

Lower Colorado River Multi-Species Conservation Program



Balancing Resource Use and Conservation

Ahakhav Tribal Preserve 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
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City of Lake Havasu City
City of Mesa
City of Somerton
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Golden Shores Water Conservation District
Mohave County Water Authority
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Mohave Water Conservation District
North Gila Valley Irrigation and Drainage District
Town of Fredonia
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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

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Coachella Valley Water District
Colorado River Board of California
Bard Water District
Imperial Irrigation District
Los Angeles Department of Water and Power
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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

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**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 'Ahakhav Tribal Preserve

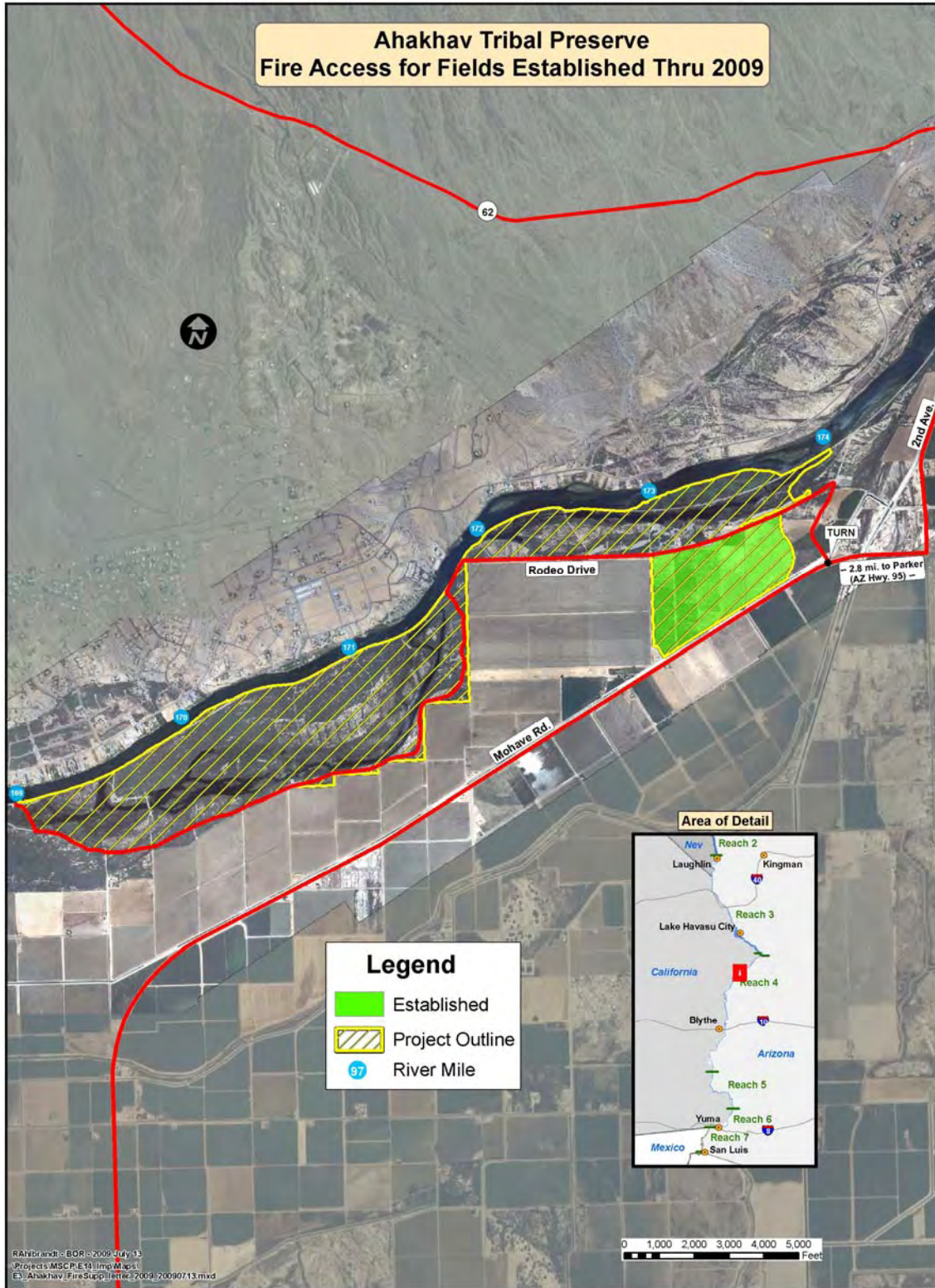
This document provides an overview of fire management and law enforcement strategies for the LCR MSCP conservation area on the 'Ahakhav Tribal Preserve. Law enforcement authorities and agreements are discussed, as are fuel conditions, recommended suppression responses, safety considerations, and the 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 'Ahakhav Tribal Preserve 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 Preserve. 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, CRIT, and subsequently to fire management and law enforcement first responders.



VICINITY MAP – AHAKHAV TRIBAL PRESERVE



AHAKHAV TRIBAL PRESERVE – 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 ‘Ahakhav Tribal Preserve LCR MSCP..... | 7 |
| 5.0 FIREFIGHTER AND PUBLIC SAFETY | 8 |
| 5.1 Safety Considerations | 8 |
| 5.2 Medical Facilities and Ambulance Services..... | 8 |
| 6.0 FUELS MANAGEMENT | 9 |
| 6.1 Non-Fire Fuels Management | 9 |
| 6.2 Prescribed Fire | 9 |
| 7.0 WILDLAND FIRE PREVENTION/OUTREACH | 9 |
| 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 CRIT and associated jurisdictional authorities involved with the Ahakhav Tribal Preserve.

1.1 Location, Reach, and Ownership

The ‘Ahakhav Tribal Preserve is located in Arizona along Reach 4 (river miles 173-174). The Colorado River Indian Tribes (CRIT) is the landowner and manager.

1.2 Project Description, Purpose, and Status

As described in LCR MSCP Work Task E3, the ‘Ahakhav Tribal Preserve project has the following stated purpose:

“This demonstration project is designed to test planting, maintenance, and irrigation methods on fallow agricultural fields while developing more than 200 acres of cottonwood, willow, and mesquite” (LCR MSCP Final Implementation Report, FY 2009 Work Plan and Budget. FY 2007 Accomplishment Report 2008: Section E Work Tasks).

In 1995, CRIT established the preserve to protect fish, wildlife, and plants along the river. LCR MSCP assistance began in 2004. CRIT plantings included 154 acres of Fremont cottonwood,

Goodding's willow, coyote willow, screwbean mesquite, honey mesquite, and *Baccharis* spp. The project activities included site preparation, soil testing, installing irrigation works, planting, monitoring, and performing ongoing maintenance of the treatment area. As of 2007, the cottonwood-willow overstory averaged 146 trees/acre, DBH averaged about 7 inches, with canopy height just over 40 feet.

Existing created (or restored) habitat will not be replaced based on new knowledge, but may be modified or managed differently to reflect the current understanding of the species needs.

Habitat maintenance work is continuing within the LCR MSCP project area. However, the LCR MSCP conservation area habitat creation and maintenance work already accomplished could be substantially destroyed by a single wildfire caused by humans and/or lightning. Ignition from lightning or human sources, gusty and erratic winds, along with dense stands of vegetation is a formula for potentially destructive wildfires.

2.0 LAW ENFORCEMENT AUTHORITIES, STRATEGIES, AND CONTACT INFORMATION

2.1 Authorities

CRIT Lands: CRIT police officers have exclusive law enforcement jurisdiction over all tribal lands while game wardens have exclusive law enforcement jurisdiction on tribal game lands including the Ahakhav Tribal Preserve under the Natural Resources Code (Article 1) - Fish & Game. There is a law enforcement "mutual aid" agreement in place as part of the legislation that set aside the Colorado River Indian Tribes land. This mutual aid agreement provides emergency law enforcement assistance between the CRIT and the States of Arizona and California.

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

Colorado River Indian Tribes: The Colorado River Indian Tribes (CRIT) include four distinct tribes – the Mohave, Chemehuevi, Hopi and Navajo. The reservation stretches along the Colorado River on both the Arizona and California side and includes almost 300,000 acres of land, with the river serving as the focal point of the area. CRIT police officers have exclusive law enforcement jurisdiction over all tribal lands while game wardens have exclusive law enforcement jurisdiction on tribal game lands including the 'Ahakhav Tribal Preserve. There is a law enforcement "mutual aid" agreement in place as part of the legislation that set aside the Colorado River Indian Tribes land. This mutual aid agreement provides emergency law enforcement assistance between the tribe and the States of Arizona and California.

2.3 Local Law Enforcement Contact Information

'Ahakhav Tribal Preserve – Colorado River Indian Tribes

- Location: South of Parker, Arizona; LCR MSCP Reach 4
- Land Manager: John Villalobos, Preserve Administrator, 928-669-2664
- Land Owner: Colorado River Indian Tribes
- Law Enforcement Contact: Deputy Police Chief Randy Stewart; 928-669-1318; Colorado River Indian Tribes Fish and Game Department, Chief Game Warden Dave Martinez, 928-669-9285; Game Warden Ray Aspa, 928-669-9285

Additional Law Enforcement Assistance:

- Arizona Game and Fish, Courtney Fitzgerald, 928-814-9500 (c), cfitzgerald@azgfd.gov
- Bureau of Reclamation, Tom Lobkowicz, Special Agent, 702-293-8052 (o), 702-249-0292 (c), tlobkowicz@usbr.gov

2.4 Applicable Legal Documents, Rules and Regulations:

- CRIT Natural Resource Code (Article I) – Fish & Game
- DM 413
- AZ Revised Statutes Title 17 (Game & Fish)

3.0 EXISTING HABITAT AND WILDLAND FIRE RISK

3.1 Existing Habitat

As described in the Introduction (Section 1.0), the purpose of CRIT 9 parcel (153.74 acres) on the ‘Ahakhav Tribal Preserve is to demonstrate planting, irrigation, weed control, seed collection and site maintenance techniques. Native species planting were completed between 2001 and 2005. Fremont cottonwood, Goodding’s willow, and coyote willow plantings cover 112.1 acres; honey mesquite and screwbean mesquite cover another 29.96 acres. The remaining 11.68 acres are occupied by shop and office facilities and open space. A nursery area is established on the southwest corner of the habitat area.

The habitat units are bounded by cultivated fields on the west, a canal on the south, the entrance road, maintained park and management office on the north, and fallow areas on the east. Tamarisk stands occur north of the park and nursery areas, 1,000 feet or more from the habitat units.

3.2 Wildland Fire Hazard/Risk

The 13 Northern Forest Fire Laboratory (NFFL) Fuel Models (FM) 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 closely fit these artificial created habitats. However, the habitat units at ‘Ahakhav can be best described as a mixture of NFFL Fuel Models 2 and 8. Fuel Model 2 is a open tree overstory with herbaceous understory. Fuel Model 8 describes cottonwood stands consisting of larger trees where the herbaceous understory has been largely shaded out and replaced by leaf litter. In the context of the Rocky Mountain models, GR2 (a grass-dominated model) or GS2 (a grass-shrub model) would best fit those units with a robust grass/forb understory; TL6 (timber litter) 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 are best described by NFFL FM6 (a shrub model) or Standard FM SH5 (shrub model). Intense wild-fire 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 the mesquite plots with robust fine fuel understories, though the location of these particular habitat plots—adjacent to cultivated fields, adjacent to a large irrigation canal, and within the interior of the habitat area—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 habitat units, office facilities, and cultural values associated with native habitat. The park is neatly maintained and probably not at risk. Water is readily available from the BIA-maintained canal system.

There is no fire history within the habitat area. Virtually all fires in the local area are human-caused. Potential ignition sources include spotting from fires in tamarisk stands or point ignitions from lightning, fireworks (though these are prohibited in the area), escapes from campfires, or discarded smoking materials. 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.

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 wildfire and suppression activities.
- Work closely with surrounding fire agencies to implement the fire management strategy.

4.2 Suppression Response

The cooperating land management agency will provide an appropriate management response on all wildfires that occur within the Ahakhav Tribal Preserve and LCR MSCP habitat 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 LCR MSCP conservation area in the Ahakhav Tribal Preserve 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.

This is also one location where local firefighting resources (John Villalobos, CRIT) regarded immediate flooding as a reasonable suppression response in canals that are charged.

4.3 Interagency Cooperation

Tribal, 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%2009%20Chapter%2040.pdf.

4.4 Local Wildland Fire Resources

Colorado River Indian Tribes Wildland Fire Department

The Bureau of Indian Affairs has contracted with the CRIT to provide wildfire suppression services for all CRIT tribal lands. CRIT, in turn, has contracted with an independent contractor to manage and staff the wildland fire department. The CRIT Wildland Fire Department is linked to the 911 system and may be dispatched by the BIA at the Fort Yuma Reservation, Arizona. Most members of the department meet NWCG fitness and training requirements and are red carded. Contact information is as follows:

Land Manager: John Villalobos, Preserve Administrator, 928-669-2664
26600 Mohave Rd., Parker, AZ 85344
Fire: CRIT Wildland Fire, Tim Mariscal, 928-669-7161
12143 Roosevelt Street, Parker, AZ 85344

Ehrenberg Fire Department

The Ehrenberg Fire Department provides fire and emergency medical services to the residents of Ehrenberg, Arizona, and portions of central La Paz County, Arizona. Many of the firefighters within the department meet NWCG training and fitness standards and have been issued red cards. The Ehrenberg Fire Department is generally dispatched to all wildfires occurring on CRIT lands. The Ehrenberg Fire Department is linked to the 911 system. The non-emergency number for the Ehrenberg station is 928-923-8033.

Department of the Interior Agencies

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

Firefighters assigned to the Bureau of Land Management's (BLM) Colorado River District located in Lake Havasu City, Arizona, are responsible for fire management activities on BLM-administered lands in portions of western Arizona. The BLM is linked to the 911 system. The non-emergency number for the BLM fire management office is 928-505-1234.

U.S. Fish and Wildlife Service (USFWS) firefighters assigned to Imperial National Wildlife Refuge headquarters located in Yuma, Arizona, are responsible for fire management activities on USFWS-administered lands along the Lower Colorado River in Arizona and California and the Kofa National Wildlife Refuge, Arizona. The USFWS fire suppression resources are linked to the 911 system. The non-emergency number for the USFWS is 928-783-3371.

Generally, the BLM, BIA-Fort Yuma, and/or USFWS suppression forces are secondary responders.

4.5 Suppression Constraints Specific to 'Ahakhav Tribal Preserve

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).
- 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.

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 ‘Ahakhav Tribal Preserve.

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 firefighter 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 the Ahakhav Tribal Preserve 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 and Mohave Road.
- Venomous snakes and insects may be present.
- Boggy ground or rocky slopes can contribute to unsure footing.

5.2 Medical Facilities and Ambulance Services

The Parker Indian Health Center, located at 12033 Agency Road in Parker, provides health and other services for tribal members. The intensive care facility, which is part of the center, has the ability to stabilize accident and burn victims not deemed to be in critical condition. The non-emergency number for the center is 928-669-2137.

A Level II trauma and burn center is associated with the La Paz Regional Medical Center, 1200 Mohave Road, Parker, Arizona. The non-emergency number for the medical center is 928-669-9201.

The Arizona Burn Center and a Level I trauma center and emergency center are part of the Maricopa Medical Center, which cares for a wide range of critical injuries. Although the University Medical Center Level I trauma and burn center located in Las Vegas, Nevada, may also be used, the Maricopa Medical Center is the primary destination for critically injured persons from the

Parker area. The Arizona Burn Center is located at 2601 Roosevelt Street, Phoenix, Arizona. The non-emergency number for the center is 602-344-5726.

Native Air, which has a contract helicopter on call around the clock at the La Paz Regional Medical Center, provides air medical transport for critically ill and injured patients. Air medical transport can be requested through the La Paz Regional Medical Center or through the 911 system.

6.0 FUELS MANAGEMENT

6.1 Non-Fire Fuels Management

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

6.2 Prescribed Fire

Prescribed burning with very low severity may be appropriate at some point in mesquite stands if managers are unable to reduce fine fuels by other means.

Recommendations should include maintaining cleared fuel breaks and using sheep or mechanical mowing to reduce fine fuels.

7.0 WILDLAND FIRE PREVENTION/OUTREACH

Because 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, including CRIT Wildland Fire Department. 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 fo-

cused 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 are 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.

A public use area for tribal members is located in close proximity to the plantings on the Ahakhav Tribal Preserve. Steel fire grills have been installed at several sites within the park. The park is well maintained and a great deal of effort has been made to reduce fuels near grills. Additional patrols should be made during periods of high fire danger to ensure that the grills are used properly and the fire residue is properly disposed. It may be necessary to restrict all use of fires, even those in grills, during periods of extreme fire danger.

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.nwccg.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 FIRE MANAGEMENT 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 Ahakhav Tribal Preserve 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).
- 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.
- 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.
- Consider limiting the use of grills during periods of extreme fire danger. Provide steel containers for fire residue.
- Encourage CRIT to restrict open fires and specify the use of propane stoves during periods of high fire danger.
- 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.
- Conduct patrols using a variety of means, including engines, aircraft, and/or boats during periods of extreme fire danger.

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 conservation area.
- Periodically clear established firebreaks in nearby tamarisk stands to preserve their usefulness for burning out in advance of a wildfire.
- Establish additional constructed firebreaks in adjacent tamarisk stands. These firebreaks would not of themselves stop fire spread in tamarisk, but they would provide firefighters a tactical position from which to burn out.
- Establish plans for immediate post-fire rehabilitation (e.g. rapid replanting) in cottonwood stands to reduce tamarisk invasion.

8.3 Suppression

Constraints:

- Avoid using retardants within 300 feet of open water.
- Avoid using heavy equipment within the 'Ahakhav Tribal Preserve 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.