

Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

Imperial Ponds Conservation Area LCR MSCP Conservation Area Specific Fire Management and Law Enforcement Strategy



January 2010

Lower Colorado River Multi-Species Conservation Program Steering Committee Members

Federal Participant Group

Bureau of Reclamation
U.S. Fish and Wildlife Service
National Park Service
Bureau of Land Management
Bureau of Indian Affairs
Western Area Power Administration

Arizona Participant Group

Arizona Department of Water Resources
Arizona Electric Power Cooperative, Inc.
Arizona Game and Fish Department
Arizona Power Authority
Central Arizona Water Conservation District
Cibola Valley Irrigation and Drainage District
City of Bullhead City
City of Lake Havasu City
City of Mesa
City of Somerton
City of Yuma
Electrical District No. 3, Pinal County, Arizona
Golden Shores Water Conservation District
Mohave County Water Authority
Mohave Valley Irrigation and Drainage District
Mohave Water Conservation District
North Gila Valley Irrigation and Drainage District
Town of Fredonia
Town of Thatcher
Town of Wickenburg
Salt River Project Agricultural Improvement and Power District
Unit "B" Irrigation and Drainage District
Wellton-Mohawk Irrigation and Drainage District
Yuma County Water Users' Association
Yuma Irrigation District
Yuma Mesa Irrigation and Drainage District

Other Interested Parties Participant Group

QuadState County Government Coalition
Desert Wildlife Unlimited

California Participant Group

California Department of Fish and Game
City of Needles
Coachella Valley Water District
Colorado River Board of California
Bard Water District
Imperial Irrigation District
Los Angeles Department of Water and Power
Palo Verde Irrigation District
San Diego County Water Authority
Southern California Edison Company
Southern California Public Power Authority
The Metropolitan Water District of Southern California

Nevada Participant Group

Colorado River Commission of Nevada
Nevada Department of Wildlife
Southern Nevada Water Authority
Colorado River Commission Power Users
Basic Water Company

Native American Participant Group

Hualapai Tribe
Colorado River Indian Tribes
The Cocopah Indian Tribe

Conservation Participant Group

Ducks Unlimited
Lower Colorado River RC&D Area, Inc.



Lower Colorado River Multi-Species Conservation Program

Imperial Ponds Conservation Area LCR MSCP Conservation Area Specific Fire Management and Law Enforcement Strategy

**Lower Colorado River
Multi-Species Conservation Program
Bureau of Reclamation
Lower Colorado Region
Boulder City, Nevada
<http://www.lcrmscp.gov>**

January 2010

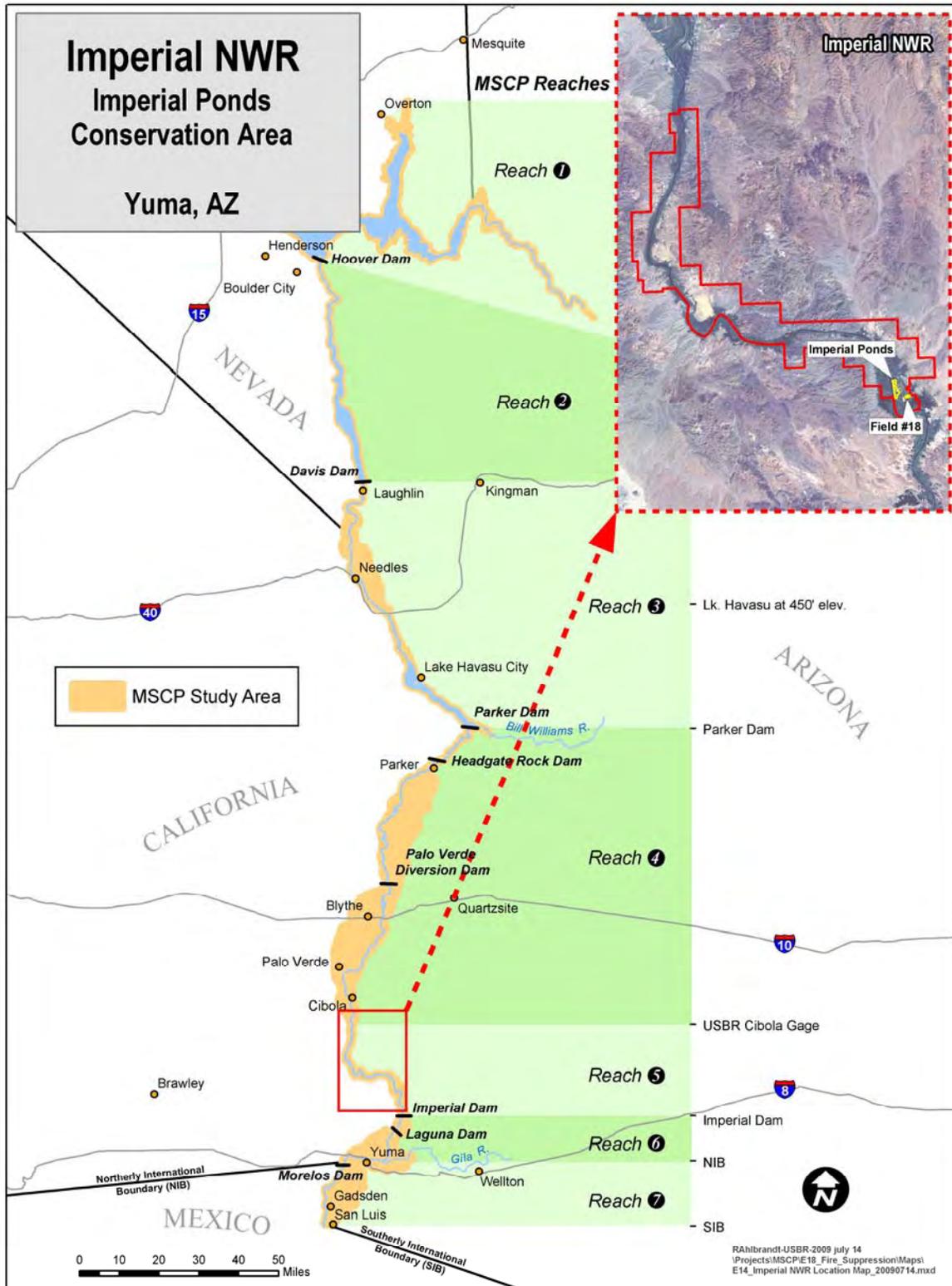
EXECUTIVE SUMMARY

Fire Management and Law Enforcement Strategy Imperial Ponds Conservation Area

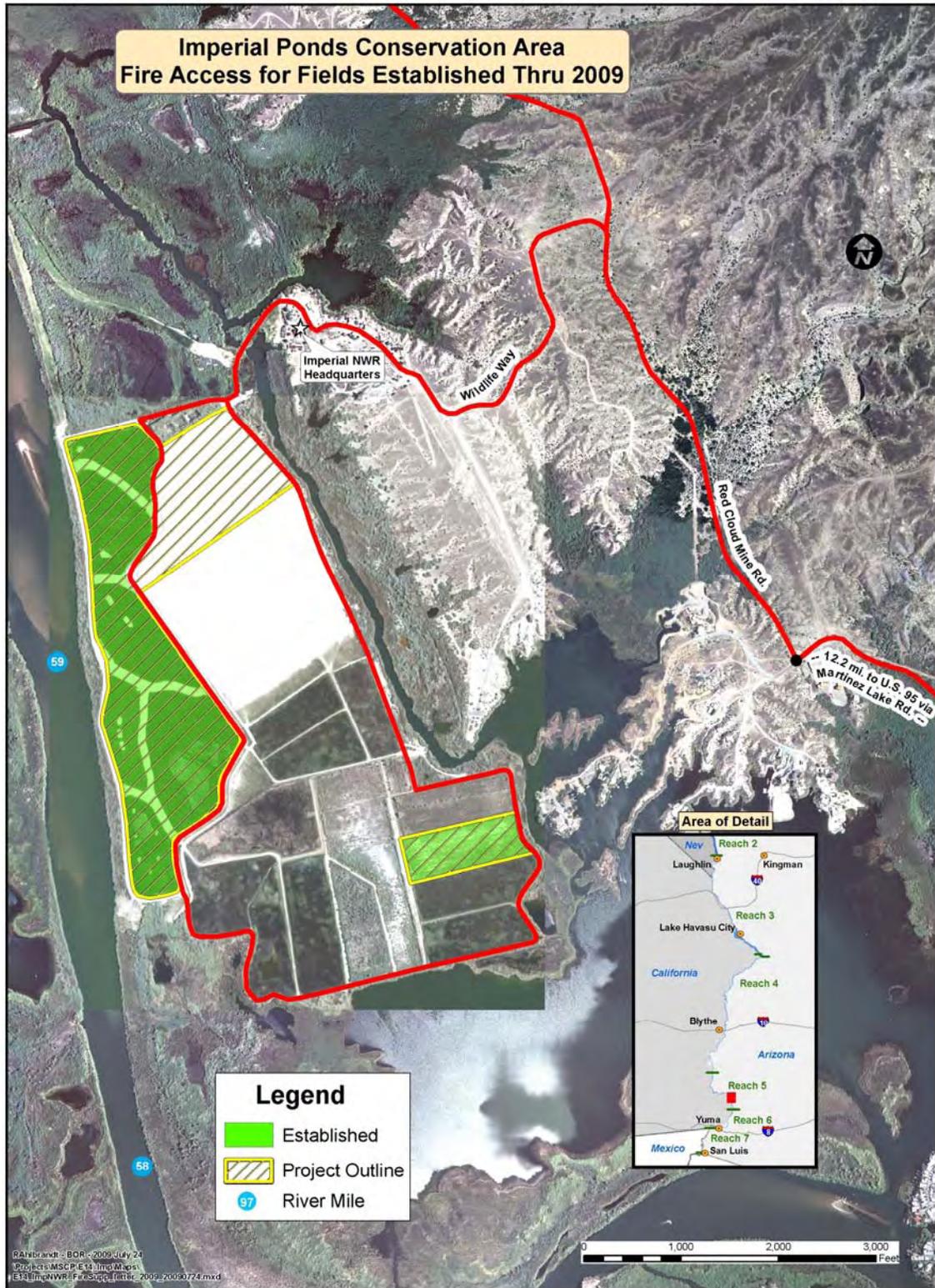
This document provides an overview of fire management and law enforcement strategies for the Imperial Ponds Conservation Area on the Imperial National Wildlife Refuge. Law enforcement authorities and agreements are discussed, as are fuel conditions, recommended suppression responses, safety considerations, and the like. For both law enforcement and wildland fire management, contact information for appropriate land managers and cooperators is provided. Short term and long term recommendations are provided for fire management operations.

Three critical points should be emphasized in the arena of fire management.

1. The greatest threat to the LCR MSCP habitat units at the Imperial National Wildlife Refuge is wildfire itself. Given the potential fuel conditions, extreme weather conditions (e.g. red flag days), and an ignition, wildfire could sweep through the habitat units before initial attack resources could even arrive at the refuge. Several recommendations are made for fuels management which would reduce the potential for wildfire of this intensity.
2. With less severe burning conditions, initial attack resources may arrive in time to conduct suppression activities. The second greatest threat to the LCR MSCP habitat units is the damage which might be inflicted unintentionally by the activity of suppression resources. Several recommendations are made, some of which are common industry standards, of ways to reduce the potential adverse impact of suppression operations.
3. Given the probable short duration of fires in the LCR MSCP conservation area, the most effective means of ensuring consideration of stakeholder concerns and constraints in fire suppression operations is to convey those concerns and recommended constraints to the land managing agency, USFWS, and subsequently to fire management and law enforcement first responders.



VICINITY MAP—IMPERIAL PONDS CONSERVATION AREA



IMPERIAL PONDS CONSERVATION AREA – LCR MSCP HABITAT AREA

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Location, Reach, and Ownership	1
1.2 Project Description, Purpose, and Status	1
2.0 LAW ENFORCEMENT AUTHORITIES, STRATEGIES, AND CONTACT INFORMATION.....	2
2.1 Authorities.....	2
2.2 Jurisdiction and Agreements in Effect.....	3
2.3 Local Law Enforcement Contact Information	3
2.4 Applicable Legal Documents, Rules and Regulations.....	4
3.0 EXISTING HABITAT AND WILDLAND FIRE RISK.....	4
3.1 Existing Habitat	4
3.2 Wildland Fire Hazard/Risk	4
4.0 FIRE MANAGEMENT	5
4.1 Fire Management Goals and Objectives	5
4.2 Suppression Response.....	6
4.3 Interagency Cooperation.....	6
4.4 Local Wildland Fire Resources.....	6
4.5 Suppression Constraints Specific to Imperial Ponds Conservation Area	8
5.0 FIREFIGHTER AND PUBLIC SAFETY	8
5.1 Safety Considerations	8
5.2 Medical Facilities and Ambulance Services	9
6.0 FUELS MANAGEMENT	9
6.1 Non-Fire Fuels Management	9
6.2 Prescribed Fire	9
7.0 WILDLAND FIRE PREVENTION/OUTREACH	10
8.0 FIRE MANAGEMENT RECOMMENDATIONS	10
8.1 Prevention	10
8.2 Preparedness (Presuppression)	11
8.3 Suppression.....	11
8.4 Other	12

1.0 INTRODUCTION

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is a multi-stakeholder, federal and non-federal partnership responding to the need to balance the use of Lower Colorado River (LCR) water resources and the conservation of native species and their habitats in compliance with the Endangered Species Act. The LCR MSCP is a long-term (50-year) plan to conserve at least 26 species along the LCR from Lake Mead to the southerly International Boundary with Mexico through the implementation of a Habitat Conservation Plan (HCP). Most covered species are State and/or federally-listed special status species. The Bureau of Reclamation (Reclamation) is the entity responsible for implementing the LCR MSCP over the 50-year term of the program.

According to the LCR MSCP Final Habitat Conservation Plan (HCP, December 2004), this document supports conservation measure CMM1: “Reduce risk of loss of created habitat to wild-fire”. The intent is for Conservation Areas to identify protection measures to supplement the fire management plan(s) and directive(s) of affected local, State, Tribal, and federal agencies. The Conservation Areas will also supplement existing management plans with information that supports the containment of wildfire and facilitates rapid response to suppress fires (ref: HCP, Section 5.6.3).

The purpose of the Conservation Area Specific Fire and Law Enforcement Strategy is to provide information that will contribute to protection of the functions and values of created covered species habitats over the term of the LCR MSCP. Further, the strategy identifies and describes local law and wildland fire contacts, roles and responsibilities, infrastructure, and techniques and measures for the specific area. The specific strategy will provide information regarding law enforcement jurisdictions, generally accepted fire management practices, and operational recommendations that would support the management efforts of the USFWS and associated jurisdictional authorities involved with the Imperial Ponds Conservation Area.

1.1 Location, Reach, and Ownership

Imperial Ponds Conservation Area is located in Reach 5, on the Imperial National Wildlife Refuge (NWR), river mile 59, Arizona.

1.2 Project Description, Purpose, and Status

Backwater habitat has been developed through the construction of six ponds totaling about 80 surface acres. This project will provide a diversity of water depths and native wetlands plants in support of listed species, specifically razorback sucker, bonytail, western least bittern, and Yuma clapper rail. The purpose of this conservation measure project is to create habitat for LCR MSCP threatened and endangered species.

A pump will supply river water to this independent array of ponds. A 4-acre cottonwood nursery will be expanded by 34 acres using excavation materials, with the intention of establishing cottonwood-willow cover type in fiscal year 2011. In addition, a 12-acre marsh unit was established

on the southeast corner of the refuge consisting of cattail and bulrush. Clearing and contouring has been completed; planting started in fiscal year 2008.

2.0 LAW ENFORCEMENT AUTHORITIES, STRATEGIES, AND CONTACT INFORMATION

2.1 Authorities

Reclamation Lands: Real property administered by the Secretary, acting through the Commissioner of Reclamation, including acquired and withdrawn land and water surface areas under the jurisdiction of the Bureau of Reclamation (16 USC 4601-32(1)).

Reclamation Projects: Any water supply or water delivery project constructed or administered by the Bureau of Reclamation under the Federal Reclamation laws, and Acts supplementary thereto and amendatory thereof (16 USC 4601 § 32(1)).

Law Enforcement Authority at Bureau of Reclamation of 2001: Public Law 107-69, 115 Stat. 593: P.L. 107-69 amended the Reclamation Recreation Management Act of 1992 in order to provide for the security of dams, facilities, and resources under the jurisdiction of Reclamation.

Activities Associated with Enforcing Federal Law: Enforcement of federal law on Reclamation lands and water bodies is governed by P.L. 107-69, Law Enforcement Authority at Bureau of Reclamation Facilities, and 43 CFR Part 422, Law Enforcement Authority at Bureau of Reclamation Projects. The Reclamation Law Enforcement Administrator and Regional Special Agent will be involved in determining when additional law enforcement resources are necessary to enforce federal laws on lands or water bodies under Reclamation jurisdiction. An interagency agreement between the Bureaus in the Department of the Interior provides for cross designation of Department law enforcement officers to provide law enforcement and investigative support in areas under their responsibility or control. Reclamation may enter into additional agreements to more fully detail the scope, objectives, and the range of responsibilities. Reclamation's Regional Special Agent and Regional Security Officer will be involved in planning and implementation of contracts, interagency agreements, and cooperative agreements for law enforcement services. The Law Enforcement Administrator is the Reclamation official authorized to enter into agreements that allow law enforcement personnel of any other federal agency with law enforcement authority (with the exception of the Department of Defense) or law enforcement personnel of any State or local government, including an Indian tribe, when deemed economical and in the public interest, through cooperative agreement or contract, to act as law enforcement officers to enforce federal laws and regulations within a Reclamation project or on Reclamation lands, with such enforcement powers as may be so assigned to them by the Secretary of the Interior. The length of term for these law enforcement agreements is limited to three (3) years. Generally, the closest available resource will be requested.

Activities Associated with Enforcing State and Local Law: In most instances, responsibilities for enforcing State and local laws are the responsibility of the recreation managing partner and are addressed in the long-term management agreement. However, if Reclamation and its managing

partner determine that additional resources are necessary to enforce State and local laws on Reclamation lands or water bodies, Reclamation will request those services from State, county, or local law enforcement agencies. In both instances, Reclamation's Regional Special Agent will be involved in planning and implementation of any contracts or agreements. Any such contracts or agreements shall also be coordinated with the Regional Security Officer to ensure efficiency and consistency with contracts and agreements that have been made with the same entity for security of Reclamation facilities. These types of law enforcement contracts and agreements will be limited to not more than five years and may require some type of financial commitment by Reclamation or its partner. If additional law enforcement resources are necessary, Reclamation may assist in providing funding. Procurement contracts are the only instruments that can transfer funds to a State, county, or local law enforcement agency.

2.2 Jurisdiction and Agreements in Effect

U.S. Fish and Wildlife Service Refuge System: Pursuant to the Department of the Interior (DOI) Interagency Agreement for the Cross Designation of DOI Law Enforcement Officers, dated July, 2007, and through other approved operating agreements between the USFWS and BOR, BOR law enforcement authority may specify USFWS-designated enforcement officers (Refuge Officers and Special Agents) to conduct routine law enforcement and to perform investigations and response as required and appropriate on Reclamation lands and projects. Additionally, USFWS special agents and refuge officers have existing authority to enforce federal and State regulations on refuge lands. Refuge officers have proprietary jurisdiction on refuges in Arizona. In addition, local law enforcement agreements are in place with BLM, NPS and BOR.

2.3 Local Law Enforcement Contact Information

Imperial Ponds Conservation Area

- Location: 25 miles northeast of Yuma, Arizona, LCR MSCP Reach 5
- Land Manager: Elaine Johnson, Refuge Manager, 928-783-3371, elaine_johnson@fws.gov
- Land Owner: U.S. Fish and Wildlife Service
- Law Enforcement Contact: Drew Cyprian, Refuge Officer, 928-783-3371 (o), 928-580-3024 (c), drew_cyprian@fws.gov
- 24-Hour Dispatch Operation: 800-637-9152

Additional Law Enforcement Assistance:

- Arizona Department of Game and Fish, Courtney Fitzgerald, 928-814-9500
- Yuma County Sheriff's Office, 928-783-4427 (24 hour)
- Bureau of Land Management, Rubin Conde, District Ranger, Yuma, Arizona, 928-317-3257
- National Park Service, Lake Mead National Recreation Area (Lake Mead and Lake Mojave), Mary Hinson, Chief Ranger 702 293-8998
- Bureau of Reclamation, Tom Lobkowicz, Special Agent, 702-293-8052 (o), 702-249-0292 (c), tlobkowicz@usbr.gov
- U.S. Fish and Wildlife Service, Refuge System, Dale Enlow, Lake Havasu City, Arizona; 928-680-0414

(Pursuant to the Department of the Interior (DOI) Interagency Agreement for the Cross Designation of DOI Law Enforcement Officers, dated July, 2007, and through approved Operating Agreements, BOR law enforcement authority to specify BLM or NPS designated enforcement officers (Rangers and Special Agents) to conduct routine law enforcement and perform investigations and response as required and appropriate on Reclamation lands and projects. DOI cross designation of law enforcement authority allows BLM and NPS law enforcement officers to enforce rules and regulations on other DOI managed lands.)

2.4 Applicable Legal Documents, Rules and Regulations:

- 16 USC 431-433
- 16 USC 470
- 16 USC 4601
- 43 USC 373b [P.L. 107-69]
- DM 413
- 50 CFR [USFWS]
- 43 CFR 422-423 [BOR]
- 43 CFR [BLM]
- AZ Revised Statutes Title 17 (Game & Fish)

3.0 EXISTING HABITAT AND WILDLAND FIRE RISK

3.1 Existing Habitat

The Imperial Ponds Conservation Area, when completed, will provide 80 acres of backwaters, 34 acres of cottonwood-willow habitat, and 12 acres of marsh habitat on the Imperial National Wildlife Refuge. There is also a 4-acre cottonwood nursery area on the refuge.

Five contiguous fields, separated by roads or other bare lanes, will be planted with mixed Fremont cottonwood, Goodding's willow and coyote willow to maximize structural diversity. Marsh habitat will be developed on a separate field adjacent to existing marsh habitats (Field 18).

The collective project parcels are bounded by the river and backwater ponds on one side, a drainage ditch on the opposite site, waterfowl production areas on the south, and areas of dense saltcedar and open water on the north.

3.2 Wildland Fire Hazard/Risk

The 13 Northern Forest Fire Laboratory (NFFL) Fuel Models were developed in the early 1980s to predict fire behavior during the peak of the fire season when wildfires pose greater control problems. The Standard (40) Fuel Models were developed in 2005 to improve the accuracy of fire behavior predictions outside of the severe period of the fire season, such as prescribed fire and fire use applications. Both are stylized mathematical models which consider characteristics such as fuel load, bulk density, fuel particle size, heat content, and moisture of extinction. Both

assume homogeneous fuel beds and, when combined with weather and topographic inputs, yield fire behavior predictions for surface fires.

Neither the 13 NFFL Fuel Models nor the Standard (40) Fire Behavior Fuel Models developed by the Rocky Mountain Research Station closely fit these artificial created habitats. However, the habitat units at Imperial Ponds Conservation Area would be best described as a mixture of NFFL Fuel Models 2 and 8. Fuel Model 2 is an open tree overstory with herbaceous understory. NFFL Fuel Model 8 describes cottonwood stands consisting of larger trees where the herbaceous understory has been largely shaded out and replaced by leaf litter. Though the plantings have some appearances of shrub fuel models, they have a substantial live fuel component; Fuel Model 6, a tall shrub model, may be the closest model. In the context of the Rocky Mountain models, GR2 (a grass model) or GS2 (grass-shrub model) would best fit those units with a robust grass/forb understory; TL6 (timber litter model) would seem to fit cottonwood-willow stands with understories consisting primarily of hardwood leaf litter.

Adjacent fuels which could constitute a hazard to the habitat areas are tamarisk stands. These fuels are best described by the shrub models NFFL FM6 or Standard FM SH5. Intense wildfire in these stands could result in fire spotting into the habitat areas.

Local firefighter experience may have identified other fire behavior models or appropriate modifications of standard models which better predict wildfire behavior in these riparian fuels. If so, it would be prudent to give preference to these local adaptations over stylized fuel models.

Fire would spread readily through developing habitat units with robust fine fuel understories, though the location of these particular planting plots—adjacent to waterfowl areas, ponds, drainage ditches and the river—make them quite secure from rapid fire spread from adjacent areas. Fire would likely exhibit low flame lengths and low rates of spread in cottonwood leaf litter.

Values at risk include the plantings themselves. Water is readily available for suppression activities and irrigation of the plantings would also reduce the potential for fire spread.

There is no fire history within the habitat units. The potential for fire spread into the habitat units from adjacent areas is very low due to the near absence of combustible fuels on immediately adjacent areas. Habitat units will also be divided by roads or bare lanes (fuel breaks) which would further diminish the likelihood of fire spread. Potential ignition sources include spotting from fires in tamarisk stands or point ignitions from lightning, sparks from equipment, or discarded smoking materials.

4.0 FIRE MANAGEMENT

4.1 Fire management goals and objectives:

- Safeguard public and firefighter safety.
- Utilize a variety of fuels management strategies, including prescribed fire and non-fire treatments, to achieve management objectives.

- Avoid unacceptable effects of wildland fire and suppression.
- Work closely with surrounding fire agencies to implement the fire management strategy.

4.2 Suppression Response

The Fish and Wildlife Service (who is the land owner) will provide an appropriate management response on all wildfires that occur within the Imperial Ponds Conservation Area. The full range of suppression strategies is available to managers provided that selected options do not compromise firefighter and public safety, cost-effectiveness, benefits, and values to be protected.

The suppression strategy on the Imperial Ponds Conservation Area would usually be to minimize fire size. That strategy may utilize a range of tactics including direct attack, parallel attack, and indirect attack with handcrews, engines, aircraft, and/or heavy equipment. Burning out fire lines, enhancing a defensible boundary, backfiring from strategic barriers, using existing natural barriers or constructed barriers, cold-trailing, and other activities may accompany the more standard tactics. An initial action may be simply monitoring fire behavior while deciding which tactics would be most effective. All of these actions are employed with the intention of safely suppressing the wildfire with minimal overall costs and damage to resources.

4.3 Interagency Cooperation

Federal and State agencies in Arizona have entered into Wildland Fire Management Joint Powers Master Agreements whereby they agreed to work cooperatively to improve efficiency by facilitating the coordination and exchange of personnel, equipment, supplies, services, and funds among the agencies for management of wildland fires, presidential declared emergencies, and disasters or other emergencies under the Federal Emergency Management Agency's authority. The State of Arizona has agreements in place with the Federal agencies. These agreements are located on the SWA Web site at:

http://gacc.nifc.gov/swcc/administrative/incident_business/incident_business.htm.

Chapter 40—Cooperation—of the Southwest Area Mobilization Guide, which has detailed information, can be found on the Internet at:

http://gacc.nifc.gov/swcc/dispatch_logistics/dispatch/mobguide_non_secure/pdf_files/2009/MOB%202009%20Chapter%2040.pdf.

4.4 Local Wildland Fire Resources

U.S. Fish and Wildlife Service

The USFWS has primary responsibility for all land management actions on the refuge, including wildland fire management. The Engine Module that is responsible for initial attack fire suppression operations on refuge lands is stationed in Yuma, Arizona, and consists of an engine foreman and three firefighters. Transfer of command from initial attack resources to the engine foreman, who is ICT3 qualified, would occur as soon as possible after ICT3 arrives on the scene.

The engine foreman is supervised by a Zone FMO for the USFWS stationed at Buenos Aires National Wildlife Refuge, Sasabe, Arizona (520-823-4292). Generally, the Zone FMO is dispatched to all fires occurring on the refuge that exceed the suppression capability of local forces to suppress.

The USFWS is developing a fire management plan for all the refuges located on the Lower Colorado River. The plan is expected to be released in 2009. The plan will contain more detailed information about all elements of wildland fire management within each refuge.

The USFWS fire suppression resources are linked to the 911 system. The non-emergency number for the USFWS in Yuma is 928-783-3371. Other contact information is as follows:

Land Manager: Elaine Johnson, Refuge Manager, 928-783-3371, elaine_johnson@fws.gov
Fire: Butch Wilson, USFWS FMO based at the Buenos Aires Refuge; Tucson, AZ; 520-823-4292 x101 (o), 520-349-1095 (c); butch_c_wilson@fws.gov
Russ Babiak (USFWS Prescribed Fire Specialist based at the Buenos Aires Refuge, Tucson, AZ; 520-823-4292x102, russ_babiak@fws.gov

Arizona Interagency Dispatch Center

The Arizona Interagency Dispatch Center (AIDC) is located in Phoenix, Arizona. As the name implies, AIDC is an interagency dispatch center managed by the Arizona State Forest Service. AIDC is the focal point for mobilizing firefighting resources among units within the dispatch area responsibility, coordinating incoming resources into the dispatch area, dispatching resources mobilized out of the dispatch area, and collecting and disseminating fire intelligence information within dispatch area and with the Southwest Coordination Center in Albuquerque, New Mexico.

An interagency agreement is in place that states that the closest available forces will be dispatched to a wildland fire. The AIDC processes all requests for air resources and other fire suppression forces, including Incident Management Teams, for the Lower Colorado River.

AIDC is linked to the 911 system. The non-emergency number for AIDC is 800-309-7081.

Rural/Metro Fire Department

The Rural/Metro Fire Department provides fire and emergency medical services to the residents of Yuma County on a contract basis and is generally dispatched to wildland fires occurring in their response area. There are eleven firefighters on duty at all times, in addition to a large reserve force. Rural/Metro has an unmanned substation at Martinez Lake, which is near Imperial Ponds. Rural/Metro is linked to the 911 system. The non-emergency number for Rural/Metro is 866-414-4780.

Yuma Proving Ground Fire Department

The Yuma Proving Grounds is located near to Imperial National Wildlife Refuge. Although the department is primarily equipped to suppress structural fires and other non-wildland types of fires, their fire department may be dispatched by the local dispatch center to wildland fires occurring on Imperial NWR. In some cases, they may be the first responder. The non-emergency number for Yuma Proving Ground Fire Department is 928-382-2949.

Department of the Interior Agencies

Firefighters assigned to the Bureau of Land Management's River Fire Zone located in Yuma, Arizona, are responsible for fire management activities on BLM-administered lands in Yuma County, Arizona, and portions of California. The River Fire Zone is linked to the 911 system. The non-emergency number for the BLM is 928-505-1200.

The Bureau of Indian Affairs maintains a fire suppression force at Fort Yuma, which is dispatched through AIDC. The Fire Duty Officer can be contacted at 928-782-1202.

The BIA Fort Yuma and Colorado River Agencies and the BLM Yuma District have a Memorandum of Understanding that establishes how they will cooperatively work within the zone.

Generally, the BLM and/or BIA suppression forces are secondary responders.

4.5 Suppression Constraints Specific to Imperial Ponds Conservation Area

Suppression constraints would include the following:

- Avoid using retardants within 300 feet of open water.
- Avoid using heavy equipment within the plantings (heavy equipment may do more damage than surface fires).
- Minimum Impact Suppression Tactics (MIST) will apply, whereby the environmental impacts of emergency fire management methods will be no greater than necessary to meet fire management objectives.

5.0 FIREFIGHTER AND PUBLIC SAFETY

5.1 Safety Considerations

Climatic conditions, such as low humidity, high temperatures, and warm, dry winds can combine with heavy dry fuels to produce high intensity wildfires that spread rapidly and are difficult to suppress. Due care and caution must be exercised at all times when taking suppression action on a wildfire within or threatening the Imperial Ponds Conservation Area.

Wildland firefighters emphasize the basic tenants of firefighter safety: the 10 Fire Orders, 18 Watch Out Situations, the Common Denominators of Fire Behavior on Tragedy Fires, and LCES (Lookouts, Communications, Escape routes, and Safety zones). The potential fire behavior conditions that exist on the LCR, particularly the potential for high rates of spread and profuse spotting, make it imperative that firefighters fully understand and embrace all the elements of fireline safety. A complete summary of fire fighter safe practices is available in Chapter 5 of the Fireline Handbook (NWCG Handbook, PMS 410-1).

Firefighter and public safety is the first priority of the wildland fire management program. When evaluating an appropriate management response, the Incident Commander should consider risks to public and firefighter safety, recognizing that no natural or cultural resource, home, or item of

property is worth a human life. Incident Commanders should develop and establish incident objectives, strategies, and operational tactics that ensure firefighter and public safety.

Site specific safety concerns for Imperial Ponds include:

- The potential for extreme fire behavior with rapid rates of spread, which may be exacerbated by medium and long range spotting.
- Smoke management issues on or near the Colorado River. This is especially important when fireboats are being used to suppress the fire.
- Venomous snakes and insects may be present.
- Boggy ground or rocky slopes can contribute to unsure footing.
- Ingress and egress for engines is limited to one road, which may be on the downwind side (the head of the fire is being pushed by a southwest wind) of a wildfire being pushed by wind in the late afternoon or nighttime hours.

A trained and qualified lookout should be assigned to the bluff, visitor viewing platform, or other appropriate location to monitor the situation. At least two escape routes should be identified and GPSed or flagged, when possible.

5.2 Medical Facilities and Ambulance Services

The Yuma Regional Medical Center, a Level I trauma and burn center is located at 2400 S. Avenue A in Yuma, AZ. The non-emergency phone number is 928-344-2000.

Two companies, Air Evac and Tri-State Care Flight, provide air medical transport for critically ill and injured patients, including helicopter transport. Air medical transport can be requested through the Yuma Regional Medical Center by contacting the Center at 928-344-2000 x 7100.

Rural/Metro Ambulance provides EMS/transport services for the City of Yuma Fire Department, San Luis, and the remainder of Yuma County. Rural/Metro also has a jet ski water rescue team patrolling the waterways and providing emergency first aid to those who need it on popular weekends and holidays.

6.0 FUELS MANAGEMENT

6.1 Non-Fire Fuels Management

Fuels management in this LCR MSCP project should consist primarily of reducing fine herbaceous fuels and maintaining fuel discontinuities (i.e. maintaining fuel breaks within and adjacent to the habitat units). Please see recommendations below.

6.2 Prescribed Fire

Prescribed fire would be an appropriate management tool to rejuvenate marshlands on Field 18 once established. Fire may be similarly appropriate in adjacent marshes (Fields 16 and 17) and marsh habitats associated with the backwater ponds.

7.0 WILDLAND FIRE PREVENTION/OUTREACH

Since a majority of all fires that occur on the Colorado River are human caused, any fire management planning effort should emphasize fire prevention. Once fire causes are evaluated, it is possible to determine when, where, and how to implement effective fire prevention programs that fall within one of four broad categories. These categories are:

1. Education—aimed at changing people’s behavior by awareness and knowledge.
2. Engineering—reducing or eliminating fire risks and hazards.
3. Enforcement—gaining compliance with fire regulations and ordinances.
4. Administration—planning, budgeting, and training.

The interagency fire community and local fire and emergency management organizations have a good system for determining the level of fire danger and deciding when fire restrictions are necessary. Notices and posters are printed and distributed by all fire management agencies. The Arizona Interagency Fire Prevention and Information Group maintains the following wildfire prevention website available on the Internet at: <http://www.azfireinfo.az.gov/>.

The sources of ignition are often attributable to visitors recreating outside the habitat area. Traditional means to contact visitors may prove difficult because the many recreational users are focused on the Colorado River and may be entirely unaware of the habitat areas. In consideration of the demographics, the best locations to post fire danger warning signs and fire restriction notifications may in prominent locations where visitors might stop. This would include convenience stores, gas stations, marinas, launch ramps, boat repair shops, and other similar facilities at or near the river.

Attempts should be made to work with local and regional media to call attention to the wildfire threat facing resources along the LCR. The National Wildfire Coordination Group issued a Wildfire Prevention and Media Guide (PMS 458) that is available on the Internet at: <http://www.nwcg.gov/pms/docs/wpsandmedia.pdf> . This guide provides information and guidance to establish a media program. This tool would best be implemented using an interagency approach.

8.0 RECOMMENDATIONS

The following suggested tasks and actions are submitted by Wildland Fire Associates, and are not intended to change or re-direct existing management of the Imperial Ponds Conservation Area.

8.1 Prevention

- Conduct prevention patrols during periods of very high fire danger or elevated human-caused risk (e.g. Fourth of July and fireworks).
- Issue press releases and distribute materials, where appropriate, informing the public about the benefits of prescribed fire as opposed to the adverse impacts of wildland fire.
- Participate in fire prevention and safety programs at public schools.

- Engage in outreach programs with adjacent landowners to explain the fire management program, to emphasize prevention of human-caused wildfires, and to identify actions that landowners can take to minimize the risk of wildfire on their property.
- Post appropriate signage during periods of high fire danger.
- Install and maintain a “Smokey Bear” type of wildland fire risk sign in a prominent location.
- Close or reduce visitor use in and near habitat areas when fire danger is extreme.
- Constrain certain types of visitor activities (e.g. campfires, fireworks, shooting) when fire danger is very high or extreme.
- Continue to work with the National Ad Council to air Public Service Announcements featuring Smokey Bear on local radio stations and implement a program that calls attention to the impacts of wildfires to resources along the LCR.

8.2 Preparedness (Presuppression)

Administrative:

- Develop a program designed to monitor live fuel moisture on a predetermined schedule and identify a representative fuel type. Live fuel moisture is an important component of modeling the fuel type in the habitat areas.
- Work with adjacent landowners to maintain boundaries that are free of flammable debris which, if ignited, could threaten the adjacent area; focus on bi-annual fuels reduction in irrigation ditches and drains.

Fuels Management:

- Maintain green or bare ground (fallow) strips where they currently exist along some habitat units. Consider establishing such strips near other habitat units.
- Reduce fine fuels along the perimeter of habitat areas, within habitat areas, and along roadways and irrigation systems. This will reduce the probability of fire entering a habitat unit and reduce fire behavior if a wildfire does establish within the unit.
- A common practice in fuels management is reduction of fine flashy fuels. Where appropriate and permitted, consider use of prescriptive grazing by domestic sheep or mechanical reduction by mowing in new LCR MSCP habitat units to reduce the fine fuels.
- Maintain dry fuel breaks within the conservation area.
- Establish plans for immediate post-fire rehabilitation (e.g. rapid replanting) in cottonwood stands to preclude tamarisk invasion.

8.3 Suppression

Constraints:

- Avoid using retardants within 300 feet of open water.
- Avoid using heavy equipment within the Imperial Ponds Conservation Area (heavy equipment may do more damage than surface fires).

Strategies and Tactics:

- Utilize roads and dry fuel breaks on the perimeter and interior of LCR MSCP conservation areas to confine fire, as much as possible, to a single compartment or a few compartments of vegetation.
- Apply Minimum Impact Suppression Tactics (MIST), whereby the environmental impacts of emergency fire management methods will be no greater than necessary to meet fire management objectives.
- If fire is within a “compartment” (i.e. a small block separated from other blocks by roads or dry fuel breaks), consider burning out from the perimeter of that compartment to reduce the probability of fire crossing fuel breaks and moving into adjacent compartments. (Better to lose trees within the compartment than to risk losing trees in several compartments.)
- If fire is within a “compartment,” consider the possibility of immediately flooding that block and adjacent blocks to reduce or stop fire spread.
- In eastern hardwood forests where the primary surface fuel is leaf litter, leaf blowers are commonly used to clear leaf litter to mineral soil or to reduce surface fuels to make handline construction easier. LCR MSCP cottonwood-willow stands, when they mature, will have surface fuels similar to the eastern hardwood forests. Even now, some of the dense cottonwood stands have surface fuels comprised mainly of leaf litter. Rather than constructing traditional “mineral soil” handlines in the interior of these stands, consider use of leaf blowers to create bare ground “firelines” in older cottonwood stands. This technique would not be effective where rooted herbaceous vegetation exists.

8.4 Other

- Provide fireline-qualified resource advisors (READs) and/or agency representatives that can provide to Incident Commanders timely information in support of habitat protection objectives during wildland fires.
- Investigate wildfires to determine cause.