open-water and marsh community is located within a historic channel of the Colorado River, which runs through the center of the proposed project site. Wetlands exhibit numerous hydrologic indicators including surface soil cracks, salt crust, sediment deposits, water marks, surface water, saturation, drift deposits, inundation on aerial images, aquatic invertebrates (specifically freshwater mussels), and drainage patterns.

This Section (3.4) references the *Laguna Restoration Wetlands Investigation Revised Draft Report* that can be found in Appendix B for more technical information (Reclamation, 2010). A small portion of the project site was omitted from the original wetlands delineation. An additional delineation is being prepared for the omitted portion for the CWA, Section 404 permit.

3.5 Land Use and Recreation

The proposed project site would be located on Departmental Manual (DM) 613 Reclamation withdrawn lands in an area of the LCR between Imperial and Laguna Dam. This area has been highly modified since the early 1900s for water delivery projects that divert Colorado River water for agricultural and domestic purposes. This includes the construction of Laguna and Imperial Dam, as well as the construction of irrigation canals, levees and roadways.

Lands along the Northeast border of the proposed project site are occupied by the military installation, YPG. According to historians, the history of the YPG dates back to 1943, when Camp Laguna and Corps of Engineers used the location as a test branch conducting tests on various aquatic/amphibious vehicles and bridge structures. By 1973, its official name was designated as the U.S. Army YPG and the area was used as a Range and Test Facility Base that employed a soldier and civilian workforce.

To the Northeast of the site is Hidden Shores Village RV Park, a vacation resort community for snowbird visitors and summer visitors. The site is used primarily for recreation along the lower Colorado River. Recreational activities include boating, water sports and other on site recreation programs. Residential homes and business are located to the southeast and southwest of the proposed project site.

The MLWA located to the southeast of the proposed project site is about 750 acres. The MLWA is now managed by the AGFD and the BLM. Marsh dredging, re-vegetation, and fish habitat improvement were conducted to create riparian and marsh habitat available for vegetation, fish and wildlife species.

MLWA provides recreational opportunities and facilities associated with recreation activities such as

- Camping only in designated areas
- Boating where boat launches and boating jetties are provided
- Fishing

- Hunting only within the Game Management unit 43B that incorporates the southerly border along the Arizona-California state line to I-8. Hunting activities include early dove hunting season (see Appendix C)
- Hiking or walking on recreational trails adjacent or in proximity to MLWA such as Betty's Kitchen National Recreational trail

Most of the recreational activities occur on weekends and observed holidays.

Recreational activities such as hiking, boating, fishing and camping takes place at the Imperial Dam LTVA located Northwest of the proposed project site. The LTVA is managed by the BLM. Visitors can purchase permits to stay up to 7 months at a time.

Land Status

Lands within the proposed project site were withdrawn from public domain under the authority of the Reclamation Act of 1902 (DOI, 1964). According to *The Lower Colorado River Land Use Plan* of 1964, and a series of Secretarial Orders dated between 1902 and 1931, Reclamation currently retains ownership of the lands within the proposed project site (DOI, 1942, p 59). Reclamation withdrawn lands are “located within the corridor along the lower Colorado River as identified in the *Lower Colorado River Land Use Plan* of 1964” (BLM, 2010, p 1-6). These lands are “jointly managed by Reclamation and BLM for specific purposes as outlined by *Departmental Manual* (DM) 613 1.1 and the joint Memorandum of Understanding (MOU) of July 15, 1991” (BLM, 2010, p 1-6). Reclamation retains full authority on project lands as related to DM 613 (MOU, 1991).

Reclamation's dredge spoil or sediment disposal site (SDS) is located directly southwest of the LDCA project site. Although 104 acres of the SDS were released for the proposed LDCA project, the remaining area designated as the SDS is used for Reclamation's administrative operations.

Quechan lands are located south of the proposed project site outside the proposed project site boundaries. Reclamation consulted with the Quechan that resulted in a tribal resolution (see attached tribal Resolution No. R-108-10 in Appendix D).

3.6 Noise

The surrounding facilities, communities, and other areas around the proposed project site are generally exposed to low levels of ambient noise with occasional increases in noise levels from the operation of farming equipment and vehicles, motorized boats, and normal traffic and operations from the surrounding facilities of Imperial Dam, YPG, Hidden Shores Valley RV Park, recreational activities from and around Mittry Lake and the other surrounding communities.

Residents in the surroundings areas of the project site are exposed to temporary but very loud noise from military aircraft operations and other daily activities from YPG.

3.7 Water Quality

The EPA reported that the overall status or water quality of the water body from Imperial Dam to the Gila River is “Good” in the *2008 Waterbody Report for Colorado River from Imperial Dam to Gila River* (2008, EPA) for all of the specified designated uses the water body supports. The overall status was assessed for each designated use in that if the designated use attainment status is "fully supporting" without any indication that it is threatened, then the use status is "Good" (EPA, 2008). This includes uses for agricultural irrigation, agricultural livestock watering, aquatic and wildlife, domestic water source, fish consumption, and full body contact.

Furthermore, in 2009 the ADEQ issued the *2006/2008 Status of Ambient Surface Water Quality in Arizona; Arizona’s Integrated 305(b) Assessment and 303(d) Listing Report*, which included an assessment of the Colorado River’s Lower Gila watershed. The lower Gila watershed is located within the 15.3 miles between Imperial Dam and the Gila River. The ADEQ reported that overall quality of the water resources within the lower Gila watershed is affected by the intensive cultivation and open grazing on Tribal and private lands that are primarily along the river. Precipitation varies from three to ten inches annually and perennial water is limited to the Colorado River mainstream and its reservoirs.

The ADEQ reported that water monitoring samples taken identified:

- 12-19 total and dissolved metals including barium, copper, lead selenium and zinc
- Nutrients including ammonia, total nitrogen, and dissolved oxygen
- 19 suspended sediment concentrations and other pollutants/contaminants

3.8 Visual Resources

The proposed project site is primarily occupied by a dense monotypic stand of saltcedar. The north end of the proposed project site consists of Imperial Dam water channels, roads, and water delivery structures that have highly modified the visual aspects of the natural landscape of the area since the early 1900s. These structures were engineered and built with concrete and metal grading that are partially submerged in water flowing through the channels and waterways. Concrete pads are located west of the Gila diversion structure. The area to the north of the project site and south of Imperial Dam is cleared and leveled with dirt for access to the dam facility from the paved road.

Towards the south of the proposed project site, across County Highway S24, there are dredge piles of sand. The Laguna Dam water channels, roads, and water delivery structures have also highly modified the visual aspects of the proposed project site. These structures including Imperial Dam, canals, and water bodies formed by these projects are now considered architecturally significant to the historic landscape and provide opportunities for recreation.

Individuals that currently utilize the proposed project site to see and experience the current landscape include, but are not limited to, individuals from nearby recreational facilities such as

Hidden Shores Village RV Park and those who work at the Imperial Dam facility and the YPG. In addition, there are recreational users that utilize the MLWA and Betty's Kitchen National Recreational Trails, as well as areas within and around the proposed project site.

3.9 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) directs federal agencies to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority and low-income populations. Population and income data for the general proposed project site was obtained from the U.S. Department of Commerce-Bureau of the Census at the census tract level, data were utilized from the 2000 census of the population. A total of five tracts were analyzed. The three census tracts within Yuma County and two census tracts within Imperial County that were analyzed were 105, 109.1, 109.2, 112, 124, and 125 (see Table 4). Census tract 109.1 and 109.2 are considered one tract that is further broken down. These census tracts are adjacent to the proposed project site where potential impacts in the area of environmental justice might occur. It should be noted that although the data from the 2000 Census does not reflect recent development in the proposed project area, the existing data is still representative of the overall demographic and economic conditions in the project area.

The total population within Yuma County, Arizona is 160,026 total persons. In Imperial County, the total population is 142,361 total persons (a breakdown of the data for each of the census tracts analyzed can be found in Table 7) Although minority populations occur within the five census tracts analyzed, the demographic profile of the populations within each census tract, with the exception of census tract 125, is predominantly white.

Median household income data is taken from a subset of the 2000 census data. One out of every 6 households was surveyed for this data and the data was subsequently extrapolated out by the Census Bureau to the entire population within the census tracts (see Table 7). This data tells us that within Yuma County there is some disparity between the median household income in these census tract areas, with a difference of approximately \$10,000 between census tract 109.1 and 112 and with the median household income for census tract 105 and 109.2 almost directly in between the other two census tracts. The lowest median household income was in census tracts 124 and 125 located in Imperial County, which reports about an approximate \$21,000 median income which is below what is considered to be the poverty level (\$21,800 is the poverty level income). To break these numbers down further, knowing the percentage of households living below the poverty level within each of these census tracts may be beneficial for analysis (see Table 7).

Located adjacent to the proposed project area is the Imperial Dam LTVA. Visitors can purchase permits to stay up to 7 months. Visitors at the LTVA were not included in the 2000 census data and because the population is transient in nature, it is difficult to accurately determine population demographics.

Table 7. Demographics and Poverty Statistics by Census Tracts

County	Census Tact Number	Total Population	Percent of white individuals	Percent of non-white individuals	Median household income	Number of households living below the poverty level	Percent of households living below the poverty level
Yuma County, AZ	105	787	72.2	27.3	\$39,000	235	8.1
Yuma County, AZ	109.1	6,297	69.5	30.5	\$40,071	1,535	13.6
Yuma County, AZ	109.2	7,714	89.7	10.3	\$36,450	2,784	8.1
Yuma County, AZ	112	5,082	70.5	29.5	\$30,043	1,424	14.6
Imperial County, CA	124	1,647	80.6	19.4	\$20,982	489	12.3
Imperial County, CA	125	3,387	37.1	62.9	\$20,292	798	31.8

Source – U.S. Census Bureau, 2000 Census

4.0 Environmental Consequences

This Section provides an analysis and a summary of the impacts from the LCR MSCP FEIS, where applicable, on the selected critical elements of the No Action and Proposed Action Alternative. Mitigation measures, when applicable, are presented.

4.1 Air Quality

4.1.1 No Action Alternative

The No Action Alternative would have no impact on air quality because there would be no action occurring at the proposed project site. Air quality would remain the same as it currently is in the vicinity of the proposed project site with the exception of an unpredictable wildfire event. In the event of a wildfire on this site the fire would likely burn the entire site and continue past the delineated boundaries of the proposed project site. Smoke emissions resulting from an unplanned fire on this site may result in much larger smoke and dust emissions due to a larger burned area and emergency response to the fire.

4.1.2 Proposed Action Alternative

Air Quality

The Proposed Action Alternative would utilize fossil fuel based construction equipment during removal/clearing, construction, maintenance, and operational activities that would result in combustible emissions. These emissions would not violate air quality standards or negatively contribute to existing or projected air quality conditions as defined by the EPA and ADEQ stated in Section 3.1.

Temporary impacts to air quality would occur from the prescribed fire method or air curtain burner/incinerator method. After these methods are implemented, air quality is expected to return to levels currently observed at the site and potentially improve throughout implementation of the proposed project thereafter. Overall, there would be no measurable long-term impacts to air quality as a result of this proposed project. Long-term improvements to air quality and the emissions of GHGs would potentially occur from the re-vegetation of the proposed project site. The risk of wildfire would decrease due to the removal of the dense stands of saltcedar and increased management of the site. This decrease in wildfire potential can be translated into a decreased probability of the occurrence of reduced air quality resulting from smoke and air born dust originating from wildland fires at the proposed project site after the proposed project is implemented.

Impacts to air quality may occur from during the removal and clearing phase of the Proposed Action Alternative would include smoke emissions from the prescribed fire method, the air curtain method, and wind-borne dust and ash disturbed by the land-based equipment and vehicles. These impacts would be considered short term. After the initial clearing and ground contouring portions of the project the vegetation restoration component would be implemented. Once vegetation is established on the proposed project site, air quality would return to levels currently observed in the vicinity of the proposed project.

GHGs and Climate Change

There would be GHG emissions from the proposed use of fossil fuel based construction equipment during removal/clearing, construction, maintenance, and operational activities of the proposed project. The use of fuel based equipment would take place during an estimated 14-month timeframe and would use approximately 303,480 gallons of fuel (see Table 8 for an estimated breakdown of the total amount of fuel consumption, which includes the use an air curtain burner/incinerator for an estimated duration of six months). This estimated quantity of fuel use would equate to approximately 2,698 metric tons of CO₂ equivalent GHG emissions. This is equivalent to CO₂ emissions from the electricity use of 327 homes for one year (EPA, March 2010).

Draft CEQ Guidance recommends quantitative and qualitative analysis of actions that are reasonable anticipated to cause direct emissions of 25,000 metric tons or more of CO₂-equivalent GHG emissions annually (CEQ, February 2010). While the guidance is not final, this quantity provides a relative comparison. The proposed project would emit approximately 1,232 metric tons, which is well below the 25,000 metric tons recommended in the Guidance.

Table 8. Estimated Fuel Consumption

Equipment Type	Estimated Months	Gallons (Gal) per Hour	Estimated time (Hrs)	Estimated Total (Gal)
D-6 dozer	14	6	4,320	25,920
D-6 dozer	14	6	4,320	25,920
D-6 dozer	14	6	4,320	25,920
D-6 dozer	14	6	4,320	25,920
300 track hoe	14	8	4,320	34,560
330 track hoe	14	8	4,320	34,560
740 truck	14	6	4,320	25,920
740 truck	14	6	4,320	25,920
740 truck	14	6	4,320	25,920
613 water truck	14	5	4,320	21,600
988 loader	14	6	4,320	25,920
Air Curtain Burner/Incinerator	6	2.5	2,160	5,400
TOTAL GAL OF ESTIMATED FUEL USE:				303,480

4.1.3 Mitigation

To avoid and minimize potential impacts air quality the following mitigation measures would be implemented:

- Production of dust emissions exceeding an ambient 24-hour PM-10 standard that would result in the potential impact to air quality must implement standard operating practices to minimize dust (PM-10) emissions during establishment, construction and maintenance activities in accordance with the National Ambient Air Quality Standard.

- For the removal, construction and maintenance activities producing emissions that contribute to the excess of an ambient 24-hour PM-10 standard, PBP and a smoke management plan for all establishment, construction, and maintenance activities involving the use of fire would be drafted by the PFIA and implemented to avoid and minimize affects to wildlife and human health and safety, air, and water quality.
- The PFIA in cooperation with Reclamation and other federal, state and local agencies/parties would draft a prescribed fire plan that would reflect best management practices (BMP) to control dust, smoke, and maintain air quality that would
 1. Avoid wind direction, temperature, humidity, and weather conditions that could send smoke, ash/soot and particulates into human habituated, agricultural and recreational areas (i.e. Tribal Trailer Park, Hidden Shores Village RV Park, YPG and other surrounding areas) and avoid spread of smoke into wildlife areas
 2. The prescription for the prescribed fire will follow the acceptable prescription range obtained through weather and smoke management forecasts
 3. Restrict burning conditions to winds traveling from the Southwest

The following mitigation measures will be followed unless it is determined through notification with local agricultural growers that prescribed fire can occur within these time constrictions. Written or verbal notification is required prior to the implementation of the prescribed fire method.

- Prescribed fire activities will not occur during planting and harvest season from August 1 to August 31, and November 1 to February 15
- Prescribed fire activity is permitted if necessary during the early stages of planting between September 1 to October 31 and the late stages of harvesting after February 15
- Avoid or minimize the effects of ash/soot in the neighboring agricultural fields

See Appendix C for a complete list of objectives, constraints and mitigation measures for the proposed removal and prescribed fire activities.

The following mitigation measures will be followed with the implementation of the air curtain burner/incinerator method and manual clearing:

- Dust control measures (e.g. site watering) in accordance to federal and state requirements for air quality will be implemented to control dust.
- Fire Protection Protocols/Plan will adhere to all applicable wildfire regulations and address the accidental ignition of wildfire. This plan should include, but is not limited to, fire prevention measures and fire suppression activities.
- Buffer zones and setbacks will be established for standing trees, vegetation, and other material or debris that can cause accidental fires.

4.2 Biological Resources (T&E Species)

4.2.1 No Action Alternative

The No Action Alternative would have no impact to vegetation and T&E listed species. The dense monoculture of saltcedar would continue to flourish, out-compete native species, and provide a lower quality of habitat than native plant species for native wildlife species. In addition, the No Action Alternative would not allow the planning for future needs of T&E listed species and their habitats as identified in the MSCP EIS and BO. Future compliance with the restoration goals of the LCR MSCP may be compromised, leading to future re-initiation of Section 7 consultations under the ESA.

If the No Action Alternative is implemented, other areas for restoration would need to be located and developed to accomplish the LCR MSCP habitat creation targets. Reclamation would not utilize the proposed LCDA to fulfill the requirements of its MSCP BO and the FEIS.

4.2.2 Proposed Action Alternative

The proposed project consists of creating and/or restoring a variety of habitats on approximately 1,200 acres of the proposed project site. The approximate 1,200 acres of habitat to be created and/or restored would consist of open water/wetland or marsh, riparian habitat, and uplands. The proposed project would create new open water habitats and enhance the riparian habitat through the re-vegetation design that would protect existing habitats within the proposed project site. No designated critical habitat would be impacted by the implementation of the proposed project. Implementation would result in the creation and enhancement of additional marsh and native riparian habitats that would benefit the Targeted Species. The proposed action alternative may have short-term impacts on the Targeted Species due to vegetation clearing and construction activities.

Vegetation clearing activities would include either manual clearing of vegetation along with the prescribed fire and the removal of debris and unburned material after the fire or manual clearing of the entire site if a suitable window to conduct a prescribed burn does not occur. Additionally the air curtain burner/incinerator may be used to assist in the removal and clearing of vegetation. These activities would temporarily displace wildlife occupying the proposed project area by removing habitat and food sources. The displaced wildlife would likely move into the vicinity MLWA. Although these activities would remove habitat that may be used by the Targeted Species, this habitat is considered low in quality for the Targeted Species. The habitat would be substantially improved through the restoration activities.

The best time to implement a prescribed fire in habitat known to be occupied by YCRA during the breeding season would be October through January (C. Conway pers. comm., 2010). If logistical constraints prevent the implementation of the prescribed fire during October through January, setting the date for safe burning prior to February 15, with a cut-off date by February 28 is recommended (C. Conway pers. comm., 2010). The dates recommended above for the implementation of a prescribed fire covers the periods when the BLRA would begin breeding activities and when the arrival of SWFL, YBCU, and most other migratory birds occur in the proposed project site. The flycatcher and cuckoo vacate the area by September 15th.

Implementing a prescribed fire between September 15 and February 15 would exclude any impact to the T&E species as well as the rest of the LCR MSCP covered species.

Although it is cited that the YCRA and BLRA may occasionally begin breeding behavior in the later part of February, breeding season as identified within the LCR MSCP HCP begins March 15 and ends September 1 (Reclamation, HCP Section 5.6.1, 2004). In conjunction with the recommendations above and the identified dates within the LCR MSCP HCP, prescribed fire activities should, to the extent practicable, be avoided and minimized during February 15 to mid-September in order to accommodate all species of breeding birds and avoid impacts to their nesting success (Reclamation, HCP Section 5.6.1, 2004).

Clearing activities prior to the implementation of the prescribed fire may force YCRA and BLRA out of the known areas where they are found during breeding season. If this is the case, this would not have an impact on established nest sites that contain eggs that are being incubated.

Construction activities may have the potential to impact the targeted species and other wildlife on lands immediately adjacent to the proposed project site. These impacts may manifest themselves as habitat avoidance by the targeted species. Impacts resulting from vegetation clearing and construction activities would be considered short-term in duration and is permitted through the LCR MSCP FEIS. Once this project is fully implemented there would be benefits to all wildlife occupying the proposed project site. Displaced wildlife would not likely return to the proposed project site until after construction and restoration activities would be completed.

The March 4, 2005 BO prepared by the USFWS discussed the potential impacts of the conservation requirements contained in the LCR MSCP. Based on the BO, the USFWS assumed that creation of new marsh habitats for the YCRA and the SWFL may occur in areas formerly containing suitable marsh habitat. On May 13, 2010, the USFWS sent a letter of concurrence to Reclamation's request to include the LDCA as part of the conservation requirements mentioned in the BO; a finding of "may affect, but not likely to adversely affect" was determined for the YCRA and the SWFL (see Appendix D).

4.2.3 Mitigation

To avoid and minimize potential impacts on the Targeted Species and other wildlife the following mitigation measures would be implemented to the extent practicable (Reclamation, HCP Section 5.6.1):

- In order to avoid impacts to nesting migratory bird species protected under the MBTA, prescribed fire activities would not be allowed from February 15 through mid-September.
- The speed and intensity of the prescribed fire should be reduced as it approaches locations known to contain either YCRA or BLRA (see Figure 4).
- The prescribed fire will be conducted so that the fire burns in a direction that would allow YCRA and BLRA to escape into the MLWA.
- Perimeter clearing to create a fire break would occur to avoid or minimize impacts to habitat utilized by YCRA and BLRA.

- During prescribed fire operations the following elements would be required where applicable to avoid the introduction and/or spread of noxious and invasive species:
 1. During incident management planning process determine the potential for spreading noxious and or invasive weeds while traveling to and from an incident and during suppression activities and taking appropriate action to reduce the potential for spread.
 2. Resource advisors would be aware of noxious/invasive weed problems at the fire and around fire camps.
 3. Material such as gravel, hay, etc needed for camp setup, etc would be certified weed free and/or source location inspected or researched for weed seed potential.
 4. Resource advisors would make a determination if equipment to be demobilized from a fire needs to be cleaned at site prior to release.
 5. All engines, water tenders, and fire suppression vehicles would use non-contaminated water (Colorado River water is acceptable for suppression use), including when refilling. Refilling would be done at the nearest fire hydrant or approved refilling stations (i.e. on site fold up tanks or pumpkins) to prevent contamination from invasive species.
- To avoid additional habitat degradation on the proposed project site during project activities, all dredge and excavated material would be placed on pre-existing spoil sites or in locations of low habitat value (see Appendix B).
- In order to avoid impacts to nesting migratory bird species protected under the MBTA and Targeted Species, construction and maintenance activities would be minimized from February 15 through mid-September.
- During removal, construction and maintenance phases of the project, equipment would be thoroughly cleaned prior to entering the proposed project site. The cleaning process will ensure that all dirt and debris that may harbor noxious or invasive weeds seeds are removed and disposed of at an appropriate facility. Reclamation's *Inspection and Cleaning Manual for Equipment and Vehicles to Prevent the Spread of Invasive Species: 2010 Edition* can be found at <http://www.usbr.gov/mussels/> and should be reference for inspection and cleaning activities.

See Appendix C for a complete list of objectives, constraints and mitigation measures for the proposed removal and prescribed fire activities.

4.3 Cultural Resources

4.3.1 No Action Alternative

No impacts have been identified for the No Action Alternative.

4.3.2 Proposed Action Alternative

The proposed action will not adversely affect cultural resources. Project design has avoided impacting the cultural resources. However, due to dense vegetation, not all the acres in the southern portion of the project area could be surveyed for cultural resources. While unlikely, cultural resources could be found in this area.

Due to project design, none of the features associated with the World War II use of the project area will be impacted by the current project. Reclamation will implement requirements resulting from consultation with the Arizona State Historic Preservation Office and California State Historic Preservation Office.

4.3.3 Mitigation

Reclamation will implement requirements resulting from consultation with the Arizona State Historic Preservation Office and California State Historic Preservation Office.

Should cultural resources be discovered during construction, all work in the area of the resource will be stopped, and Reclamation's Project Archaeologist will be contacted. Work will not resume at the cultural resource locale until all mitigation measures, developed in consultation with the Arizona State Historic Preservation Office and the California State Historic Preservation Office, have been implemented and completed (see Appendix C for SHPO correspondence).

4.4 Floodplains

4.4.1 No Action Alternative

No impacts have been identified for the No Action Alternative.

4.4.2 Proposed Action Alternative

Excavation would need to occur to install the proposed pipeline and to construct the levee system supporting the proposed project in order to deliver water from the Gila Basin. Short-term impacts would result from the excavation activities. Excavation activities would restore water flows to degraded wetland areas. The completion of the project would allow for increased and improved flows to existing wetland areas.

4.4.3 Mitigation

No mitigation measures have been identified for the floodplains section.

4.5 Land Use and Recreation

4.5.1 No Action Alternative

The No Action Alternative would have no impacts to current land use and recreation. The dense stands of saltcedar would pose potential hazards to human health and safety through the increased risk of an unplanned wildfire.

4.5.2 Proposed Action Alternative

The Proposed Action Alternative would potentially have impacts resulting from activities associated with the proposed vegetation clearing, which would include either or a combination of the prescribed fire method and the air curtain burner/incinerator method. The prescribed fire method would result in short-term closure of roads and public access within and in proximity to the project site and MLWA. These closures would occur for the protection of public health and safety as a result of the potential impacts associated with the use of prescribed fire. Recreational areas and activities within and in proximity to the proposed project site and MLWA would not be available for public access immediately prior to and during the prescribed fire. Short-term impacts to land use and recreation are anticipated if the Proposed Action Alternative is implemented.

In the long term it is anticipated that there would be increased recreational opportunities resulting from the enhancement, creation, and restoration of riparian and wetlands habitats. Recreational opportunities would be enhanced as more open water area would be created and wildlife viewing opportunities would increase as a result of re-vegetation and backwater restoration activities.

Implementation of the project features would not change or impact the status of any lands and their use within the proposed project site.

4.5.3 Mitigation

To avoid and minimize potential impacts on land use and recreation the following mitigation measures would be implemented:

- Prescribed fire activities would not occur if the proposed project area is occupied by unauthorized persons defined in the PBP. The proposed project site will be thoroughly surveyed for the presence of unauthorized persons immediately prior to the implementation of the prescribed fire to ensure public safety.
- The perimeter of the prescribed fire must be sufficiently patrolled to prevent unauthorized entry during prescribed fire operations.
- Do not allow fire to cross North of Laguna Dam Road or S24, West of California Sluice Way because there are power lines and buildings north of the proposed project site.
- Notify federal, state, and local agencies to coordinate closure of roads and public access.
- Proper authorizations and permits from Yuma County must be obtained prior to initiating the proposed project activities.
- Coordination would occur between state and federal agencies, the public, and the PFIA project lead to minimize impacts to the public during the prescribed fire.
- The public would be notified of the burn schedule prior to ignition to limit conflicts with the pile burn areas.
- The treatment unit would be closed to the public during prescribed fire activities.

- Prevent the spread of fire beyond the eastern boundary of the proposed project site and into the MLWA. The MLWA is included in the maximum management area however avoidance is requested. To prevent spread of fire into MLWA, contain fire east of proposed site boundary.
- Notification and coordination with AGFD for closure of MLWA and the surrounding recreational areas and trail prior to the implementation of the prescribed fire.
- Where proposed work involves tribal lands, approvals would be obtained prior to initiating construction activities, in accordance with regulations and requirements.
- At National Preparedness Level IV, concurrence by the State Fire Management Officer (SFMO) must be obtained before implementing the local Agency Administrator's recommendation for a prescribed fire.

The following mitigation measures will be followed unless it is determined through coordination with AGFD that prescribed fire can occur within these time constrictions. Concurrence is required either written or verbal prior to the implementation of the prescribed fire.

- Avoid dove hunting season during the first two weeks of September
- Avoid prescribed fire activities during the week-ends

See Appendix C for a complete list of objectives, constraints and mitigation measures for the proposed removal and prescribed fire activities.

4.6 Noise

4.6.1 No Action Alternative

No impacts have been identified for the No Action Alternative.

4.6.2 Proposed Action Alternative

Temporary noise may be detected by individuals such as fishermen, campers, and other recreational users resulting from the removal activities, prescribed fire implementation, air curtain burner/incinerator operations and construction operations. Activities that may generate noise above what is currently experienced in the area would include helicopter fly-overs and vehicle and equipment operation associated with removal activities, the prescribed fire, air curtain burner/incinerator operations and construction operations in the proposed project site.

Elevated noise sources could result from the air curtain burner/incinerator engines, the operation of heavy equipment for piling material, and chain saws for removal and clearing vegetation and debris. At times, noise levels for the air curtain burner/ incinerator may exceed 82 decibels (dBA) (Los Alamos, 2002). The noise levels for heavy equipment are generally accepted to be 110 dBA or less. Occupational Safety and Health Administration permissible noise exposure for an eight hour workday is 90 dBA and below (OSHA). Construction personnel onsite will be required to wear hearing protective equipment. The nearest residence to the project site is

Hidden Shores RV Recreational Park, which is located approximately 2,500 ft away. At 2,500 ft the noise levels are expected to attenuate to negligible levels (FTA, 2006).

Noise from these activities would become part of the background noise levels associated with the surrounding communities. Project operations may occur twenty-four hours per day, unless noise level complaints are received from surrounding residences. Complaints would be individually evaluated and appropriate course of action implemented to reduce noise levels based on the merit of the complaint. Individuals working and entering within the proposed project site would experience higher levels of noise from the removal activities, prescribed fire, air curtain burner/incinerator operations, construction operations, and restoration activities due to their close proximity to the proposed action site.

4.6.3 Mitigation

To avoid and minimize potential impacts on noise the following mitigation measures would be implemented:

- Individuals working in and entering the proposed project site would be required to wear personal protective equipment (i.e. ear plugs and ear muffs).

4.7 Water Quality

4.7.1 No Action Alternative

No impacts have been identified for the No Action Alternative.

4.7.3 Proposed Action Alternative

The Proposed Action Alternative has the potential to impact water quality that would result from removal activities, construction operations, and maintenance activities. Removal activities would include vegetation clearing and the implementation of a prescribed fire that has the potential to temporarily increase the amount of suspended soil particles, dissolved inorganic nutrients, and other materials in runoff due to rainfall and transport these materials into adjacent streams and lakes (Kennard, 2008). Vegetation clearing has the potential to temporarily increase temperature, sedimentation and turbidity, as well as produce ash in adjacent streams or lakes (Schoonover et. al., 2008)

Although the potential of increased runoff can occur, there would be beneficial impacts of the use of a prescribed fire for restoration and conservation that can protect water quality by reducing the risk of wildfires (Schoonover et. al., 2008). In addition, the creation of riparian, wetland and marsh habitat would result in the long-term improvements to water quality.

Reclamation is preparing to submit a 404 permit application with the Corps of Engineers (Corps) for aquatic and wetland enhancement activities. The submission of the 404 permit application would include obtaining a 401 water quality certification from state agencies. Activities covered under this permit would include excavating of material to restore backwater channels, construct inlet and outlet structures, remove non-native vegetation, and re-vegetate 1,200 acre area within the floodplain of the Colorado River including wetlands.

Associated with project activities, a storm water permit must be obtained and a Storm Water Pollution Prevention Plan (402 permit) would be drafted and implemented to avoid potential impacts to water quality due to runoff during rainfall or storms accordance to the Clean Water Act of 1977.

4.7.3 Mitigation

No mitigation measures have been identified for water quality through this analysis.

Through the 404, 401, and 402 permit applications, mitigation measures will be imposed to ensure water quality standards would be observed during the implementation of the Proposed Action Alternative. All mitigation measures from the 404, 401 and 402 permit would be followed.

4.8 Visual Resources

4.8.1 No Action Alternative

The No Action Alternative would have negative effects on visual resources. The visual resources would not be altered and view shed would remain in its current condition exposing dense vegetation that is dominated by saltcedar.

4.8.2 Proposed Action Alternative

The LDCA is part of the view shed of the MLWA and the Hidden Shores Village RV Park. The project site is partially visible to YPG and the other surrounding areas, roads and public access locations mentioned previously in this EA.

Short-term impacts would result from the removal activities, construction operations, restoration activities and maintenance activities that would temporarily lessen the visual quality of the conservation area on or near visually sensitive resources. Implementation of a prescribed fire and the use of hydraulic equipment and an air curtain burner/incinerator during the removal of vegetative material/debris would temporarily lessen the visual quality of the proposed project site during the vegetation removal activities. Construction activities and excavation for the proposed installation of the underground water delivery system and the gravity pipeline would also temporarily lessen the visual quality of the proposed project site.

Short-term impacts resulting from the construction of the water delivery and levee system proposed for the project would alter the visual quality of the proposed project site. An intake structure adjacent to the Mittry Lake intake structure would be constructed. The excavated canals located southwest of the Mittry Lake inlet canal would be filled. Re-vegetation and habitat would be created in and around the excavated canals.

The conservation, restoration and creation of habitat would restore the proposed project site to a natural appearance that would enhance aesthetics, as well as add value to the area and the view shed.

4.8.3 Mitigation

No mitigation measures have been identified for the visual resources section.

4.9 Environmental Justice

4.9.1 No Action Alternative

No impacts have been identified for the No Action Alternative for the environmental justice section.

4.9.2 Proposed Action Alternative

The analysis of the census data from 2000 indicated that minority and low income populations occur in census tract 105, 109.1, 109.2, 112, 124, and 125, implementation of the proposed action would not result in disproportionately high and adverse human health effects or produce any environmental effects to minority or low income populations within Yuma County and parts of Imperial County.

Although the US. Census tract identifies a high percentage of minority and low-income populations, the Proposed Action Alternative will have beneficial impacts that would enhance low impact recreational opportunities such as bird watching and walking within the restored area. The proposed action would be a good asset for the local community and the wildlife that reside in and around the proposed project site.

4.9.3 Mitigation

No mitigation measures have been identified for the environmental justice section.

4.10 Cumulative Effects

Cumulative impacts can result from individually minor, but collectively adverse, actions taking place over a period of time. Cumulative impacts are most likely to arise when a relationship exists between a proposed alternative and other actions that have, or are expected, to occur in a similar location, time period, or involving similar actions. Projects in close proximity to the proposed alternatives would be expected to have more potential for cumulative impacts than those more geographically separated. In this section, a list approach was used to identify projects closely related to the Proposed Action that would be analyzed for cumulative impacts (i.e., either located within or in the vicinity of the proposed project site and having the potential to impact common resources).

Actions considered to be “past” are projects that are complete or currently ongoing, but that would be completed before construction of the Proposed Action begins in mid 2011. Actions considered to be “present actions” are defined as projects/activities occurring at the time of this evaluation that would continue during construction and operation of the Proposed Action. Future actions are actions that are currently approved, but would not begin construction until after construction of proposed action would be completed or actions for which the NEPA process is in progress.

4.10.1 Past Actions

Yuma Project

The Yuma Project consists of a series of subdivided projects to deliver irrigation water to the towns of Yuma, Somerton, and Gadsden in Arizona and Bard and Winterhaven in California. Features of the Yuma Project include the construction of Laguna Diversion Dam and a system of canals, laterals and drains that make up the features of the drainage and distribution systems.

The Laguna Diversion Dam is located 13 miles northeast of Yuma, Arizona and about five miles downstream of Imperial Dam. The Dam was constructed between 1905 and 1909 to divert Colorado River water into the Yuma Project's other feature, the Yuma Main Canal.

Since the completion of Imperial Dam in 1938, Laguna Diversion Dam has been used to regulate sluicing flows and act as a downstream toe protection for Imperial Dam. (See Boulder Canyon Project, All American Canal System for more information on Imperial Dam). Water stored behind Laguna Dam in the Laguna de-silting basin is released and delivered as part of Mexico's appropriations of Colorado River water (Reclamation, 2010).

Boulder Canyon Project, All American Canal System

The Imperial Diversion Dam and De-silting Works is a feature of the Boulder Canyon Project, All American Canal System that was constructed between 1936 and 1938 and completed in June of 1938. It is located about 18 miles northeast of Yuma, Arizona. The project delivers irrigation water to over 600,000 acres of land in Imperial and Coachella Valley and is owned by Reclamation and operated by the Imperial Irrigation District.

From Imperial Dam, water is diverted into two canal systems. The All American Canal diverts water to California, which consists of the California Sluiceway that removes sediment collected in the sluiceway and the Imperial Dam reservoir. Sluicing flows are discharged into the Laguna de-silting basin behind Laguna Dam.

The Gila canal system features the Gila settling basins and the control gate at the headworks of the Gravity Main Canal where sediment settles to the bottom of the basin and clear water flows over the control gates to deliver water to Arizona (see Gila Project for more information about the Gila canal headwork and gravity main canal).

The De-silting Works for both canal systems removes sediment from the flow of the Colorado River to prevent debris from clogging the canals and reduces maintenance associated with sediments in the canal (Reclamation, 2010).

Gila Project

The Gila Project was constructed from the 1930s to the 1950s and features the Gila de-silting works at Imperial Dam, the Gila Gravity Main Canal, and distribution and drainage systems that divert water to the Yuma Mesa (located northeast and east of Yuma) and the Wellton Mohawk division (located about 12 miles from Yuma and continues upstream on the Gila River about 45 miles).

The Gila Project provides irrigation services to 42,131 acres of land in the Yuma Mesa Division and 65,000 acres of land in the Wellton-Mohawk Division. This includes acres of land in the

North and South Gila Valleys. The project diverts 300,000 acre-feet (af) of Colorado River water to each division to satisfy consumptive use annually (Reclamation, 2009).

Mittry Lake Emergency Stabilization Projects

The Mittry Lake Emergency Stabilization Project located approximately 20 miles NE of Yuma, Arizona (Yuma County) was conducted in response to the effects of the Mittry Lake Fire in 2003. The purpose of the project was to rehabilitate and reestablish cottonwood and willow and retain remaining native species while removing invasive species (saltcedar). Activities included mechanical clearing, mulching, grubbing, planting/caging, fertilizing, pruning, seeding, irrigation, herbicide application, soil analysis, and improving existing BLRA habitat. The EA identified that beneficial impacts would result in association with the project (BLM, 2003).

Mittry Lake Hazardous Fuels Reduction and Riparian Restoration

The Mittry Lake Hazardous Fuels Reduction and Riparian Restoration Project were conducted in 2003 to restore approximately 80 acres of riparian habitat along the LCR, on the south end of Mittry Lake. The project was a restoration effort to improve wildlife species diversity and numbers, and to reduce the amount of hazardous fuels that had accumulated in the area. The project activities included the removal of invasive plants (saltcedar) through a prescribed fire, followed by the re-vegetation of native plants. The 2002 EA for the project indicated there would be no potentially significant impacts to elements such as air quality and water quality, T&E species and land use (Reclamation, 2002).

4.10.2 Present Actions

Laguna Reservoir Restoration Project

The Laguna Reservoir Restoration Project (LRRP) located at the upstream side of Laguna Dam began construction in 2006 to increase storage from 450 af to 1,500 af of water behind Laguna Dam (Reclamation Website, 2006). When the LRRP is completed, it will provide the potential to capture water below Imperial Dam and release it to meet water delivery requirements downstream. The LRRP is being constructed to allow for the removal of sediments and prevent future sediment accumulation in the All-American headworks and the California Sluiceway (Reclamation, 2006).

Imperial Dam Dredging/Sediment Removal Project

The Colorado River Front Work and Levee System program includes the dredging of Imperial Dam and is a reoccurring operations and maintenance (O&M) activity that routinely dredges material accumulated directly upstream of Imperial Dam. Reclamation has conducted dredging operations above Imperial Dam as necessary since the 1960s to assure water deliveries through the headwork of the All-American Canal and the Gila Gravity Main Canal.

Reclamation is currently conducting dredging operations to remove approximately 1,500,000 cubic yards of material in previously dredged areas. The dredged material is transported to an upland disposal site, on the east side of the river via hydraulic pipeline that extends from the Imperial reservoir, along the California sluiceway and the O&M access road to the disposal site, directing dredged material from the sluiceway. In addition, retention dikes along portions of the

disposal site's western boundary are constructed to prevent water runoff in the California sluiceway.

4.10.3 Future Actions

Laguna Settling Basin (LSB) Maintenance Dredging Project

Dredging of the LSB is a reoccurring operational need which is part of the Colorado River Front Work and Levee System program where Reclamation routinely dredges material that accumulates at settling basins. Dredging of the LSB has been conducted since 1963 when the LSB was constructed, on an as needed basis. The purpose of the LSB is to alleviate sediment aggradations problems in the Laguna, Yuma, and Limitrophe Divisions of the lower Colorado River. The LSB was created to intercept the incoming sediment (collected from the All-American Canal desilting works and incoming sediment from above Imperial Dam) and store it until the sediment could be dredged for disposal on dry land. A total of approximately 1,500,000 cubic yards of material will be dredged from the LSB and placed in a designated upland disposal area. To avoid water runoff back to the basin and the California sluiceway (river) when placing the dredged material in the upland areas, Reclamation has constructed retention dikes parallel to the LSB and the southern portion of the disposal site boundary. In addition, dredged material pumped to the disposal site would be directed away from the sluiceway (DeSantiago, Comment YAO-3 in Appendix E; Comment Letters).

Future Colorado River Front Work and Levee System Program Dredging Operations

In the future, Reclamation would conduct routine dredging operations to remove sediment/material accumulation above Imperial Dam as part of the O&M process to assure water deliveries through the All-American Canal and the Gila Main Canal.

4.10.4 Cumulative Impacts by Resources

The following is a discussion of the proposed project and potential cumulative impacts resulting from the implementation of the proposed action when taking into account all other known projects that have occurred, are occurring or will occur in the future. This Section is divided into the resource areas that were analyzed throughout this document.

Air Quality

Implementation of the Proposed Action Alternative and other reasonably foreseeable actions described in 4.10.2 may result in increase area emissions associated with removal/clearing and construction activities. Emissions resulting from the Proposed Action Alternative and other future projects would not be expected to exceed the ambient air quality standards. In addition, both the proposed and future projects, in combination, would not be expected to reach the 25,000 metric ton or more emissions of CO₂ equivalent indicator to carry out a quantitative assessment for climate change. As a result, the Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have a measurable negative cumulative impact to air quality and climate conditions.

Biological Resources (T&E Species)

The Proposed Action Alternative and other reasonable foreseeable projects described in Section 4.10 have the potential for biological impacts due to short-term habitat loss for sensitive and common wildlife species. However, avoidance and minimization measures are designed into the Proposed Action Alternative and mitigation of these potential impacts is provided through avoidance and mitigation measures discussed in Section 4.2. Although past actions described in Section 4.10.1 have highly modified the proposed project site that over time has resulted into habitat loss due to the construction of Imperial Dam, Laguna Dam, the All American Canal, and the Gila water delivery systems and resulted in the natural development of low quality habitat for Target Species through the growth of dense monoculture vegetation such as saltcedar, the Proposed Action Alternative would create/enhance riparian, marsh and open water habitat that would benefit Targeted Species and other wildlife that utilize the proposed project site, resulting in a net positive impact over the duration of the proposed project implementation. As a result, the Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have negative cumulative impacts to biological resources.

Cultural Resources

The Proposed Action Alternative would not result in disturbance of known historic properties, including archeological resources and historic architectural resources. No impacts to significant cultural resources were identified in the Proposed Action Alternative. During the construction of the actions described in Section 4.11.2, there were no potential for unforeseen cultural resources to be discovered or damaged. Mitigation measure would ensure that appropriate actions are taken if cultural resources are discovered during clearing. The Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have negative cumulative impacts to cultural resources.

Floodplains

The Proposed Action Alternative would have impacts associated with removal/clearing, construction and establishment of the proposed project site, but would not be expected to result in increased soil erosion and associated sedimentation of the Colorado River due to mitigation measures imposed through the 404 and 401 permits. Dredging and excavation activities for the proposed pipeline to deliver water to the levee system from the Gila Basin to the proposed project levee system would restore and create habitat and would increase and improve flows to existing wetland areas. Dredging and excavation of ongoing and foreseeable future actions would restore water flows to degraded wetland areas. The Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have negative cumulative impacts to the lower Colorado River floodplain and would allow the floodplain to perform in an enhanced state after the proposed project would be completed.

Noise

The Proposed Action Alternative would require standard dredging activities and use of manual and hydraulic equipment, including the removal of vegetation and periodic maintenance. Other projects described in Section 4.10.2 would have similar temporary construction noise. The Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have long term negative cumulative impacts in the vicinity of the proposed project area.

Land Use and Recreation

The Proposed Action Alternative would be compatible with all existing authorized land uses, land configurations, and land use standards and guidelines from the local and regional plans. Implementation of the Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have negative cumulative impacts to land use and would potentially provide for the enhancement of land use and recreation activities.

Water Quality

The Proposed Action Alternative may have temporary and localized impacts on water quality during removal/clearing and construction activities. However, there would be beneficial impacts related to removal of dense saltcedar and re-vegetation of native vegetation that would protect water quality by increasing the natural ecological functions of the site and reducing the risk of wildfires. The creation of riparian, wetland and marsh habitat would result in the long-term improvement to water quality. The Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have negative cumulative impacts to water quality, after the proposed project would be implemented there would be a strong potential for a net positive effect on water quality.

Visual Resources

The Proposed Action Alternative would not result in the obstruction or degradation of any scenic view shed. Removal/clearing, construction, and establishment activities may cause temporary changes in the visual character of the proposed project site. The addition of the water delivery system designed into the Proposed Action Alternative would be considered beneficial. Operations would not cause the overall nature of the proposed project site to be degraded and would not result in impacts to visual quality. The Proposed Action Alternative, in conjunction with the other actions stated in Section 4.10, is not anticipated to have negative cumulative impacts to visual resources in the vicinity of the proposed project site.

Environmental Justice

No potential impacts have been identified for the Proposed Action Alternative, ongoing, and foreseeable future actions. The Proposed Action Alternative, in combination with ongoing and foreseeable future actions, are not expected to adversely affect human populations in the vicinity of the proposed project and would not result in disproportionately high and adverse human health and environmental effects on minority or low-income populations.

5.0 Consultation and Coordination

5.1 Persons/Agencies Consulted

Arizona Game and Fish Department
Bureau of Land Management
Bureau of Indian Affairs
California Department of Fish and Game
U.S. Fish and Wildlife Service
Quechan Indian Tribe
Yuma Safe Produce Council

5.2 Scoping/Public Involvement

Preparation and outreach for an informational public meetings on March 18, 2010 included

- A news release by Reclamation advertising the purpose, location, date, time, and reference resources resulted in a front page news article in the “Yuma Sun” on March 17, 2010. A paid advertisement, announcing the purpose, location, date, time, and resources to locate additional information was placed in the general announcement section of the “Yuma Sun” on March 12 - 17, 2010.
- Distribution and posting of public flyers in the Hidden Shores Village RV Park, YPG and Yuma, AZ.
- Followed up by an article to the “Yuma Sun” on March 19, 2010.

On March 18, 2010 an informational meeting was conducted at the Hidden Shores Village RV Park and at the Council Chamber in Old City Hall. Reclamation, LCR MSCP, AGFD, BLM, and Natural Channel Designs collectively presented information about the LCR MSCP, the LDCA, proposed project design, proposed costs and benefits of the project, proposed project activities, surrounding areas such as Mittry Lake, and the proposed prescribed fire activities.

Question and answer sessions were provided throughout the presentations and attendees were invited to speak with presenters and representatives at the end of presentations. Concerns about impacts to water resources, T&E and wildlife species, and agricultural crops as a result of the proposed prescribed fire are noted and are addressed in this EA.

Post cards containing contact information (postal address and e-mail address) to submit comments concerning the project were provided to all attendees. No written comments resulting from the public meetings were received by postal mail, e-mail, fax, or phone from the public.

Reclamation held several informational meetings with the list of federal, state, tribal, and local agencies/groups listed in Section 5.1. Meetings with the BIA and consultations with the Quechan Indian Tribe were conducted about land ownership and use. In addition, Reclamation held a conference call with Yuma Safe Produce Council (this included several farm representatives) to inform them of the proposed action and to gain feedback and comments. Comments from all agencies and groups are addressed in this EA.

The Draft EA was completed and available for public comment on November 30, 2010. A public comment period on the Draft EA was conducted from November 31 to December 31, 2010. Letters were sent directly to those expressing interest in the proposed project and being contacted by Reclamation of any information is released about the project. An advertisement was placed in the “Legal” section of the *Yuma Sun* that was published from December 10, 2010 to December 11, 2010. Reclamation’s Lower Colorado Regional Office in Boulder City sent a news release to several media outlets.

Comments were received by various federal, state, local, and private entities addressing sections of the Draft EA. The comments and responses can be found in Appendix E.

5.3 Distribution List

The distribution list of entities who will be notified that the Draft and Final EA can be accessed for public review online at <http://www.lcrmscp.gov/worktasks/conservationareas/E27/index.html> will include AGFD, the BLM, and the Bureau of Indian Affairs the California Department of Fish and Game, U.S. Fish and Wildlife Service, Yuma Safe Produce Council, LCR MSCP Laguna Division Conservation Area Steering Committee, and the attendees of the public meetings conducted on March 18, 2010. In addition, a paper copy of the EA will be available upon request.

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