



**Department of Water and Power
City of Los Angeles**

DRAFT ENVIRONMENTAL IMPACT REPORT

**Yellow-billed Cuckoo Habitat Enhancement Plans at
Baker Creek and Hogback Creek in
Inyo County**

VOLUME 2

January 2006

SCH No. 2005102126

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State Clearinghouse No.
2005102126

Prepared by:

Los Angeles Department
of Water and Power

Appendix A
Notice of Preparation



**Department of Water and Power
City of Los Angeles**

CEQA Initial Study

**Yellow-billed Cuckoo Habitat Enhancement Plans at
Baker Creek and Hogback Creek in
Inyo County**

October 2005

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CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY AND CHECKLIST

(ARTICLE IV – CITY CEQA GUIDELINES)

LEAD CITY AGENCY City of Los Angeles, Department of Water and Power 111 N. Hope Street, Room 1044 Los Angeles Ca 90012	COUNCIL DISTRICT N/A	DATE October 28, 2005
PROJECT TITLE/NUMBER Yellow-billed Cuckoo Habitat Enhancement Projects in Inyo County		CASE Number N/A
PREVIOUS ACTIONS CASE NO None	☐ Does have significant changes from previous actions. ☐ Does not have significant changes from previous actions	
PROJECT DESCRIPTION: The proposed project includes the implementation of habitat enhancement plans for the yellow-billed cuckoo at Baker Creek and Hogback Creek in Inyo County. These plans are to be implemented in keeping with the 1997 MOU between LADWP and various parties to provide resolution of the conflict and settle concerns between the parties over the LORP and other provisions of the 1991 EIR. These enhancement plans guide actions or projects to maintain and/or improve habitat and supplemental irrigation to improve habitat for yellow-billed cuckoos over 740 acres of land already owned by LADWP. The plans also provide for altered grazing practices and recreational use of the sites to accommodate the plan to maintain and/or enhance habitat for the yellow-billed cuckoo.		
PROJECT LOCATION: The project sites are located within Inyo County. The Baker Creek site is located approximately one mile west of the community of Big Pine, and the Hogback Creek site is located seven miles north of the community of Lone Pine.		
PLANNING DISTRICT N/A		STATUS: ☐ PRELIMINARY ☐ PROPOSED _____ ☐ Adopted (Date _____)
EXISTING ZONING OS-40 ¹	MAX. DENSITY ZONING: N/A	☐ DOES CONFORM TO PLAN
PLANNED LAND USE AND ZONE NR ¹	MAX. DENSITY PLAN: N/A	☐ DOES NOT CONFORM TO PLAN
SURROUNDING LAND USES: Open Space, Agricultural Natural Resources	PROJECT DENSITY N/A	☒ NO DISTRICT PLAN
Note: 1) the proposed project includes nine parcels all of which are zoned Open Space, 40 acre minimum lot size, and designated as Natural Resources (NR) in the Inyo County General Plan.		

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| ☐ Aesthetics | ☒ Agriculture Resources | ☒ Air Quality |
| ☒ Biological Resources | ☐ Cultural Resources | ☐ Geology/Soils |
| ☒ Hazards & Hazardous Materials | ☐ Hydrology/Water Quality | ☐ Land Use/Planning |
| ☐ Mineral Resources | ☐ Noise | ☐ Population/Housing |
| ☐ Public Services | ☐ Recreation | ☐ Transportation/Traffic |
| ☒ Utilities/Service Systems | ☒ Mandatory Findings of Significance | |

DETERMINATION : On the basis of this initial evaluation

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


SIGNATURE

Supervisor of Environmental Assessment
TITLE

Charles C. Holloway
PRINTED NAME

Environmental Services, LADWP
FOR

1.0 INITIAL STUDY INTRODUCTION

1.1 OVERVIEW

This Initial Study has been prepared by LADWP to provide a preliminary evaluation of the proposed project. LADWP has determined that an EIR will be prepared for the proposed project, and will address potentially significant issues identified within this study. This initial study includes 1) an overview, 2) project description, 3) evaluation of the proposed project; and 4) a list of references cited in the document.

1.2 REGULATORY GUIDANCE

This Initial Study (IS) has been prepared in accordance with CEQA, Public Resources Code 21000 et seq., and the State CEQA Guidelines, Title 14 California Code of Regulations (CCR) 15000 et sq. An IS is prepared by a lead agency to determine if a project may have a significant effect on the environment, and guide the preparation of an environmental impact report (EIR). This IS follows the methods and format proposed in Appendix G of the CEQA Guidelines and relies on expert opinion based on facts, technical studies, and other substantial evidence to document its findings.

1.3 LEAD AGENCY

The lead agency is the public agency with primary responsibility over the proposed project. In accordance with State CEQA Guidelines 15051(b)(1), “the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose.” The lead agency for the proposed project is the City of Los Angeles Department of Water and Power (LADWP).

1.4 PUBLIC PARTICIPATION

This is available for a 30-day public review period beginning October 31, 2005, and ending on November 31, 2005. Written comments may be submitted by 5:00 on November 31, 2005 to:

Charles Holloway
Environmental Program Manager
Los Angeles Department of Water and Power, Environmental Services
111 North Hope Street, Room 1044
Los Angeles, CA 90012

2.0 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

This environmental document addresses yellow-billed cuckoo habitat enhancement plans proposed for Baker Creek and Hogback Creek located in Inyo County in the Eastern Sierra.

The enhancement of yellow-billed cuckoo habitat was identified in the Memorandum of Understanding between the City of Los Angeles Department of Water and Power, the County of Inyo, the California Department of Fish and Game, the California State Lands Commission, the Sierra Club and the Owens Valley Committee (MOU) that was signed in 1997. The MOU provided resolution to the conflict and settled concerns between the above named parties over the Lower Owens River Project and other provisions of Los Angeles Department of Water and Power's 1991 Environmental Impact Report (EIR) concerning groundwater pumping operations and related activities. The MOU became effective upon the discharge of the Court's writ. The commitments contained in the MOU were made solely for the purpose of resolving the conflicts associated with the EIR.

The MOU identified the evaluation of the condition of yellow-billed cuckoo habitat in the riparian woodland areas of Hogback and Baker Creeks. Based on the evaluation, yellow-billed cuckoo habitat enhancement plans were developed for these areas that identified reasonable and feasible actions or projects to maintain and/or improve the habitat of the yellow-billed cuckoo. Enhancement for yellow-billed cuckoo was further discussed in the Stipulation and Order dated August 2004.

2.2 PURPOSE

The proposed enhancement plans for the Baker and Hogback Creeks sites provide for the implementation of measures and policies that would improve habitat conditions for yellow-billed cuckoo. The goal of these plans is to increase the suitability of the areas for yellow-billed cuckoo by creating new riparian habitat and increasing the suitability of existing riparian habitat. Implementation of these plans would satisfy LADWP's obligations for yellow-billed cuckoo habitat enhancement as stated in the 1997 MOU.

2.3 PROJECT LOCATION

As illustrated on Figure 1, the project sites are located within Inyo County. The Baker Creek site is located approximately one mile west of the community of Big Pine, and the Hogback site is located seven miles north of the community of Lone Pine.

The Baker Creek site is accessed from Sugarloaf Road via Baker Creek Road and covers 411 acres. Surrounding land uses are open range with seasonal grazing managed by Bureau of Land Management (BLM), United States Forest Service (USFS) and LADWP. Elevation ranges across the site from 1,332 to 1,380 meters (4,370 to 4,525 feet). Bernasconi Education Center is located at the western boundary of the project site. The project site is entirely located on the 7.5 minute Big Pine U. S. Geological Survey (USGS) quadrangle.

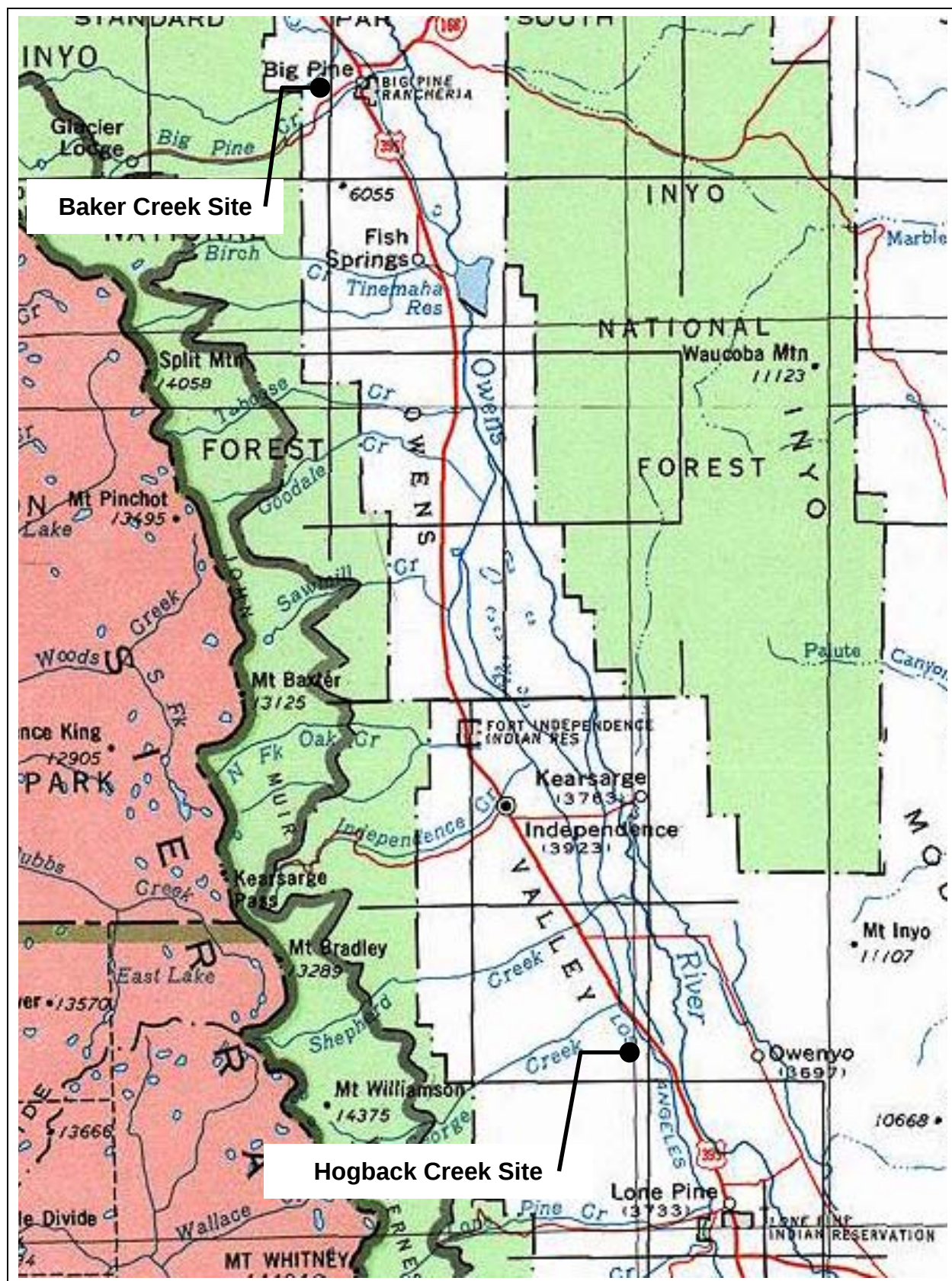


Figure 1. Vicinity of Baker Creek and Hogback Creek Sites

The Hogback Creek site is accessed from Highway 395 via Moffat Ranch Road which joins Hogback Road at the Hogback Creek crossing (at the southern boundary of the site). This site covers 330 acres, with topography ranging from 1,280 to 1,400 meters (4,200 feet to 4,600 feet). Surrounding land uses are open range with seasonal grazing. The project site is entirely located on the 7.5-minute Manzanar USGS quadrangle.

2.4 PROPOSED PROJECT

The proposed project would provide habitat enhancement for the yellow-billed cuckoo at two locations within Inyo County. Existing habitat conditions would be maintained and/or improved at each site through the implementation of habitat enhancement projects, alteration of grazing practices, amended recreation policies, altered trails, and implementation of fuels management programs. The following is a description of the proposed project elements specific to each site, followed by a description of the monitoring and adaptive management programs, recreation policies, and environmental protection measures that would be implemented at each site. This program would be implemented by LADWPs staff with the assistance of volunteers, contractors, and the lessee for each site. Each construction element described in the plan would be scheduled individually, construction schedules would not overlap.

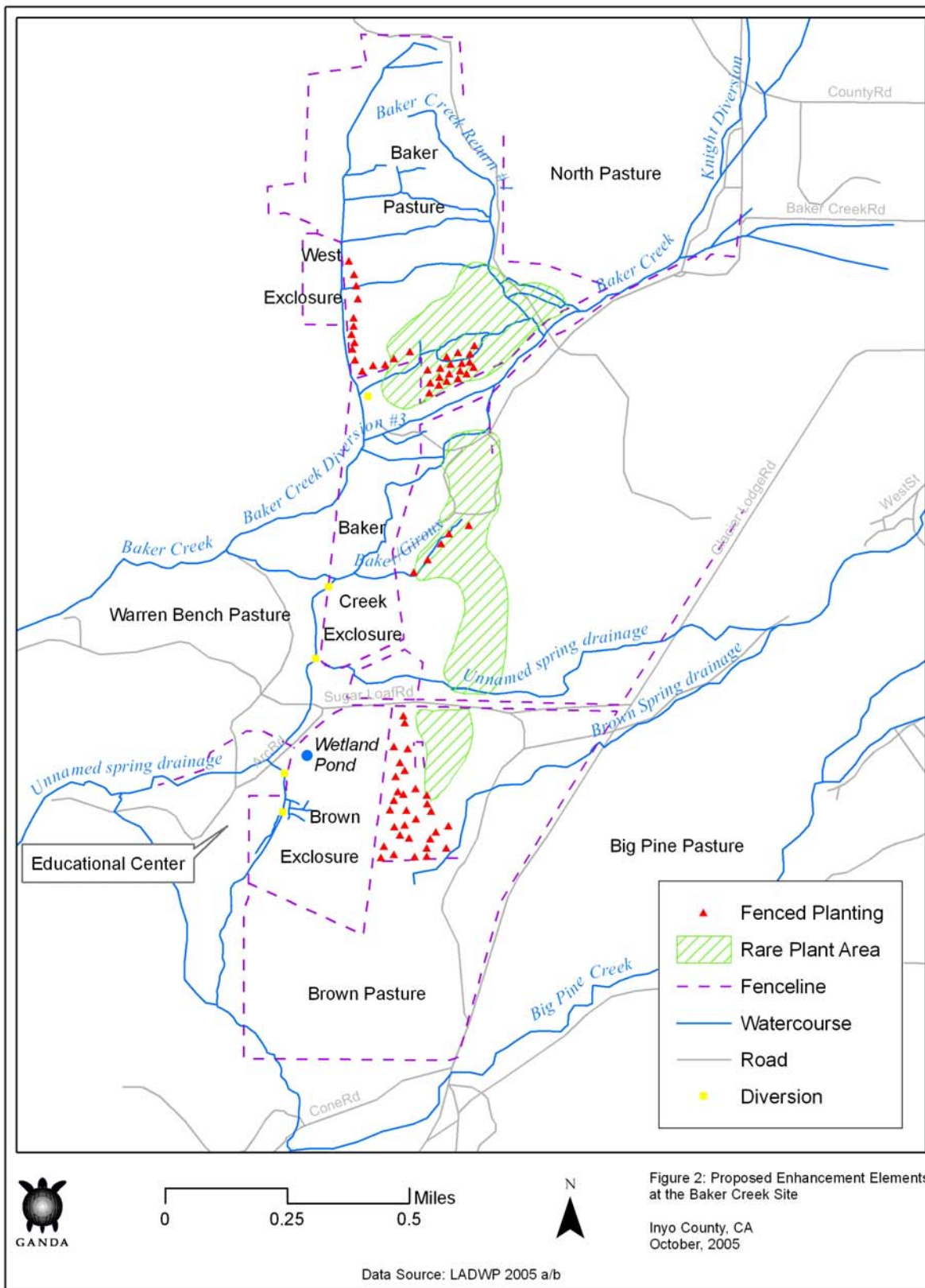
2.4.1 Baker Creek Enhancement Plan

The Baker Creek Enhancement Plan divides the project area into 10 management sections. Three of these sections are grazing exclusion areas where it is estimated that the maximum amount of riparian enhancement can take place. These exclusions include the majority of the best existing riparian habitat and the most suitable yellow-billed cuckoo habitat areas. The remaining areas will be grazed. The proposed plan is illustrated in Figure 2.

The proposed enhancement plan for Baker Creek would provide medium to highly suitable habitat that could potentially support two to four breeding pairs of yellow-billed cuckoos, while allowing for managed cattle grazing throughout the majority of the project area.

Habitat Enhancements. To provide for additional riparian cover for the yellow-billed cuckoo, LADWP proposes to 1) plant, maintain, and supplementally irrigate additional riparian vegetation; 2) construct three grazing exclusions, and 3) implement a black locust eradication program.

Planting. Plantings will take place throughout the Baker Creek site, within the Brown, Baker Creek and West Grazing Exclusions, as well as the Baker, Apple Orchard, and Brown pastures. Within the pastures, groups of riparian plantings will be fenced. A total of 61 grouped plantings will take place in the pastures, including 31 planting sites within the Brown pasture, 25 within the Baker Creek pasture, and five within the Apple Orchard pasture. Plantings will include black cottonwood, Fremont's cottonwood, river birch, arroyo willow, red willow, and other riparian understory species. Pole and rootstock plantings will be used based on substrate and hydrology conditions at each planting site. Planting would take place in fall and winter months.



Willow and cottonwood poles would be planted the first year, and container stock would be planted the second year. Replanting efforts would take place as needed on an annual basis.

Irrigation. The proposed planting areas would require supplemental irrigation for the establishment of the riparian plantings. Irrigation timing for the riparian plantings would follow the same schedule as the adjacent pasture irrigation. Within the Apple Orchard Pasture, up to 0.5 cubic feet per second (cfs) would be diverted from two locations along the Giroux Ditch and directed to existing relict channels.

Within the Brown Exclosure, two ponded wetlands would be created south of the Giroux Ditch with a tracked excavator. These wetlands would be 50 to 80 feet long and 20 to 40 feet wide, with depths ranging from 0.5 to three feet. Spoils generated from digging the wetlands would be placed along the down slope side of the excavation, creating a berm to retain water. Grading would take place in the fall or winter. Following construction, approximately 0.25 cfs would be diverted from the Giroux Ditch into each wetland. Water flow to these ponds would take place on a year-round basis.

Routine pasture irrigation in Baker Pasture is sufficient for existing riparian vegetation as well as proposed plantings. Current irrigation water will also provide enough water for the adjacent plantings in the Baker Pasture Exclosure. Drip irrigation may be used in lieu of ponds for supplemental irrigation to the Apple Orchard and Brown Exclosures.

Two new diversions are proposed for the Giroux Ditch. These would be used to irrigate the Brown Exclosure and the Apple Orchard Pasture. The ditches would be dewatered before construction and up to three days following construction.

Routine irrigation would require periodic manipulation of the irrigation system to turn the water on to the pastures and planting areas at various points along the ditch. These activities would take place approximately twice weekly during the irrigation season, and would require one person in a pickup or ATV. In addition, the irrigation system would require seasonal inspection and maintenance.

Black Locust Control. The Baker Creek Enhancement Plan includes replacing areas of black locust, a non-native tree species, with native cottonwood-willow forest. An aggressive black locust eradication and control program will be implemented. In order to avoid negative impacts from removing all the black locust at one time, the trees will be removed gradually over a period of eight to ten years. Locust eradication will be conducted using the method that will cause the least disturbance. Methods will include cutting trees down and treating the stumps with herbicide and either removing the trees from the site or leaving them in place. Some trees will be treated with herbicide and left standing as snags. This eradication and control work will take place during the fall and winter to avoid impacting wildlife species including nesting birds, and when the above ground portions of the rare plant species that grow in the project area are dry.

Grazing Exclosures. Grazing would be restricted from a total of 141 acres at three sites at the Baker Creek site; these sites include the 59 acre Brown Exclosure, the 72 acre Baker Exclosure, and the 10 acre West Exclosure. In addition, a drift fence will be

placed in Brown Pasture to direct cattle away from a wetland site. Approximately 3.4 miles of fence would be installed to protect these areas. Grazing exclosures will be constructed in the fall or winter.

Trail Relocation. The enhancement plan calls for the construction of a small section of new off-road vehicle (ORV) track to create a loop system for users in this area. The trail is being created because an existing loop trail is being eliminated by the construction of an exclosure fence. The fence line and the new track will be located to avoid impacts to cultural and sensitive biological resources.

Trails will be created with a combination of brushing, herbicide application and grading. Heavy equipment or hand labor will be used to clear the proposed trail routes. The trails will be graded as needed based on existing topography to create water bars and manage storm water runoff.

Grazing Management. The Baker Creek site is currently leased for livestock grazing. As noted above, grazing will be permanently or temporarily eliminated in three areas of the Baker lease. The other seven areas will remain open to grazing but management changes will be made to protect and maintain healthy riparian habitat, improve upland rangeland health, improve Baker Creek, and increase vegetation condition of irrigated pastures. This will be accomplished by decreasing animal numbers, changing the timing and duration of grazing, and setting grazing utilization criteria. Stocking will be reduced in the Baker Creek, Apple Orchard, and Brown Pastures. The timing of grazing will be modified for each pasture. Stocking will follow the schedule and rates listed in Table 1.

Table 1 Proposed Stocking for Baker Creek Lease

Pasture	Grazing Schedule	Stocking
Baker Creek	April 1 to Sept 15	140 to 165
	Sept 15 to Dec 31	170 to 205
Apple Orchard	Aug 15 to Dec 31	50 to 75
Brown	Sept 1 to Dec 15	30 to 40
Big Pine	Match BLM Regs	75 to 100
North	Match BLM Regs	75 to 100
Warren Bench	Match BLM Regs	BLM Regs
Brown Exclosure	No Grazing	No Grazing
Baker Creek Excl	No Grazing	No Grazing
West Exclosure	No Grazing	No Grazing

The lessee will follow LADWP guidelines for supplemental feeding and will be responsible for weed control on the lease. The grazing plan also allows for temporary adjustments in grazing practices in emergency situations.

Fuels Management. Removal of grazing and additional irrigation will promote more vegetative growth resulting in increased fire fuel loading. This will potentially increase

the risk of wildland fire within the Baker Creek area. A fire break will be created between the project area and the community of Big Pine. This fire break will be created by hand clearing 15 feet of brush on either side of a power line road that runs between the Baker Creek meadow and the Glacier Lodge Road. Native grasses and forbs will be left for groundcover. Trees branches will be trimmed to a height of ten feet. In addition, a pre-fire plan will be developed.

2.4.2 Hogback Creek Enhancement Plan

The 330 acre Hogback Creek area currently has approximately 128 acres of yellow-billed cuckoo habitat. There will be little change in the total acreage of cuckoo habitat but the planting of cottonwoods on the edge of habitat patches will widen the riparian corridors and enlarge patches of riparian species. The proposed plan is illustrated in Figure 3.

The proposed enhancement plan for the Hogback Creek site would provide suitable habitat to support two breeding pairs of yellow-billed cuckoos in the long term, while allowing for continued grazing of the site.

Habitat Enhancements. To provide for additional riparian cover for the yellow-billed cuckoo, LADWP proposes to 1) plant and maintain additional riparian vegetation; 2) construct one grazing enclosure, and 3) implement a black locust eradication program.

Planting. Cottonwood and tree willows will be planted within open areas. Planting will involve establishing pole cuttings in areas where depth to water is within four feet of the ground surface. In addition, habitat enhancement will come from natural recovery of the riparian habitat following fire.

Planting would take place in fall and winter months. Willow and cottonwood poles would be planted the first year, container stock would be planted the second year. Replanting efforts would take place as needed on an annual basis.

Grazing Enclosure. A 7.5 acre area adjacent to the Hogback Pasture will be fenced to exclude livestock grazing. This area is leased for livestock grazing but approximately 5.5 acres of this area is dense riparian vegetation so there will be little effect on the lessee operations. Restoration within the enclosure will include the planting of cottonwood and willows.

Black Locust Control. There are currently only a few black locust trees growing at the Hogback Creek project area. All of these locusts will be eradicated. Locust eradication will be conducted using the method that will cause the least disturbance. Methods include cutting trees down and treating the stumps with herbicide and either removing the trees from the site or leaving them in place. Some trees will be treated with herbicide and left standing as snags. This eradication work will take place during the fall and winter to avoid impacting wildlife species including nesting birds.

Grazing Management. The grazing within the remainder of the 330 acre site will be changed to promote riparian vegetation. Horses and mules that graze the area will be reduced from 40-55 head to 35 head. The four month grazing period will start December 1 and end March 31, to avoid grazing during willow and cottonwood leaf out.

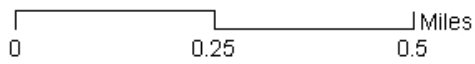
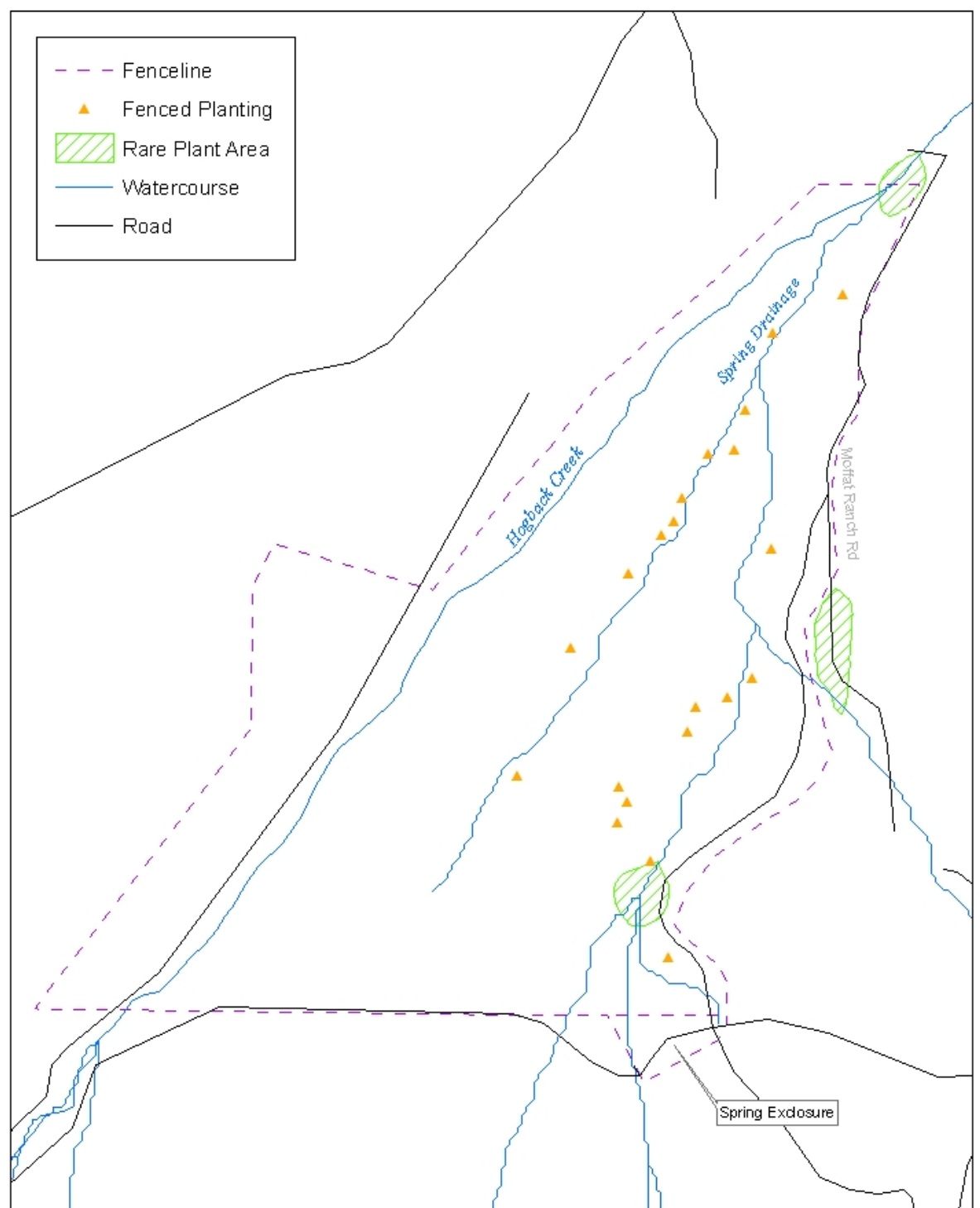


Figure 3: Proposed Enhancement Elements at the Hogback Creek Site

Inyo County, CA
October, 2005

Data Source: LADWP 2005 a/b

Grazing utilization criteria will also be set for riparian and upland areas. The existing fence around the project area will be rebuilt and most gates will be removed. This will keep cattle that graze adjacent areas from grazing the project area.

The lessee will follow LADWP guidelines for supplemental feeding and will be responsible for weed control on the lease. The grazing plan also allows for temporary adjustments in grazing practices in emergency situations.

Fuels Management. LADWP will adopt fire protection measures that will require that fuel breaks would be installed around the Hogback site to prevent any adjacent wildfire from expanding into the Hogback site.

2.4.3 Monitoring and Adaptive Management

The proposed plan includes periodic monitoring for vegetation, occurrence of yellow-billed cuckoo, observation of bird use, and range and pasture conditions for grazing. Vegetation monitoring will include the review and comparison of aerial photographs from each site at five-year intervals, supplemented with onsite collection of vegetation cover and composition data. Surveys will be conducted using standard protocols for yellow-billed cuckoos. These surveys will also include point counts for all bird species observed on the sites. Range and pasture conditions will be monitored using utilization cages and permanent transects. Following monitoring, adaptive management recommendations will be made for vegetation management or grazing practices to help achieve the goals of the enhancement programs.

At Baker Creek, implementation of the range assessment and yellow-billed cuckoo monitoring programs would take place on an annual basis. Vegetation monitoring will take place annually with air-photo comparisons at five-year intervals following planting. At the Hogback Creek site, annual implementation of utilization monitoring and yellow-billed cuckoo monitoring programs take place on an annual basis. Vegetation monitoring will take place annually with air photo comparisons at five-year intervals following planting.

2.4.4 Recreation Use at the Hogback and Baker Creek Sites

The proposed enhancement plans for the Baker Creek and Hogback Creek sites provide for a variety of recreational opportunities with conditions as noted below. The plans also prohibit woodcutting, artifact-gathering, pot hunting, and fires. Overnight camping is directed to nearby designated campgrounds. LADWP will provide signage to direct recreational uses on the sites, and work with Inyo County Sheriff's Department when enforcement is needed.

Off-road Vehicle Use. To limit disturbance to plants, wildlife and grazing livestock, ORV use will be limited to existing roads and trails. ORV recreationists are requested to respect other trail users, and adjacent land uses.

Fishing. Access for fishing in Baker and Hogback Creeks will remain open. Fishing will be subject to the regulations of the State of California, Department of Fish and Game.

Recreation Access. Up to 75 percent of both the Baker Creek and Hogback Creek sites will continue to be open for recreational activities. Areas closed to recreation will be posted.

Hiking and Biking. Access for hiking, biking and day use will remain open at both sites; areas that are off limits for hiking or biking will be posted.

Hunting. The project sites are currently open for hunting, deer, and game birds. These activities will continue to take place on Hogback Creek and Baker Creek sites in keeping with the regulations of the State of California, Department of Fish and Game.

2.4.5 Environmental Protection Measures

LADWP has proposed several resource protection measures that would be implemented with both enhancement plans. These include: 1) avoidance of cultural resources, sensitive plants, and other sensitive resources during trail construction, wetland pond construction, fence construction, and while planting trees; 2) signage and enforcement measures for inappropriate recreational activities; and 3) development of best management practices (BMPs) or other measures for control of soil erosion and sedimentation, reduction of air and noise emissions, and safe handling of hazardous materials onsite. The proposed EIR will evaluate the effectiveness of these measures and propose modifications as needed to mitigate expected impacts.

2.4.6 Public Agencies Whose Approval May Be Required

The proposed project would require approval for funding and implementation from the City of Los Angeles. Other approvals may be required for ground disturbing activities if they are located within wetlands and waters of the US. The following agencies may issue permits for these activities: California Regional Water Quality Control Board, State Water Resources Control Board, California Department of Fish and Game; Bureau of Land Management, U.S. Forest Service, and U.S. Army Corps of Engineers. In addition, the following agencies may review the project before federal permits are issued: State Office of Historic Preservation and US Fish and Wildlife Service.

2.5 ALTERNATIVES TO THE PROPOSED PROJECT

The Draft EIR will evaluate a reasonable range of alternatives, including the no project alternative. LADWP will develop alternatives based on the extensive enhancement plan planning process and the comments of reviewing parties. Alternatives will explore alternate proposal that can meet the proposed project purpose for enhancement of yellow-billed cuckoo habitat in keeping with the 1997 MOU.

3.0 EVALUATION OF ENVIRONMENTAL IMPACTS

Pursuant to Section 15063 of the CEQA Guidelines the following evaluation of the proposed project includes a brief explanation for each potential impact, including references as needed to support significance findings. This evaluation of the proposed project will be used to guide the preparation of the proposed EIR.

AESTHETICS -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Response to questions:

(a). The proposed project site at Hogback Creek is accessed from Highway 395 via Moffat Ranch Road. Hills located between the project site and the Highway obscure the project site from Highway 395. The Baker Creek site is accessed from Highway 395 via Baker Creek and Sugar Loaf Roads. This project site is more than one mile from Highway 395. The project sites are not located within the view sheds of a scenic vista, and therefore they are not likely to affect a scenic vista.

(b). Portions of Highway 395 in Inyo County between Fort Independence and Fish Springs are designated as State Scenic Highways (Caltrans 2005). The project sites are well removed from this designated section of Highway 395.

(c). The proposed project would include the alteration of existing vegetation patterns on the landscape. This may include the conversion of black locust forest to native stands of cottonwood and willow. The conversion process may take several years, with standing dead snags remaining emergent over native seedling and sapling trees. The alteration of the existing vegetation patterns may be considered less than significant impacts. The

nature and extent of these alterations, and their significance will be evaluated further in the proposed EIR.

(d). The proposed projects would provide for habitat enhancement for yellow-billed cuckoos. Proposed activities are expected to take place during daylight hours; no lighting sources would be required. No elements of the project are expected to introduce light or glare into the project areas.

AGRICULTURAL RESOURCES: Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime farmland, Unique farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of farmland, to non-agricultural use?	☒	☐	☐	☐

Response to questions:

(a). The Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency is administered by the California Department of Conservation (CDOC). This agency has not mapped lands within Inyo County (CDOC 2002). Therefore, the proposed project would not affect farmlands designated by the FMMP.

(b). The proposed project sites are not encumbered by Williamson Act contracts. The sites are zoned Open Space. The proposed project includes the enhancement of habitat for yellow-billed cuckoo through planting and maintenance of riparian vegetation, altered recreation policies and facilities, and continued grazing on the project sites. These activities are not expected to conflict with zoning or Williamson Act contracts.

(c). The proposed project would require changes in existing grazing practices on both the Hogback Creek and Baker Creek sites. In addition the proposed project would exclude

grazing from 141 acres on the Baker Creek site, and 7.5 acres at the Hogback Creek site. The proposed EIR will evaluate the significance of these impacts to the local agricultural economy.

AIR QUALITY -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Response to questions:

(a). The Great Basin Valleys Air Basin is comprised of a single air district, the Great Basin Unified Air Pollution Control District (GBUAPCD), and consists of Alpine, Mono, and Inyo Counties. Among other tasks, the GBUAPCD develops and enforces air quality regulations for stationary sources and participates in regional air quality planning.

The California Clean Air Act (CCAA) requires areas that are not in attainment of State ambient air quality standards for ozone, CO, SO₂, NO₂, or particulates to outline plans to attain standards by the earliest practicable date. Currently, the area surrounding the project sites is in nonattainment for both State 24-hour and annual average PM₁₀ standards. The air basin is designated as unclassified for the State annual PM_{2.5} standard and the project areas are also designated as unclassified for ozone. The majority of the

particulate pollution is a result of dust from high wind events with much of the dust originating in the Owens Valley. In response to the requirements of the CCAA, the GBUAPCD has adopted three State Implementation Plans (SIPs) for Coso Junction, Owens Lake, Mono Basin, and the town of Mammoth Lakes. Jointly, these documents provide the framework and strategy for reducing emissions of nonattainment pollutants.

Implementation of the Yellow-billed Cuckoo Enhancement Plans will temporarily increase the emissions of criteria pollutants, including non-attainment pollutants. The location of the project includes two sites, Baker Creek and Hogback Creek. These project sites are approximately 30 miles apart, and the activities for each site are independent of each other, allowing emission calculations from each creek to be considered separately. The contribution of emissions from this project's activities, from both locations, including land disturbance associated with tree planting and the application of herbicides on some existing trees, and other construction, is below the level of significance for air quality. Since the size and short duration of the project, and the activities it includes, will not significantly degrade the current air quality (Lague and Ferrari, 2005), it will not conflict with or obstruct the implementation of these plans.

(b). The following is an analysis of air quality violations in the vicinity of both sites. Data on local air quality for 2004 is available from the CARB website. Ambient monitoring data was collected via monitoring stations located throughout the Great Valleys Basin. According to historical data, only the state 24-hour and annual standards for PM₁₀ and the 8-hour ozone standard have been exceeded in the region. This issue will be discussed further in the EIR.

(c). Near the Baker Creek site, there is currently a Regreening Project taking place in Big Pine. Given the nature of the Regreening Project and the activities it includes, it is unlikely to make a significant contribution to the degradation of air quality. The Hogback Creek site will be even less affected by this event. Since the emissions from this project is below the threshold of significance, the net emission of the proposed project will not cause or contribute to any considerable increase in emissions of a nonattainment pollutant or exceed quantitative thresholds for ozone precursors.

(d). Sensitive receptors including the very young, elderly, and persons suffering from illness are normally associated with locations such as schools, day-care facilities, convalescent homes, medical facilities, and residential areas. Air quality impacts of the proposed project will be evaluated more fully in the EIR.

Baker Creek. The location of the proposed site is approximately 0.2 miles to the east of the Bernasconi Education Center (Inyo County high school). The location of the school causes the emissions from the closest sections of Baker Creek (Brown Exclosure and Brown Pasture South) to be of particular interest. The activities planned for those sites include the excavation of new ponds, planting of new trees (land disturbance) and the application of herbicides. These activities have been determined to be below a level of significance. Total emissions from the entire project include emissions due to equipment exhaust, fugitive dust, soil transport, and herbicide application at the project site.

Hogback Creek. The location of the proposed site is in a remote area with no residences and/or facilities within 5 miles. The closest sensitive receptor site to the project area is an elementary school approximately 6.2 miles to the southeast. Emissions due to fugitive dust, soil transport, equipment emission, and herbicide application at the project site are below the significance threshold.

(e). The project will contain operations that will produce minor odors associated with equipment and materials. The site is located within the vicinity of sensitive receptors in the surrounding community of Big Pine (Baker Creek) and Lone Pine (Hogback Creek); however, the odors associated with this type of project are normally not considered offensive. Diesel fuel odors from equipment and vehicles fall into this category. No significant odor impacts are forecast to result from implementing the proposed project.

BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐

BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional or state habitat conservation plan?	☐	☐	☐	☒

Response to questions:

(a). The proposed project sites are known, expected, or could potentially support a wide variety of special status species, including Owen's valley checkerbloom (*Sidalcea covillei*), Inyo County star-tulip (*Calochortus excavatus*), northern leopard frog (*Rana pipiens*), yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), Cooper's hawk (*Accipiter cooperii*), long-eared owl (*Anthene otus*), yellow warbler (*Dendroica petechia brewsterii*), yellow breasted chat (*Icteria virens*), least Bell's Vireo (*Vireo bellii pusillus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), spotted bat (*Euderma maculatum*), western red bat (*Lasiurus blossewillii*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), and Owens valley vole (*Microtus californicus vallicola*). The proposed EIR will consider the potential for significant impacts on these species due to the implementation of the proposed project, including direct and indirect impacts on habitat and habitat suitability.

(b)-(c). Implementation of the proposed projects at the Hogback Creek and Baker Creek sites will result in the expansion of wetland and riparian habitat and improvement in habitat quality. Wetland and riparian communities have been identified by the CDFG as sensitive natural communities (CDFG 2003). At the Baker Creek site, some riparian

vegetation may be lost due to construction of new fences and alteration of the existing trail system. These impacts may be mitigated within the context of the proposed project, which would ultimately result in the increase of wetland and riparian vegetation on the sites. These localized impacts at the Baker Creek site will be evaluated in the EIR.

(d). The project area supports herds of deer that have been known to frequent the project sites at Baker and Hogback Creeks. Fence construction may limit or restrict the movement of these animals at the project sites. The proposed EIR will address wildlife movement and modification of fences at specific locations to allow for movement of deer and other wildlife species. The EIR will also evaluate special structures that facilitate safe crossings of barbwire fences that will be installed at major game trails.

(e)-(f). There are no adopted habitat conservation plans (HCP), natural community conservation plans (NCCP), or local policies, plans, or ordinances for protection of biological resources within Inyo County (Jan Larson pers. omm, October 21, 2005). There is a an adopted Conservation Strategy for the Southwestern Willow Flycatcher in Inyo County but this project will not have an effect on this Conservation Strategy. Therefore, the project will not conflict with local policies protecting biological resources or conflict with the provisions of an HCP, NCCP, or other approved conservation plans.

CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Response to questions:

(a). This project will not cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.

(b). Survey of the archaeological resources at Baker and Hogback Creek Project Areas revealed several historic and prehistoric sites scattered throughout the regions. The final technical report outlining the results of this investigation is expected to be completed before the end of 2005. Caution will be taken in the placement of new fencelines, fuels breaks, ORV tracks, fenced plantings, and in non-native tree removal to ensure that these archaeological resources and surrounding areas are not impacted during any phase of project implementation. Potential impacts to archaeological resources will be addressed in the EIR.

(c). The proposed project does not directly or indirectly destroy a unique paleontological resource or site or geologic feature.

(d). There was no evidence of human remains within the project site at the time the archaeological survey was conducted (April/May 2005). Upon finding any remains with the implementation of the project, LADWP will stop excavation or disturbance of the affected site until satisfying the steps outlined in CEQA Title 14, Chapter 3, Section 15064.5(e).

GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒

GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Response to questions:

(a)(i). The Baker Creek site is fully within a delineated Alquist-Priolo special studies zone for the Sierra Nevada Fault Zone. In contrast, the Hogback Creek site is near but not on active faults of the Sierra Nevada Fault Zone, as delineated on the Alquist-Priolo fault zone map for Northern and Eastern California (Davis 1985). These faults have exhibited historic (1872 Independence earthquake) or Holocene surface rupture and present-day seismicity (USGS 2005); surface rupture on these faults is also possible outside of the currently mapped active traces of these range-front faults in the vicinity of the project areas. Above-ground structures would be built within the project sites; these include diversions from existing irrigation ditches and fences. The relationship between the sites and the Alquist-Priolo special study zones will be shown in the EIR.

(a)(ii). The proposed project does not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking. Strong ground shaking is probable at both the Baker and Hogback Creek sites in the event of an earthquake along

nearby surface expressions of the Sierra Nevada Fault Zone. However, no substantial above-ground structures will be built with the proposed project. The structures that would be built – diversions from existing irrigation ditches and fences – can be expected to withstand at least some strong seismic ground shaking from earthquakes with minimal loss, as evidenced by historical photographs of fence line offsets from prior quakes (e.g., the 1906 San Francisco earthquake, as seen in Pt. Reyes National Seashore). Outside of the period of vegetation installation and black locust eradication, people will be unlikely to regularly visit the project area; if such visits were to occur during a quake, substantial areas of relatively bare ground without overhead hazards located throughout the project sites would be safe locations for people to gather during and after an event.

(a)(iii). The proposed project does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure. Ground failure by liquefaction requires saturated soils, which is not likely to occur most of the time at either site except immediately adjacent to flowing creeks. In addition, the coarse-grained, well drained and well graded soils such as occur at both sites are less susceptible to liquefaction than finer grained, poorly sorted soils such as occur closer to the axis of the Owens Valley. No structures are associated with the project that would involve substantial adverse effects if they were damaged in an earthquake.

(a)(iv). The proposed project does not expose people or structures to potential substantial adverse effects involving landslides because no structures are associated with the project that would involve substantial adverse effects if they were damaged. Both sites are located well away from the mountain front which has slopes steep enough to initiate a landslide during an earthquake—Baker Creek is located 1,500-2,000 feet toward the valley center from the toe slopes of the Sierra, while Hogback Creek is located over two miles from the valley margin. Portions of both locations could experience mudflows if saturated materials within nearby mountain stream valleys were released by a landslide during an earthquake or as a result of an extreme meteorological event (e.g., heavy rainfall, rapid melt of a high snowpack). However, damage to project infrastructure from such events—trees, fences, or ditches, etc.—would not reach the level of substantial adverse effect for the project proponent. These features could be rebuilt or re-established easily.

(b). There will be minor disturbances to topsoil during non-native tree removal, native tree plantings, ORV trail construction, fire break construction, and construction of water conveyance or storage features (i.e. wetland pond areas). Together, these disturbances would likely exceed one acre of ground disturbance. Site-specific BMPs to reduce impacts from soil erosion will be developed for the project. Soil erosion potential will be evaluated in more detail in the EIR.

(c). Both project sites are located on the alluvial apron of the Sierra Nevada Mountain front. Soils at these sites are geologically young and weakly developed on water-laid sediments that are themselves coarse grained, with a sandy matrix around gravels, cobbles, and boulders. These sediment likely extend to several 10s to 100s of feet below the land surface, overlying competent igneous bedrock (CDMG 1966, 1967). Except for stream banks and terrace margins, the land slope is gentle, between five and ten percent. Combined, the soils+bedrock+land surface slope conditions are not of the proper

character to become susceptible to landsliding. As described in 6(a)(iii) above, the soils are not particularly susceptible to liquefaction and related lateral spreading. Soil collapse, induced in coarse-grained soils by shaking (such as can occur during an earthquake or from heavy traffic), can be a risk for structures built on dry alluvial fan soils such as those found at the site. However, no structures that would be at risk in the case of soil collapse are planned for the site. The soils at the project sites are not susceptible to subsidence in the absence of additional site modification such as groundwater withdrawal, and no groundwater withdrawal that could induce subsidence is planned for the project site.

(d). It is unlikely that expansive soils (typically clay-rich, with smectite-group minerals as the dominant clays) are present at either site. However, the EIR will evaluate site soils in more detail.

(e). No septic or other wastewater systems are planned for either site as part of the proposed project. Therefore, the ability of the soil to provide adequate drainage and wastewater treatment is not applicable to this project.

HAZARDS AND HAZARDOUS MATERIALS -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

HAZARDS AND HAZARDOUS MATERIALS (continued)	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working within the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
H) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☒	☐	☐	☐

Response to questions:

(a). Implementation of the proposed enhancement plans will require the routine transport of limited quantities of fuel and herbicide. Fuel use associated with power equipment and vehicles that use petroleum-based fuels and lubricants will be limited, and will primarily occur only during the construction phase of the project. Limited use of herbicides may be necessary for eradication of black locust, control of rangeland weeds, and, in the future, during adaptive management of the site to control invasive non-native plants. Expected specific uses of power equipment containing petroleum products and herbicides will be detailed further in the EIR along with appropriate BMPs for the use, transport, and disposal of the hazardous materials.

(b). As described above, use of hazardous materials on the site will be very limited, and therefore, there is minimal risk of exposure through reasonably foreseeable accident or upset conditions.

(c). Portions of the Baker Creek site are within ¼ mile of the Bernasconi Education Center. Expected specific uses of power equipment containing petroleum products and herbicides, along with applicable BMPs to substantially eliminate release or accidental exposure to humans or the environment, will be detailed further in the EIR.

(d). Government Code Section 65962.5 refers to lists of facilities that may be subject to specific management requirements, past releases, cleanup activities, or deed restrictions related to hazardous waste. No disposal of hazardous waste is known to have occurred on this site. No sites listed on the CalEPA website (DTSC 2005) or Inyo County website are within the project area.

(e). The project is not located within two miles of an airport.

(f). The project is not in the vicinity of a private airstrip.

(g). The project is located in an area that would be accessible to emergency vehicles and would not interfere with any response or evacuation plan.

(h). The Baker Creek portion of this project will involve the permanent or temporary removal of livestock grazing from specified areas. Removal of grazing and additional irrigation will promote more vegetative growth resulting in increased fire fuel loading. This will potentially increase the risk of wildland fire within the Baker Creek area and could expose people and structures to a significant risk of loss, injury or death. The community of Big Pine lies approximately one mile east of the Baker Creek area, the Baker Creek Campground is approximately 0.75 miles to the east, the Bernasconi Education Center lies 0.15 miles to the west, and the Big Pine Power Plant lies 0.5 miles south of the project area.

To manage the potential risk of wildland fire at the Hogback Creek site, fire breaks will be installed prior to any controlled burns within the adjacent grazing leases. To decrease the potential risk of wildland fire the following measure has been incorporated into the Baker Creek portion of the project:

- Fuels treatments and maintenance along the Powerline Road between the Baker Creek Meadow and Glacier Lodge Road: the prescription for the fire fuels treatment will be to remove 15 feet of brush on both sides of the road by hand, leave native grasses and forbs for groundcover, and within the treatment area trim tree branches to a height of 10 feet. (Work is expected to affect 2.9 acres of brush outside the project area.). These activities will be described more fully in the EIR.
- Develop a Pre Fire Plan with the following sections: (fuels, maintenance, fire, suppression objectives, CAD update at dispatch).

The feasibility and effectiveness of these measures will be evaluated in the Draft EIR.

HYDROLOGY AND WATER QUALITY -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐

HYDROLOGY AND WATER QUALITY -- (continued)	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood hazard Boundary or Flood Insurance rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place structure within a 100-year flood hazard area, which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Response to questions:

(a). The proposed project may exceed water quality standards for sediment or turbidity due to construction of the proposed new diversions on the Giroux Ditch if diverted waters are returned by surface flow to jurisdictional waters. The EIR will evaluate these activities and propose BMPs and other measures to control siltation and erosion.

(b). The proposed project is not expected to significantly deplete groundwater supplies or interfere with groundwater recharge. However, surface water will be locally diverted to provide sufficient irrigation for plant establishment. Where this occurs, groundwater recharge will be locally enhanced. Some of this water may be used consumptively by the enlarged area of riparian vegetation proposed for the project. This element of the project may locally raise the groundwater table or change groundwater availability downgradient of the project site. Impacts from the proposed water use and diversion will be evaluated in the EIR.

(c). The Baker Creek portion of the project includes the construction of new and existing diversions off of two ditches. These diversions could result in localized and limited

alterations in surface water or groundwater hydrology that could result in erosion or sedimentation in project-affected drainages. The EIR will evaluate the potential for drainage alteration due to sedimentation and erosion.

(d). While the plantings at Hogback Creek will not require supplemental water, plantings in the Baker Creek project area will require supplemental water plus a continuation of current water supply and hydroperiod. A diversion for a drip irrigation system or other measures to aid plant establishment will be constructed. Other localized modifications to water distribution over the site may occur as the site is adaptively managed in the future. Modifications to the riparian corridor could affect the downstream surface water hydroperiod, including flow peaks and duration of those peaks. Details of the proposed project and potential subsequent water management and potential impacts will be evaluated in the EIR.

(e). The proposed project is not expected to alter local runoff patterns, and would continue to use natural stream channels for storm water conveyance. The project will, therefore, not contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of pollution.

(f). During the removal of non-native trees and the planting of native riparian species there may be minor amounts of sediment that enter ditches or Baker Creek. The Draft EIR will consider the magnitude and likely duration of these episodes and the feasibility and effectiveness of measures to control erosion.

(g). The proposed diversion structures are limited in size and, in the event of a failure, would not contribute to catastrophic flooding. No habitable structures are proposed for the project.

(h). No 100-year hazard areas are known to have been established within the project boundaries (FEMA, 1985). Additional evaluation of the extent of mapped jurisdictional floodplains will occur in the EIR. The new and existing diversions off of two ditches that will be used for the Baker Creek portion of this project will not be designed to impede or redirect flood flows. Additional evaluation of local flooding and the potential for adverse downstream impacts will also be performed for the EIR.

(i). The Inyo County General Plan (Policy FLD-1.2; Jones and Stokes [JSA] 2001) requires that project applicants demonstrate no adverse impact to downstream properties. The proposed project is not expected to expose people or structures to a significant risk of flooding.

(j). The project sites are not located in areas that are at risk of inundation by a seiche or tsunami. Portions of the project are at risk for inundation by mudflows. The Inyo County General Plan requires that “[n]atural washes . . . be kept free from development that would adversely impact floodway capacity or characteristics, natural/riparian areas, or natural groundwater recharge areas. (Implementation measure 3, Section 9.3; JSA 2001.) Mudflows are natural geomorphic processes on alluvial fans and washes, and native riparian habitats have evolved to recover following such events. The potential risk of loss associated with mudflows will be evaluated in the EIR.

LAND USE AND PLANNING -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Response to questions:

(a). Neither enhancement project would divide an established community. The town of Big Pine is approximately one mile from the Baker Creek site and the town of Lone Pine is approximately seven miles from the Hogback Creek site. Both sites are outside the towns' city limits.

(b). The proposed project does not conflict with any applicable land use plan or policy. The zoning overlay is for both sites is Open Space; 40-acre minimum. The Inyo County General Plan designates the area as Natural Resources and State and Federal Lands and these are part of the Open Space Elements of the plan (Gertz, T, pers. comm. October 21, 2005). The area is planned and used for recreation, as well as grazing. Permitted uses for Open Space include recreation, watershed protection, habitat protection, and rangeland (JSA 2001).

Policy LU-1.10, LADWP Land Holdings of the Inyo County Planning Policy states that all General Plan land use designations shall allow for the implementation of Enhancement/Mitigation Projects and/or mitigation measures as described in the Inyo County-Los Angeles Long Term Ground Water Management Agreement and/or the 1991 Final EIR that addressed that agreement (JSA 2001). The sites are well removed from the coast, and there are no local coastal programs. The LADWP is a participating agency since the enhancement sites are located on their land. The proposed plan does not conflict with their plans and there is an MOU specifically relating to this project.

(c). The proposed project does not conflict with any applicable habitat conservation plan or natural community conservation plan. The enhancement sites are part of the Yellow-billed Cuckoo Habitat Enhancement Plan.

MINERAL RESOURCES -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Response to questions:

(a)(b). The proposed project sites are both designated for Natural Resources in the Inyo County General Plan and zoned Open Space, 40-acre minimum (Gertz, T, pers. Comm. October 21, 2005). These sites are not recognized for potential mineral sources for the state or local economies. Mineral sources are not limited within the county, or within this region of the State. Implementation of the proposed enhancement plans will have no affect on availability of mineral resources.

NOISE -- Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration noise levels?	☐	☐	☐	☒

NOISE -- Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Response to questions:

(a). The project will not generate offsite noise levels to violate any applicable standards at sensitive receptors. Noise sources that are anticipated to be associated periodically with the proposed actions at the Hogback Creek and Baker Creek sites may range from light car/truck travel on and off existing roads, to use of hand implements (e.g., shovels, picks, augers, chainsaws, etc.) to use of small trenchers for irrigation systems, to use of truck mounted internal combustion engine powered augers or direct-push equipment, to the use of heavy grading and excavation equipment. Such activities are characteristic of normal rural farming, ranching and residential maintenance and construction activities that occur sporadically throughout the region. Furthermore, these activities are expected to be moderate to low intensity and short-lived in any one location.

US Occupational Safety and Health Administration (OSHA) has established maximum permissible worker noise exposure levels to protect against hearing damage. The OSHA

limit for 8-hour exposure is 90 dB(A). Whenever, a worker's potential noise exposure exceeds 85 dB(A) over an 8-hour period, the worker shall provide hearing protection. California Department of Industrial Relations – Occupational Health and Safety (CalOSHA) has established permissible worker noise exposure levels that comply with federal OSHA criteria. LADWP will comply with applicable OSHA/CalOSHA requirements. Field Equipment operators will wear ear protection as necessary.

The US Environmental Protection Agency (EPA) has suggested an annual day-night average sound levels (Ldn) guideline of 55 dB(A) to protect public health and welfare from the effects of exterior environmental noise. Additionally, EPA has established a guideline that an individual's 24-hour equivalent sound level exposure (Leq) at the ear, should not exceed 70 dB(A) in order to protect against hearing damage. These guidelines are recommendations rather than standards or regulations.

Section 9.7 of the Inyo County General Plan Goals and Policy Report (JSA 2001) identifies two noise issues that would be potentially relevant to the proposed action: 1) Maintaining the rural atmosphere in the County; and 2) noise from roadways.

The proposed action will not significantly alter traffic in the project vicinity, including the nearby towns of Lone Pine and Big Pine, so roadway noise will not be a significant project impact.

Given the nature of the anticipated noise sources and the relatively significant distances to sensitive receptors, significant noise impacts will not occur at sensitive receptors. Typical residential activities and traffic along town streets and Hwy. 395 will likely overshadow any sounds that might travel from the Baker and Hogback Creek sites toward sensitive receptors in or near Big Pine and Lone Pine. Common sense execution of project activities will be sufficient, such as maintaining project-related vehicle traffic to normal road speeds, and focusing construction efforts during daytime hours.

Thus, proposed actions will result in a negligible change at nearby sensitive receptors, and impacts will be a less than significant.

Additionally, proposed project activities are consistent with (as noted above) and therefore to not threaten the rural atmosphere of Inyo county. The Inyo County Plan has established maximum allowable ambient noise exposure levels for several land use types. A maximum Ldn of 60 dB(A) applies to the most sensitive of these land use categories, which are: Residential, Schools, and Libraries, churches, hospitals, and extended care facilities

Given the nature of proposed activities and the distances involved, it is highly unlikely that the proposed action will subject the nearest sensitive receptors in these three land use categories to Ldn exposures greater than 60 dB(A). One possible exception may be the Bernasconi Education Center on intermittent occasions.

Given the nature of the anticipated noise sources and the relatively significant distances to sensitive receptors, it is unlikely that significant noise impacts will occur at sensitive receptors. It is also likely that common sense mitigation measures will be sufficient, such

as maintaining project-related vehicle traffic to normal road speeds, and focusing construction efforts during daytime hours. It is likely that typical residential noises and traffic along town streets and Hwy. 395 will overshadow any sounds that might travel from the project sites toward sensitive receptors in or near Big Pine and Lone Pine. In recognition of its close proximity to proposed fire break construction along the Giroux Ditch and other project activities that may occasionally occur nearby, LADWP will coordinate schedules with the Bernasconi Education Center as necessary to minimize disruption of educational activities.

(b). The project will not cause any excessive groundborne vibrations or noise levels.

(c). There will be no permanent increase in ambient noise as a result of the project. All noise generating activities will be intermittent.

(d). There will be a temporary and periodic increase in ambient noise levels in the project vicinity above existing levels during the non-native tree removal and other operations described above near the Bernasconi Education Center. This issue will be addressed further in the EIR, along with proposed noise reductions measures

(e). The project is not within two miles of an airport or in an airport land use plan.

(f). The proposed project area is not within the vicinity of a private airstrip.

POPULATION -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Response to questions:

(a). The proposed project would not induce population growth in the area. The project is a habitat restoration project and no dwellings will be constructed. There will not be any new road construction to the sites. The sites will be accessed by the existing roads of Glacier Lodge Road from Big Pine and Moffat Ranch Road from Lone Pine.

As of the 2000 Census, there are 1,350 people in Big Pine and 1,655 in Lone Pine. They are small communities with low residential density. The primary economic activities in the local vicinity are recreation and ranching. The proposed project is not expected to alter the nature and character of these communities.

(b). The proposed project would not displace any existing housing. The enhancement sites are located outside of established towns. There is currently no known housing on either site.

(c). The project would not displace any businesses or private residences because none are located within the proposed sites.

PUBLIC SERVICES -- Would the project	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response time or other performance objectives for any of the public services:				
a) Fire protection?	☐	☐	☐	☒
b) Police Protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Response to questions:

(a)-(f). The proposed project would not alter the proposed enhancement sites in such away that additional government services or facilities would be required, including police protection, fire protection, schools, or parks and recreational areas. The proposed project is expected to provide improved fire fighting capabilities as discussed below.

Removal of grazing and additional irrigation will promote more vegetative growth resulting in increased fire fuel loading. The proposed project includes the creation of a fire break at Baker Creek between the project area and the community of Big Pine. This fire break will be created by hand clearing 15 feet of brush on either side of a power line road that runs between the Baker Creek meadow and the Glacier Lodge Road. Native grasses and forbs will be left for groundcover. Trees branches will be trimmed to a height of ten feet. In addition, a pre-fire plan will be developed.

LADWP will adopt fire protection measures that will require that fuel breaks be installed around the Hogback site before controlled burns are conducted.

Implementation of the proposed project is not expected to increase the need for fire protection services within the local communities. The proposed fuels management measures should enhance local firefighting capabilities.

RECREATION	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☒	☐	☐

Response to questions:

(a). The enhancement of cuckoo habitat in the Baker Creek Area may increase use at the nearby Baker Creek Campground by potentially drawing more users to the area. The Baker Creek Campground currently withstands light to moderate impacts from

recreational use. The habitat enhancement project may attract more recreationists interested in birding and wildlife viewing to the area, which may result in greater pressure on the campground facilities. Impacts to local parks and/or recreation areas in Big Pine are expected to be negligible. The proposed EIR will consider the potential for substantial physical deterioration at the Baker Creek Campground.

There are no formal recreational facilities (e.g., neighborhood or regional parks, campgrounds, etc.) in the vicinity of the Hogback Creek Project Area that would be influenced by the cuckoo enhancement project.

(b). The cuckoo enhancement project for the Baker Creek Area calls for the construction of a small section of new off-road vehicle (ORV) track to create a loop system for users in this area. Construction of the trail could disturb cultural resource sites, disrupt wildlife, and result in erosion. These impacts will be evaluated in the proposed EIR, and measures to reduce their significance will be considered.

The Baker Creek and Hogback sites are used for hunting game birds and deer. The proposed changes in the grazing season could overlap with the hunting seasons and result in conflicts with grazing operation and hunting activities. The proposed EIR will identify hunting seasons applicable to the project sites, and evaluate the potential conflicts.

TRANSPORTATION/TRAFFIC -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase on either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☒
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

TRANSPORTATION/TRAFFIC -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Response to questions:

(a). The proposed project will not affect existing traffic patterns in the towns of Big Pine and Lone Pine. No new roads will be constructed to the sites, therefore, no new access points or intersections would be created in the nearest towns.

(b). The proposed project will not exceed the existing level of service for the area. Minimal trip generation as a result of the project is expected. During construction of the project there could be a temporary increase in traffic in and around the sites.

(c). The project will not affect air traffic patterns. The closest airport is 14.5 miles for the Baker project area and 6.5 miles away for the Hogback project area. The tallest features within the project will be trees, which will not interfere with the Imaginary Surface (FAR Part 77) surrounding an airport.

(d). The project will not increase road hazards because no new roads will be constructed. There will be some trail realignment for Off Road Vehicle use. It is not expected that standard vehicles or farm equipment would be using this trail.

(e). The project does include fencing. However, the fencing will have gates with locks that the local emergency services will have keys to.

(f). The proposed sites offer adequate parking for all of the proposed activities. The project will not affect any existing parking in Big Pine or Lone Pine.

(g). The project sites are located outside of town and the project focus is on restoration, not transportation uses. The project will not affect any alternative transportation facilities or routes.

UTILITIES AND SERVICE SYSTEMS -- Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste.	☐	☐	☐	☒

Response to questions:

(a)-(c), (e). While the project proposes to use some water for irrigation, no wastewater should be generated for any reason. Therefore, the project will not exceed any wastewater requirements. In addition, the proposed project will not require construction of any storm water drainage facilities or expansion of any existing facilities.

(d). The amount of water called for in the project design is not currently available. The water could come from the Inyo County Farm's allocation and LADWP and ICWD will have to negotiate this for the benefit of the project.

The Big Pine Regreening Project is an Enhancement/Mitigation Project identified in the Inyo County-Los Angeles Long Term Ground Water Management Agreement and has been adopted as a mitigation measure by the City of Los Angeles to mitigate the impacts of its water gathering operations in Owens Valley from 1970 to 1990 (JSA 2001). The water supply for the proposed action may conflict with the Regreening Project. This issue will be addressed with other water resources issues in the Draft EIR.

(f)-(g). The project will not generate any solid waste, therefore, no disposal needs exist. Statutes and regulations related to solid waste are not applicable to the proposed project.

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects)?	☒	☐	☐	☐

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project have environment effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐		☒

Response to questions:

(a)-(b). This evaluation of the proposed project has identified potential impacts on cultural resources and biological resources. Additionally, the proposed project may affect water and soils resources. The proposed EIR will determine if these impacts are substantial enough to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. The proposed EIR will also evaluate the significance of these potential impacts and recommend mitigation measures as needed to reduce the significance of these impacts. The proposed EIR will also include a cumulative assessment of impacts related to the resources associated with the project site.

(c). The proposed project is not likely to have environment effects which will cause substantial adverse effects on human beings, either directly or indirectly. The EIR will evaluate environmental elements that could result in significant impacts, and propose BMPs or measures to reduce these impacts. The proposed project sites are well removed from inhabited areas and are not expected to result in substantial adverse effects on human beings.

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5.1 REFERENCES

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5.2 PERSONAL COMMUNICATIONS

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Appendix B
Baker Creek Enhancement Plan

BAKER CREEK
FINAL
YELLOW-BILLED CUCKOO ENHANCEMENT PLAN

Prepared by:



Ecosystem Sciences

Dr. Steve Laymon

Otis Bay Consulting

April 22, 2005

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1.0 INTRODUCTION

The MOU (1997) and the Stipulation and Order require the Consultants and their subcontractors to conduct an evaluation of the condition of Yellow-billed Cuckoo (YBC) habitat in the riparian woodland areas of Hogback and Baker creeks. Based on that evaluation, Consultants will develop, as they deem warranted, YBC Habitat Enhancement Plans for these areas. The habitat enhancement plan will identify reasonable and feasible actions or projects to maintain and/or improve the habitat of the YBC. In developing the plan, the Consultants and the subcontractors will consider the recommendations for this area that were identified in the *Distribution of Breeding Riparian Birds in Owens Valley, Inyo County, California* (Laymon and Williams 1994) and will confer with LADWP, the lessee and the Parties.

The MOU (1997) also emphasizes the continuation of sustainable uses including livestock grazing. Land management plans (i.e., grazing management plans) will consider multiple resource values, and will provide for management based upon holistic management principles. Management plans will provide for the continuation of sustainable livestock grazing (MOU 1997). This plan fulfills part of the requirement outlined in the MOU by promoting reasonable and feasible grazing management strategies that will maintain and/or improve YBC habitat. This plan will integrate with other plans, such as the Owens Valley Land Management Plan, to fulfill the requirements of the MOU.

2.0 PROJECT DESCRIPTION

Overview

The Baker Creek Enhancement Plan includes exclosures (Figure 1) and divides the project area into 10 management sections (Figure 2). Three of these sections are grazing exclusion areas where the maximum amount of riparian restoration can take place. These areas also include the majority of the best existing riparian habitat and the most suitable yellow-billed cuckoo nesting areas. Of the current 193.0 acres of cuckoo habitat, 100.7 acres (52% of total) are located within these three exclosures. This includes 28.1 acres (71.5% of total) of highly suitable habitat, 22.5 acres (38.3% of total) of medium suitable habitat, and 50.1 acres (52.7% of total) of low suitable habitat. Seven management sections are non-exclosure areas which will continue to be grazed, but at a reduced level as detailed in the Baker Creek Grazing Plan (section 6.0). Three of the non-exclosure sections are rare plant areas which will not be restored. Four of the non-exclosure sections will be restored using plant protection surrounding single trees or groups of up to 10 trees. Outside of the project area in the Warren Bench Pasture there is 22.4 acres of cuckoo habitat including 1.5 acres of high suitability, 12.2 acres of medium suitability, and 8.7 acres of low suitability habitat. This area is dominated primarily by black locust, is not suitable for riparian restoration, and was excluded from the project area, even though it does provide habitat for yellow-billed cuckoos.

In general, black locust will be removed from the entire site. The exception to this will be that black locust will not be removed from upland areas where riparian vegetation cannot be restored. The reason behind this decision is that black locust is better yellow-billed cuckoo habitat and better habitat for riparian wildlife in general than no trees, but not nearly as good as willows and cottonwoods. The black locust within the site area will be removed over a period of eight to ten years as the willows, cottonwoods and other riparian vegetation is planted.

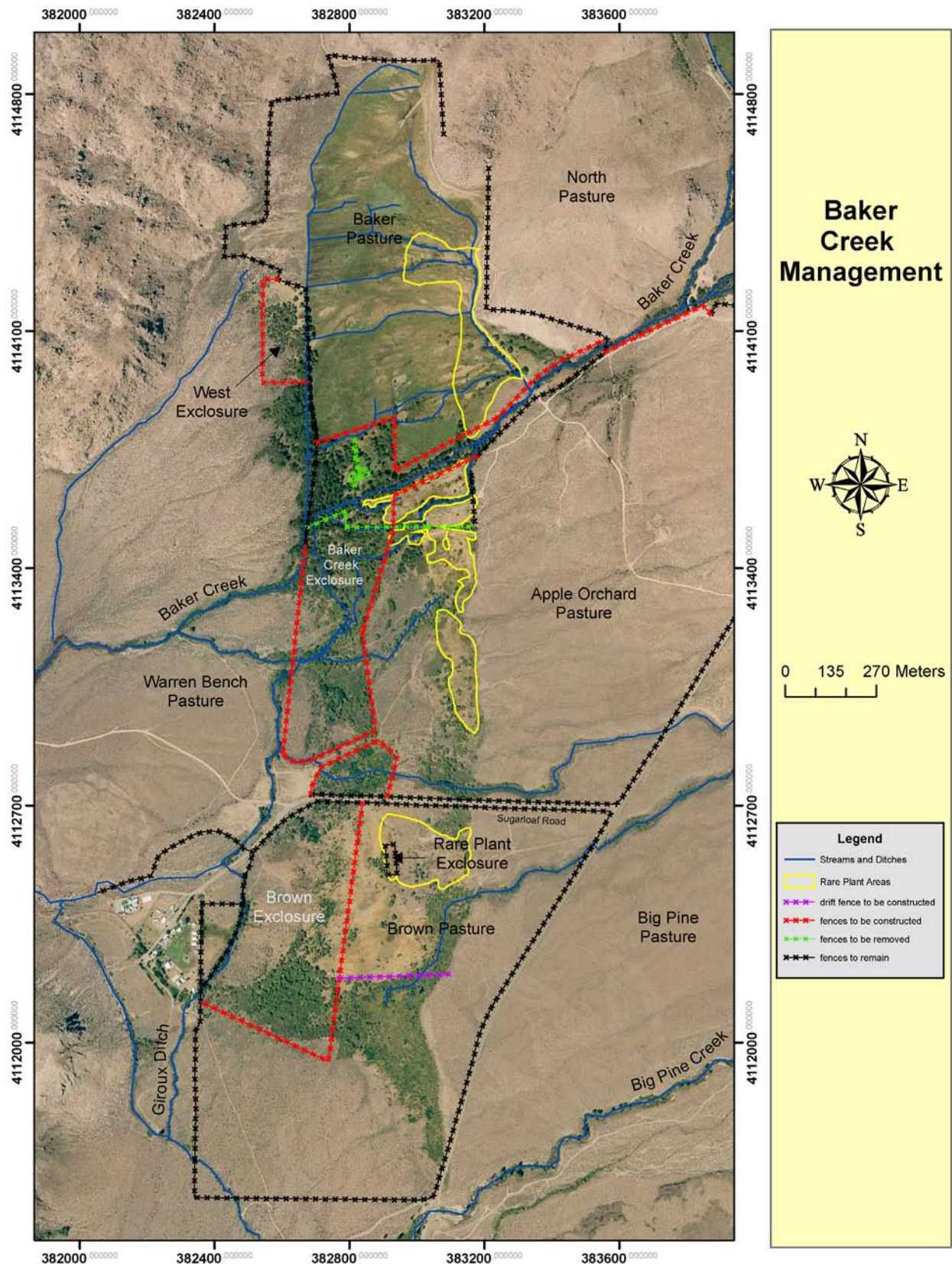


Figure 1. Baker Creek

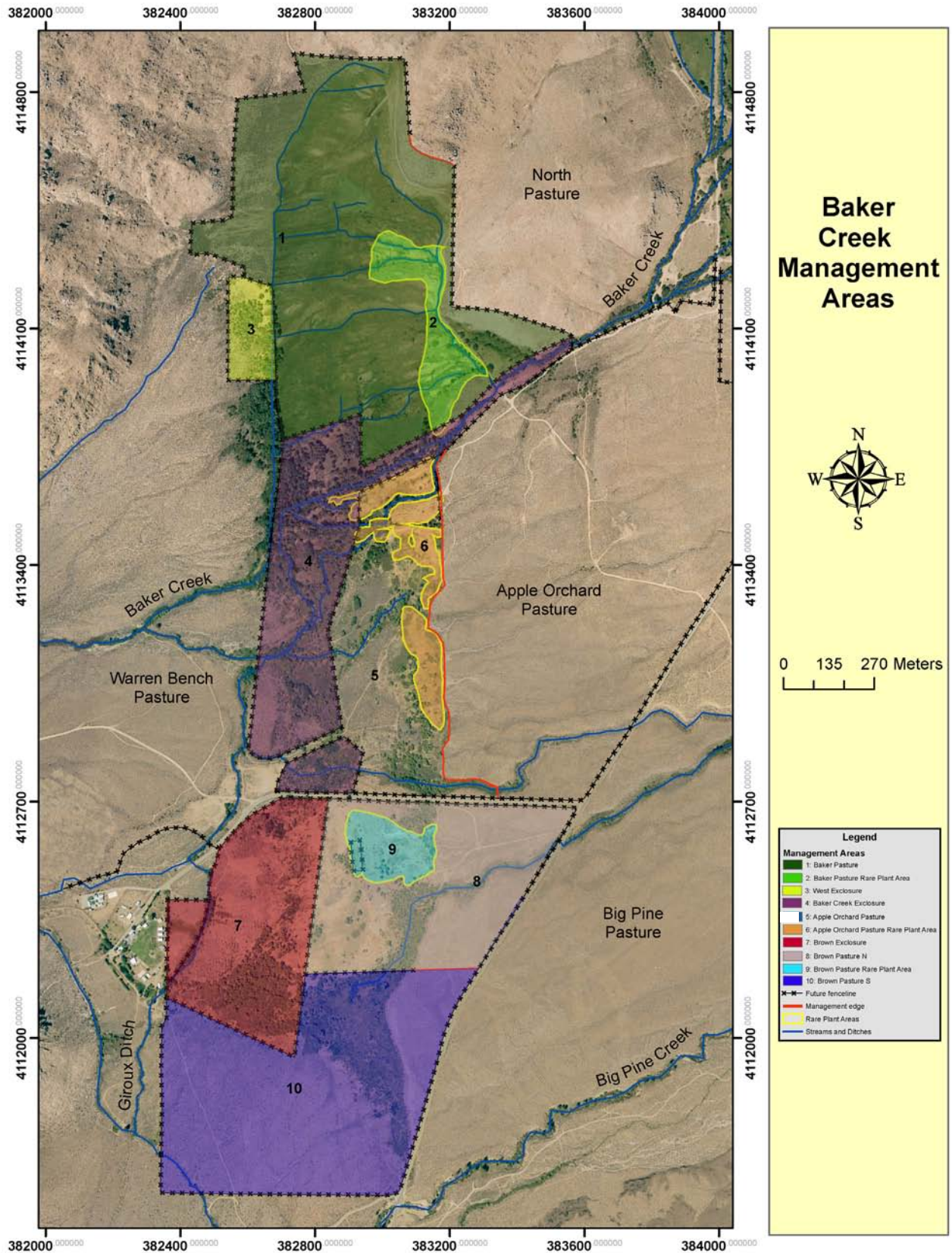


Figure 2. Baker Creek Management Areas

Exclusion Areas

There are three main areas where grazing will be excluded: (1) West Exclosure; (2) Baker Creek Exclosure; and (3) Brown Exclosure. These three exclosures contain a total of 141.4 acres. Within the Baker Creek Exclosure there is a small rare plant area which will not be restored with riparian vegetation.

West Exclosure

This small 9.8 acre exclosure will protect the existing high quality willow habitat at the north end of the project area. Based on tree form, this site is one of the most suitable nesting sites for yellow-billed cuckoos on the project area. The exclosure currently has 5.2 acres (53.3%) of cuckoo habitat, of which, 4.2 acres is high suitable, 0.5 acres is medium suitable and 0.5 is low suitable cuckoo habitat. It appears from the soil type that the size of this riparian patch can be increased. Trees will be planted using poles if the site is within 4 feet to ground water or rooted cutting if the site is four to six feet to ground water. If poles can be used the area will not need to be irrigated. If groundwater is deeper and rooted cuttings are used, irrigation will be needed for 1 to 2 years. An addition of 0.5 acres of yellow-billed cuckoo habitat will be created in this area for a total of 5.7 acres of which 5.0 acres will be highly suitable.

Baker Creek Exclosure

This 72.3 acre exclosure contains some of the best existing yellow-billed cuckoo habitat and portions of this exclosure have good potential for restoration. The exclosure currently has 53.8 acres (74.4%) of cuckoo habitat, of which, 15.5 acres of highly suitable, 16.9 acres of medium suitable, and 21.4 acres of low suitable cuckoo habitat. Cuckoos have been seen carrying food in this area which is certain evidence of nesting. There is an opportunity to divert Baker Creek into several old channels to enhance their riparian habitat. There is a significant amount of black locust that can be removed to benefit the riparian habitat by reducing competition. In several places, on higher rocky ground black locust will be left because riparian vegetation is not suitable. Tree planting will also be done in other areas that are suitable for willows and cottonwoods. It is likely that approximately 5.0 acres of cuckoo habitat can be added to this area. In addition, much of the low suitable habitat can become medium or high suitable habitat and much of the medium suitable habitat can become high suitable habitat. The goal for the area is 58.8 acres of cuckoo habitat of which 35 acres will become highly suitable habitat.

Brown Exclosure

This 59.3 acre exclosure site contains the best current nesting habitat for yellow-billed cuckoos at Baker Creek and some of the highest potential for restoration. The exclosure has 41.7 acres of cuckoo habitat (70.3% of total) of which, 8.4 acres are high suitable, 5.0 acres of medium suitable, and 28.3 acres are low suitable cuckoo habitat. The southern third of the site is ideal for nesting cuckoos. The middle third is a mix of restorable and non-restorable areas.

Some of these upland sites did not have riparian habitat on either 1968 or 1981 aerial photographs. Other portions had high quality habitat which was damaged by the fires in the 1990s. The northeastern third of the enclosure was high quality habitat prior to the fires in the 1990s and has now become dominated by black locust. This area is currently rated as low and non-use cuckoo habitat, but can be restored to high quality habitat. This area will be restored using either cottonwood and willow poles or rooted cuttings depending on the depth to ground water. Black locust will be removed from this site to let existing and planted riparian vegetation become dominant. The primary goal of this habitat restoration is to increase the size of the core area for a pair of cuckoos that could nest in the existing high quality habitat and to build a corridor to existing habitat to the north in the Apple Orchard Pasture. In 1968, 90% of this area was forested (approximately 52 acres) and at least 80% (46 acres) was highly suitable habitat. It is the goal here to reach the 1968 condition. This would increase the current cuckoo habitat by 14.0 acres to 55.7 acres and increase the amount of highly suitable habitat by 31.6 acres to 40 acres.

Non-Exclusion Areas

There are seven non-enclosure areas, three of which are rare plant areas and will not be restored with riparian habitat. These are the Baker Creek Pasture Rare Plant Area (16.5 total acres; with no cuckoo habitat), the Apple Orchard Pasture Rare Plant Area (17.9 total acres; 6.0 acres of cuckoo habitat), and the Brown Pasture Rare Plant Area (10.64 total acres; 4.6 acres of cuckoo habitat). Black locust will be removed from these rare plant areas to benefit both the rare plants and any existing riparian habitat. There are five non-enclosure areas that will be restored using plant protection surrounding single trees and groups of six to 10 trees.

Baker Creek Pasture

The 151.8 acre Baker Creek Pasture currently has 2.7 acres of yellow-billed cuckoo habitat (1.7% of total), consisting of 0.6 acres of high suitable habitat, 0.8 acres of medium habitat and 1.3 acres of low suitable habitat. In comparison to the entire pasture, restoration activity on the Baker Creek Pasture will be minimal. Twenty-five (25) small enclosures will be constructed and planted with 6-10 individual cottonwood trees and several clumps of 6 to 10 willows will be planted in suitable areas. A row of cottonwood trees will also be planted along the up-hill side of the water ditch along the west side of this area to provide a riparian corridor between the Baker Creek Enclosure and the potential cuckoo nesting habitat in the West Enclosure. These trees and clumps will be protected by small enclosures or individual tree cages. Eventually, as the trees mature, these single trees and group plantings will cover approximately 1.1 acres of the Baker Creek Pasture, supplementing the existing 2.7 acres and providing foraging habitat for Yellow-billed Cuckoos. As a result of the restoration plan, cuckoo habitat will cover 3.8 acres (2.5% of total), of which 2 acres will be highly suitable.

Apple Orchard Pasture

The 53.0 acre Apple Orchard Pasture currently has 24.0 acres of yellow-billed cuckoo habitat (45.3% of total), including 7.6 acres of high suitable, 4.3 acres of medium suitable, and 12.2 acres of low suitable cuckoo habitat. Restoration activity on the Apple Orchard Pasture will include black locust removal and establishment of riparian vegetation. Approximately 5 clumps of trees will be planted. These trees and clumps will be protected by small exclosures or individual tree cages. Eventually, as the trees mature, these single trees and group plantings, along with the existing riparian habitat will cover approximately 25.0 acres of the Apple Orchard Pasture, an increase of 1.0 acres over the existing habitat. In addition, the number of cattle grazing this pasture will be reduced from 75-110 to 50-75 and maximum forage utilization will be reduced to 40% in the riparian areas and 65% in the upland areas. The grazing season will be changed from spring (1 March – 1 June) to fall (15 August – 31 December). As a result of the restoration plan, cuckoo habitat will cover 25.0 acres, of which at least 15 acres will be highly suitable.

Brown Pasture North

The 66.0 acre Brown Pasture North currently has 13.4 acres of yellow-billed cuckoo habitat (20.3% of total), including no high suitable, 10.6 acres of medium suitable, and 2.9 acres of low suitable cuckoo habitat. For the western half of this area, the goal will be to enhance the savannah nature of this area. Individual trees and small groups of cottonwoods will be planted throughout the area, ultimately covering approximately 5% of the site (approximately 1.3 acres). These trees will be protected by individual tree cages or by small exclosures. On the eastern half of the site the goal will be to remove black locust which will favor the recovering willow and cottonwood forest. If needed, willows and cottonwoods will be planted in exclosures (either single tree or groups of trees). At least 1.3 additional acres of cuckoo habitat will be created in this pasture and much of the medium suitable habitat will become high suitable habitat over time as it is recovering from effects of fire. The number of cattle grazing the Brown Pasture will remain the same (30-40), but the maximum forage utilization will be reduced to 40% in the riparian areas and 65% in the upland areas. The grazing season will be changed from summer (1 June – 15 September) to fall (1 September – 15 December). As a result of the restoration plan, cuckoo habitat will cover 14.7 acres, of which 8 acres will be highly suitable.

Brown Pasture South

The 114.4 acre Brown Pasture South currently has 19.3 acres of yellow-billed cuckoo habitat (16.8% of total), including 0.6 acres of high suitable, 5.9 acres of medium suitable, and 12.9 acres of low suitable cuckoo habitat. The most interesting feature here is a boggy area that is 24.9 acres in extent. Goals for this area will include controlling cattle grazing and increasing riparian vegetation with the planting of tree form willows and cottonwood. From the 1968 aerial photos it is evident that this area was much more forested than it is today, with at least 50% of the bog forested with cottonwoods and willows. A drift fence will be placed along the north boundary of the Brown Pasture Bog. This fence will

discourage cattle from moving across the bog to access the uplands to the south and the bog itself. Between the fence and the bog willows and cottonwoods will be planted using pole cuttings. In addition, pole cuttings will be planted along the south side of the bog in a pattern similar to that which occurred in 1968. These plantings will be protected as individual trees or small groups of trees. Plantings along the east side of the bog will be minimal as this area will be traversed regularly by cattle. The number of cattle grazing the Brown Pasture will remain the same (30-40), but the maximum forage utilization will be reduced to 40% in the riparian areas and 65% in the upland areas. The grazing season will be changed from summer (1 June – 15 September) to fall (1 September – 15 December). As a result of the restoration plan, the amount of cuckoo habitat would remain stable at 19.3 acres, but at least 8 acres would be highly suitable instead of the current 0.6 acres, an increase of 7.4 highly suitable acres.

3.0 EFFECTS ON YELLOW-BILLED CUCKOO

The Baker Creek Enhancement Plan will have a positive effect on yellow-billed cuckoo habitat and potentially a positive effect on the cuckoo population. The positive effects will come from an increase in total acreage of cuckoo habitat, a decrease in habitat fragmentation, and most importantly a substantial increase in habitat suitability. The overall cuckoo habitat will increase from 193 acres to 215.9 acres, an increase of 22.9 acres. This represents an overall increase of 11.9% in available habitat for the cuckoos. In the exclusion area, 19.5 acres of additional habitat will be created and 85.0% of the area will be in cuckoo habitat. The remaining 3.4 acres will be created in the non-exclusion areas, of which the largest amounts will be created in the Baker Creek Pasture (1.1 acres), the Brown Pasture North (1.3 acres), and the Apple Orchard Pasture (1.0 acres).

The increase in highly suitable habitat from 37.8 acres to 113 acres is an increase of 75.2 acres and an increase of 199%. The increase in high suitability habitats at Baker Creek Area will affect the potential for cuckoos in a very positive manner.

Grazing exclusions will provide areas without disturbance by cattle. These areas will be restored to the fullest potential of this riparian habitat for both yellow-billed cuckoos and other riparian wildlife. In the non-exclusion areas there will be almost no overlap between cuckoo breeding season and grazing use. The reduction in forage utilization to 40% in the existing riparian zone and 65% in the upland zone will encourage additional establishment of riparian habitat.

Implementation of this enhancement plan will have a positive effect on yellow-billed cuckoos. Currently the area is occupied only by unmated cuckoos in some years. The plan will provide habitat for two to four nesting pairs of cuckoos depending on the cuckoos' chosen nest spacing.

In summary, the restoration plan would provide significantly more riparian habitat, an increase from 193 to 215.9 acres with the percent of highly suitable habitat rising from 19.6% to 52.3%. This plan would return the site to close to the 1968 condition.

How the Baker Creek YBC Habitat Enhancement Plan Addresses the Concerns and Recommendations Raised in Previous Reports and Comments

This section presents the concerns and recommendations that were raised in Laymon and Williams (1994 and 1999) reports and any additional concerns that were raised in the Phase I report. There were no recommendations listed in the Laymon and Williams 1994 report that were not repeated in the Laymon and Williams 1999 report, so we deal only with the 1999 report and the Phase I report. Each concern and recommendation is listed and then a determination is made whether or not the restoration plan meets that concern or recommendation.

The following concerns and recommendations are from the Laymon and Williams 1999 report and are highlighted in bold type:

1) Grazing should be excluded from the riparian area during the cuckoo breeding season (1 June to 1 September).

The Baker Creek YBC Enhancement Plan meets this concern. The restoration plan will permanently exclude cattle grazing from 141.4 acres of the Baker Creek area. The Baker Creek Pasture would be grazed from 1 April to 31 December, but since there is no cuckoo nesting habitat in this pasture there will be no conflict with grazing. The Apple Orchard Pasture will be grazed from 15 August to 31 December which creates potential for conflict with nesting cuckoos during the last half of August. The Apple Orchard Pasture as currently configured is not highly suitable for nesting cuckoos and this grazing start date is past the time when nearly all cuckoos have started their nesting cycle and almost all young have fledged, so even if cuckoos do nest there it seems unlikely that the 15 August start date for grazing will pose a major problem for the cuckoos. The Brown Pasture will be grazed from 1 September to 15 December, thus avoiding any possible conflict with nesting cuckoos.

2) Grazing during the other portions of the season should be monitored and managed to prevent highlining, trampling of understory vegetation, and damage to tree seedlings.

The Baker Creek YBC Enhancement Plan meets this concern. The restoration plan will permanently exclude cattle grazing from 141.4 acres of the Baker Creek area. In addition, the reduction in grazing utilization in the riparian zone to 40% and monitoring of this level as laid out in the grazing plan will prevent highlining, and trampling, and will reduce the damage to tree seedlings.

3) Sites should be sampled to determine suitability for planting of willows and cottonwoods.

This concern and recommendation was addressed in the Phase I Report.

4) In the area of the 1998 fire – prune back black locust to give native vegetation a head start and monitor the effects of grazing on the burned area.

The Baker Creek YBC Enhancement Plan meets this concern. The plan enhances the area by removing black locust and replacing them with willows and cottonwoods.

5) Remove livestock if browsing on cottonwood and willow seedlings occurs.

The Baker Creek YBC Enhancement Plan partially meets this concern. The restoration plan will permanently exclude cattle grazing from 141.4 acres of the best cuckoo habitat at Baker Creek area. In addition, the reduction in grazing utilization in the riparian zone to 40% and monitoring of this level as laid out in the grazing plan will prevent highlining, and trampling, and will reduce the damage to tree seedlings.

6) Area should be closed to salvage firewood collection.

The Baker Creek YBC Enhancement Plan meets this concern. The area will be closed to salvage firewood collection after a fire.

7) Conduct soil and water tests to ascertain if black locust dominated areas are suitable for restoration with willows and cottonwoods.

This has already been carried out in Phase I. Black locust forest within the northwest portion of the Baker Creek pasture was determined to be located on upland glacio-fluvial deposits which would not be suitable for cottonwood or willow transplants. Black locust existing within floodplain or alluvial terrace landtypes with a seasonally high water table may be replaced with desirable riparian species (White Horse Associates 2004).

8) Determine activity centers and nesting sites of yellow-billed cuckoos and learn how the cuckoos use the black locust habitats.

This is addressed in the monitoring portion of this report.

9) Separate the forested and non-forested areas by fences so the areas can be managed for grazing separately.

The Baker Creek YBC Enhancement Plan partially meets this concern. Approximately 50% of the riparian area is protected by a permanent grazing exclosure. Also, in the grazed areas single trees and groups of trees will be protected from grazing using cages and small exclosures while they are growing into mature trees.

10) Develop a restoration plan for open areas that are suitable for reforestation. Top priority should be given to broadening existing riparian areas and to reducing habitat fragmentation. A minimum goal of 250 acres of forested habitat should be established for the site. Restoration of the entire 350 acres should be explored.

The Baker Creek YBC Enhancement Plan partially meets this concern. The Baker Creek Restoration Plan will provide 215.9 acres of yellow-billed cuckoo habitat. This is 34.1 acres short of the 250 acre recommended minimum, but a 22.9 acre increase over the current condition. In light of the need to continue sustainable grazing at the site, it does appear to be a reasonable compromise between the present condition of 193 acres of cuckoo habitat and the 270 acres proposed in alternative 3 of the draft plan. The important factors in acceptance of this compromise are the exclosure of grazing from 50% of the cuckoo habitat (including the best habitat) and the vast increase in highly suitable cuckoo habitat.

Detailed on-site field investigations indicate restoration of the 350 acres is not possible because a majority of this acreage is xeric shrubland (upland) which does not have the appropriate soils or hydrologic conditions suitable for cottonwood, red willow, or arroyo willow establishment. Existing rare plant habitat throughout a majority of the eastern portion of the project area also limits the available area for enhancement plantings.

11) Develop a restoration plan to convert black locust to willow and cottonwood habitats.

The Baker Creek YBC Enhancement Plan meets this concern and recommendation by enhancing areas by removing black locust and replacing them with willows and cottonwoods – at least 29.8 acres of current black locust habitat would be replaced with desirable native riparian habitat.

The following additional concerns and recommendations are from the project scope of work:

1) Following a fire, burned areas would be rested from grazing for at least 2 years.

The Baker Creek YBC Enhancement Plan meets this concern or recommendation by removing grazing for at least 2 years after a fire to allow a recovery period.

2) Control public access to Baker Creek area.

The Baker Creek YBC Enhancement Plan partially meets this concern, but does not meet the needs of the cuckoos. The recreation section of the plan bans off-road vehicle use from the grazing exclusion areas. Fences will have walk-throughs to allow access for hiking, fishing, nature observation, and bird watching. All other areas will be open to all recreational activities as prescribed by LADWP. Woodcutting, camping, and campfires will continue to be prohibited throughout the management area. Hunting as covered by LADWP, county, and state restrictions will continue to be allowed.

Summary of Baker Creek YBC Habitat Enhancement Plan to Meet Concerns and Recommendations

The Baker Creek Enhancement Plan would fully meet 7 of the 11 specific concerns and recommendations from Laymon and Williams 1999 and from the Scope of Work that have not already been carried out under Phase I. The additional 4 concerns and recommendations will be partially or mostly met under this plan.

This enhancement plan would add only 22.9 acres of riparian habitat which is 34.1 acres short of the 250 acre minimum recommended by Laymon and Williams 1999. The plan goes beyond simple rehabilitation or revegetation of the area, providing long-term suitable habitat, providing aggressive measures to promote natural recruitment, and controlling black locust invasion. Most importantly, the plan would vastly increase the highly suitable habitat at the site from 37.8 acres to 113 acres. The carrying capacity for cuckoos would be increased from the current habitat which supports one or two unmated males in some years to a habitat area that could regularly support two to four pairs of cuckoos.

4.0 PLANTING REQUIREMENTS

The Baker Creek YBC Enhancement Plan includes creating medium to highly suitable habitat to support two to four breeding pairs of yellow-billed cuckoo (S. Laymon) while also allowing for managed cattle grazing throughout a majority of the Baker Creek project area. The proposed plan includes: 1) creating three permanent cattle grazing exclosures within the Brown, Apple Orchard, and Baker Creek Pastures, 2) establishing small protected planting areas outside of the three main cattle grazing exclosures, 3) erecting a fence spur just north of the existing emergent marsh/bog area located within the south portion of the Brown Pasture, 4) improving the hydrologic conditions of the Brown pasture cattle grazing exclosure, 5) improving the hydrologic conditions of a few dry channels

within the Apple Orchard Pasture, and 6) continuing irrigation inside the fenced Baker Creek Exclosure that includes a portion of the Baker Pasture (Figure 3).

The three proposed cattle grazing exclosures (Brown Exclosure, Baker Creek Exclosure, and West Exclosure) all include portions of the originally proposed priority enhancement areas and fenced, protected forest patches areas identified in the Phase II Task 1 report (Otis Bay and Laymon 2004). Riparian habitat within the Brown Exclosure and the Baker Exclosure will be enhanced through supplemental plantings, natural recovery, and improved hydrology. Cottonwood, willow, and understory woody shrub transplants will be supported by various irrigation methods depending upon the planting location and depth to water table.

The protected riparian patch planting areas established outside of the Brown Pasture, Baker/Apple Orchard Pasture, and the West Exclosure will also be fenced. These protected areas will mainly be planted with cottonwood poles extending into the water table. Because it will not be feasible to maintain an irrigation system to these areas due to cattle activity, the ability to establish shallow-rooted understory species may be limited. Planting possibilities within these areas will be determined on a site-specific basis following permanent establishment of each area.

A fence spur erected just north of the existing emergent marsh/bog area located within the south portion of the Brown Pasture will reduce cattle use of, and migration through, this area. Grazing impacts will be further reduced along Baker Creek by including more of the northeast channel within the Baker Creek Exclosure (Figure 3). Existing vegetation of the proposed Brown Exclosure, Baker Creek Exclosure, and the West Exclosure is summarized in Table 1.

Table 1. Vegetation Summary of the Proposed Baker Creek Cattle Grazing Exclosures

Existing Vegetation	Brown Exclosure (Ac)	Baker Creek Exclosure (Ac)	West Exclosure (Ac)	Total (Ac)/ Composition (%)
Cottonwood Forest	0.0	0.0	0.0	0.0 (0.0)
Red Willow Riparian Forest	17.5	30.06	4.15	51.71 (36.6%)
Riparian Shrubland	12.16	8.89	0.47	21.52 (15.2%)
Black Locust Riparian Forest	13.2	17.0	0.6	30.8 (21.8%)
Emergent Marsh/Bog	0.12	0.3	0.05	0.47 (0.3%)
Mesic Meadow	4.29	8.44	0.47	13.2 (9.3%)
Upland	12.04	7.65	4.05	23.74 (16.8%)
Total ac. (%) of entire 411-ac site	59.31 (14.4%)	72.34 (17.6%)	9.79 (2.4%)	141.4 (34.4%)
Rare Plant Habitat ac.	0.0	7.8	0.0	7.8

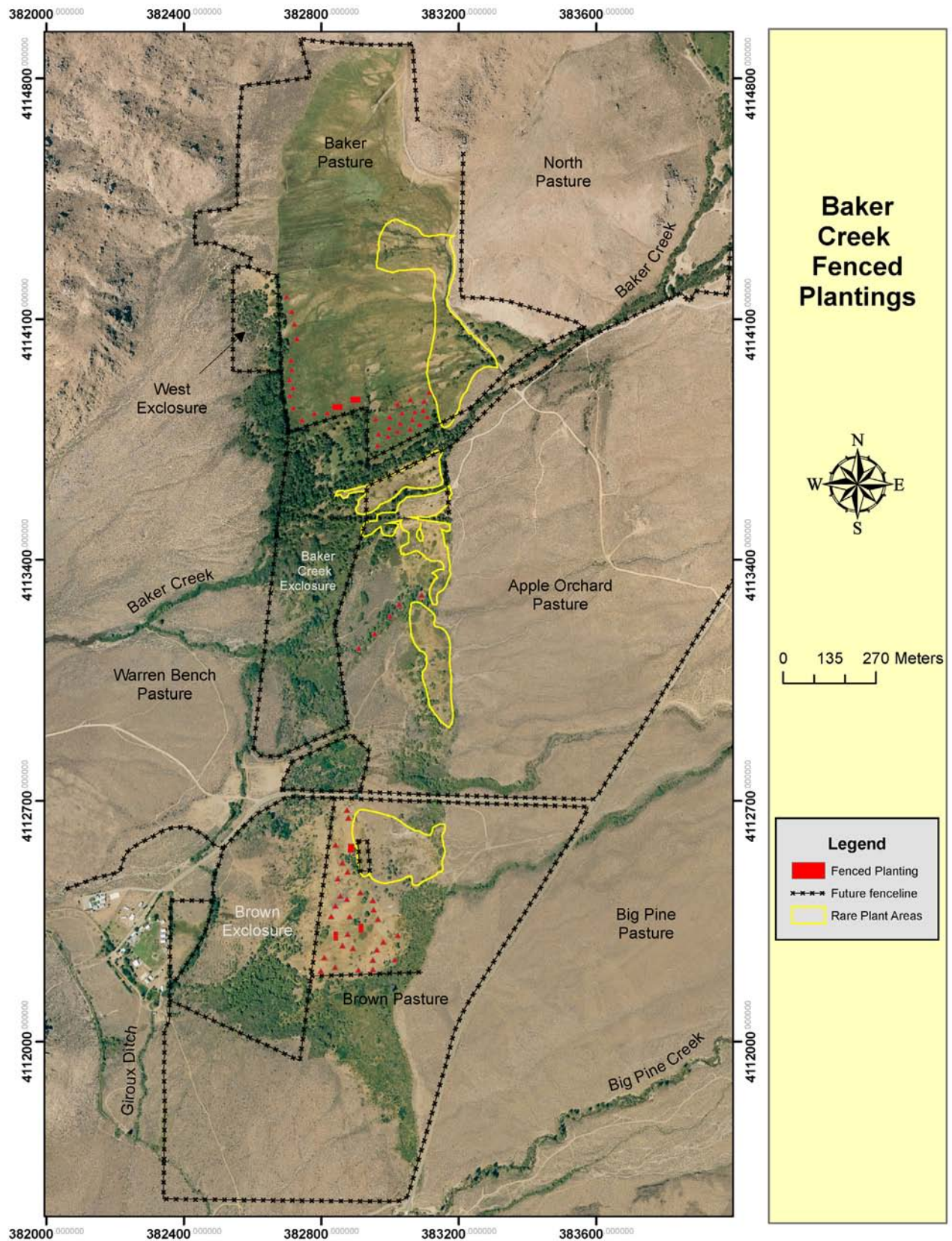


Figure 3. Baker Creek Fenced Plantings

Cattle grazing will continue in the Baker Pasture, Apple Orchard Pasture, and Brown Pasture, and in particular grazing will continue in the areas that produce the greatest livestock forage. Livestock grazing will be permanently restricted within small areas of each pasture where high quality riparian forest patches currently exist or could be created (Brown Exclosure, Baker Creek Exclosure, and the West Exclosure). Some restrictions on recreational use will be necessary within the planted portions of the exclosures to ensure that the plants and irrigation equipment are not disturbed following installation.

Habitat Goals within the Cattle Grazing Exclosures

Brown Exclosure

The Brown Exclosure habitat goals include: 1) converting 3.0 acres of mesic meadow to cottonwood forest, 2) enhancing approximately 15.5 acres of existing red willow riparian forest, and 3) converting 11 acres of existing black locust woodland to cottonwood forest (10 acres) and arroyo willow riparian shrubland (1.0 acres). An undetermined amount of emergent marsh and wet meadow habitat will also be created along the fringe of two small recharge ponds (0.02 acre each) excavated just east of the Baker/Giroux Ditch to improve the area hydrology and provide habitat diversity (Table 2, and Figure 4).

Baker Creek Exclosure

The habitat goals for the Baker Creek Exclosure include: 1) converting 3.0 acres of mesic meadow into cottonwood forest, 2) converting approximately one acre of black locust woodland to arroyo willow riparian shrubland (0.5 acre) and emergent marsh (0.5 acre) by conveying water from the Baker/Giroux Ditch to dry channels, and 3) enhancing approximately 0.5 acre of red willow riparian forest by conveying water from the Baker/Giroux Ditch into the old channel northeast of the ditch.

Natural recruitment along the existing Baker Creek channels will also be enhanced with improved stream flow through relic channels. The habitat goals also include the natural expected conversion of an acre or more of black locust woodland along the main Baker Creek channels to cottonwood forest (0.5 acre) and red willow riparian forest (0.5) by reducing cattle grazing impacts on young cottonwood and willow recruitment (Table 2).

West Exclosure

The habitat goals for the West exclosure include planting approximately 0.5 acre of cottonwood forest along the irrigation ditch. Habitat goals for all exclosures are presented in (Table 2).

Table 2. Habitat Goals within the Brown, Baker Creek, and West Cattle Grazing Enclosures

Existing Vegetation	Brown Enclosure Acres (net)	Baker Enclosure Acres (net)	West Enclosure Acres (net)	Habitat Changes Acres (net)
Cottonwood Forest	14.0 (+14.0)	3.5 (+3.5)	0.5 (+0.5)	+18.0
Red Willow Riparian Forest	17.5 (NC ¹)	30.56 (+0.5)	4.15 (NC)	+0.5
Riparian Shrubland	12.16 (NC)	9.39 (+0.5)	0.47 (NC)	+0.5
Black Locust Riparian Forest	2.2 (-11.0)	15.0 (-2.0)	0.6 (NC)	-13.0
Emergent Marsh/Bog	0.12 (NC)	0.8 (+0.5)	0.05 (NC)	+0.5
Mesic Meadow	1.29 (-3.0)	5.44 (-3.0)	0.47 (NC)	-6.0
Upland	12.04 (NC)	7.65 (NC)	3.55 (-0.5)	-0.5
Total (Acres)	59.31	72.34	9.79	
Desirable Habitat Created (Ac)	+14.0	+5.0	+0.5	+19.5
Rare Plant Habitat (Ac)	0.0	7.8	0.0	NC

1. NC = No change.

Habitat Goals within Protected Forest Patches Located Outside of the Livestock Enclosures

Habitat goals within the protected forest patches outside of the main cattle grazing enclosures within the Brown, Apple Orchard, and Baker Creek Pastures are summarized in Table 3. Because it will not be feasible to maintain an irrigation system to these areas due to cattle activity, the ability to establish shallow-rooted understory species may be limited. Planting possibilities within these areas will be determined on a site-specific basis following permanent establishment of each area.

Brown Pasture

Thirty-one (31) protected forest patches totaling 1.3 acres have been located east of the Brown Enclosure within the Brown Pasture where cattle grazing will continue (Figure 3) (Table 3). To expand existing riparian patches, several planting locations have been located adjacent to existing red willow, Wood's rose, and sandbar willow riparian patches. The additional fenced areas will be planted mainly with cottonwood poles extending into the water table. Because it will not be feasible to maintain an irrigation system to these areas due to cattle activity, the ability to establish shallow-rooted understory species may be limited. Planting possibilities within these areas will be determined on a site-specific basis following permanent establishment of each area.

Apple Orchard Pasture

Five (5) protected forest patches totaling 1.0 acre have been located south of the Baker Creek Exclosure within the Apple Orchard Pasture where cattle grazing will continue (Figure 3) (Table 3). These planting areas were selected as potential sites to involve community volunteers in the enhancement process. One site is adjacent to the Sugarloaf Road and is easily accessible to volunteers of all ages and capabilities. The area is mainly comprised of small diameter black locust trees which can be cut with hand saws. Volunteers may also partake in the planting and monitoring and maintenance processes within this plot.

Baker creek Pasture

Twenty-five (25) protected forest patches totaling 1.1 acre have been located north of the Baker Creek Exclosure within the Baker Creek Pasture where cattle grazing will continue (Figure 3) (Table 3). To functionally expand these patches, several planting locations have been located adjacent to existing red willow, Wood's rose, and sandbar willow riparian patches. These protected areas will be planted mainly with cottonwood and arroyo willow poles extending into the water table. Planting possibilities within these areas will be determined on a site-specific basis following permanent establishment of each area.

Table 3. Habitat Goals within Protected Forest Patches Located Outside of the Main Cattle Grazing Exclosures

Existing Vegetation	Brown Pasture (Ac)	Apple Orchard Pasture (Ac)	Baker Creek Pasture (Ac)	Habitat Changes (Ac)
Cottonwood Forest	+1.3	+1.0	+0.9	+3.2
Red Willow Riparian Forest	N/A ¹	N/A	N/A	N/A
Riparian Shrubland	N/A	N/A	+0.2	+0.2
Black Locust Riparian Forest	N/A	-0.8	N/A	-0.8
Emergent Marsh/Bog	N/A	N/A	N/A	N/A
Mesic Meadow	-1.3	0.2	-1.1	-2.6
Upland	N/A	N/A	N/A	N/A
Desirable Habitat Created (Ac)	+1.3	+1.0	+1.1	+3.4

1. N/A = Not Applicable.

Desired Future Conditions of Proposed Final Yellow-Billed Cuckoo Enhancement Plan

Desired future conditions of the enhancement plan includes creating medium to highly suitable habitat to support two to four breeding pairs of yellow-billed cuckoo (Laymon 2005). Approximately 19.5 acres of new habitat will be created within the Brown Exclosure (14.0 acres), Baker Creek Exclosure (5.0), and the West Exclosure (0.5 acre). An additional 3.4 acres of habitat will be created outside of the exclosures within protected planting areas in the Brown pasture (1.3 acres), the Apple Orchard pasture (1.0 acres) and the Baker pasture (1.1 acres). A total of 22.9 acres of additional habitat will be created with the proposed final enhancement plan. This acreage combined with the 193.0 acres of existing suitable yellow-billed cuckoo habitat (Laymon 2004) increases the total suitable habitat to 215.9 acres, which is equivalent to 53% of the 411-acre Baker Creek project area. Converting 13.8 acres of black locust riparian forest to cottonwood forest will leave a remaining 15.0 acres of black locust woodland within the project area. The new emergent marsh and wet meadow habitat types created along the fringe of the two small recharge ponds excavated just east of the Baker/Giroux Ditch in the Brown Pasture Exclosure will not only improve the area hydrology but also provide increased habitat diversity in this area.

Permanent cattle grazing restrictions within the Brown Exclosure, Baker Creek Exclosure, and West Exclosure will greatly enhance the quality of habitat within these areas into perpetuity. Additionally, streambank erosion and streambank vegetation disturbance associated with cattle grazing and trampling impacts along Baker Creek will be greatly reduced within the Baker Creek Exclosure. Improving the hydrology within the Brown Pasture exclosure and Baker creek Exclosures will also result in long term enhancement and recruitment possibilities which would not occur under the present management scenario.

Table 4. Desired Future Conditions

Created Habitat	Brown, Baker and West Exclosures Acres (Net)	Fenced Protected Forest Patches Acres (Net)	Total Habitat Changes Acres
Cottonwood Forest	18.0 (+18.0)	3.2 (+3.2)	+21.2
Red Willow Riparian Forest	52.21 (+0.5)	0.2 (+0.2)	+0.7
Riparian Shrubland	22.02 (+0.5)	NC ¹	+0.5
Black Locust Riparian Forest	17.8 (-13.0)	NC	-13.0
Emergent Marsh/Bog	0.97 (+0.5)	NC	+0.5
Mesic Meadow	7.2 (-6.0)	NC	-6.0
Upland	23.24 (-0.5)	NC	-0.5
Yellow-billed Cuckoo Habitat Created (Ac)	+19.5	+3.4	+22.9

1. NC = No change.

Management Options and Additional Actions to Improve and Enhance Yellow-billed Cuckoo Habitat

Management options will emphasize enhancing the quality of yellow-billed cuckoo habitat within the Baker Creek project area by improving riparian forest species composition and creating larger, contiguous expanses of habitat. In order to enhance the existing habitat within the Baker Creek project area, numerous species of adapted native riparian trees, willows, and understory shrubs will be planted. Plants will include species such as black cottonwood, Fremont cottonwood, river birch, red willow, arroyo willow, box elder, Wood's rose, and golden currant. Species composition will be further improved by implementing an aggressive black locust eradication and control program. Measures will include cutting, tree removal, and herbicide applications.

The replacement of black locust forest with cottonwood-willow forest is a goal of this restoration plan. They will be removed from all areas where native riparian species will grow. To avoid negative impacts from removing all the black locust trees at one time, they should be removed over a period of 8-10 years. Approximately 10% - 12% of the project area will be treated each year until all areas are treated. Black locust trees will be killed in whatever way causes the least adverse impact to the site. Some trees will be cut, the stumps treated with herbicides, and removed from the site, some will be cut and treated and left in place, and some will be killed and left standing as snags. An evaluation will be made in each area to determine which method will cause the least disturbance. Cottonwood, willow, and possibly box elder poles, containers, and root stock materials will be planted within each area cleared of black locust. Some of these trees and shrubs could be planted before a section is treated if it is determined that they will not be damaged by the removal process.

Revegetation efforts will include both pole and root stock plantings. Because local genetic plant materials are required for revegetation, and due to the desire to implement revegetation efforts on an expedited schedule, pole and root stock plantings will occur in a phased manner. Root stock material, propagated by contracted nurseries from plant material collected in the Owens Valley area, require sufficient time for propagation prior to planting. Conversely, pole plantings can be collected from local sources and planted as soon as planting conditions are suitable (during dormancy). Therefore, pole planting activities will be scheduled for late fall 2005. Root stock material will be collected for propagation in early winter of 2005, propagated through one growing season, and planted in the late autumn or early winter of 2006.

Habitat fragmentation will be reduced throughout the Baker Creek project area as enhancement plantings are located adjacent to existing riparian vegetation communities. Larger tracts of contiguous vegetation will be visible within a few years following installation of plant materials.

5.0 WATER REQUIREMENTS

Successful plantings in the Baker Creek project area will require supplemental water plus a continuation of current hydrology and water supply. With installation of a few new diversion points, the supplemental water can be supplied from the Giroux and Baker Creek ditches. Supplemental water will have several benefits; not only will the water help expand and increase the vigor of the riparian forest; it will also improve the riparian pasture for cattle grazing.

Brown Exclosure

In the Brown Exclosure water should be diverted from the ditch at two locations: one is at an existing diversion and flume and the other is near the road leading to the Bersconi School (Figure 4). The first would lead to two small ponds. The north pond would lie directly down gradient of the diversion and the south pond would lie about 120 feet south. Overflow channels leading from the ponds would lead to riparian areas. Diverted water will allow for riparian forest expansion, improved vigor of existing trees and improved pasture production for cattle.

The total water demand for the Brown Exclosure would be approximately 0.75 cfs. At the first diversion 0.5 cfs would be diverted: half of the diverted water (0.25 cfs) would go to the eastern pond and half to the southern pond. Overflow from the ponds will be directed down slope to existing and planted riparian areas. At the second diversion 0.25 cfs would be diverted into an existing diversion channel that leads to a riparian area down slope.

There are four purposes for constructing two small ponds on the uphill side of the Brown Exclosure: (1) existing riparian trees in this area appear to be drought-stressed (stunted growth, many dead limbs, dead patches of trees, and lack of vigor); therefore, a new water supply could rejuvenate growth and vigor; (2) contribution to the groundwater in this area would likely increase the area for riparian planting and forest regeneration; (3) the wetlands are an important feature for migratory birds, insect production, wildlife habitat, and water quality improvement; (4) recharging the groundwater will translate into benefits related to increased area and vigor of other down gradient cattle pasture and riparian forest patches.

More than one-third of the Brown Exclosure acreage is composed of uplands. Therefore, supplemental water is needed to significantly increase the acreage of suitable YBC habitat within the exclosure. The purpose of adding water to the exclosure is to decrease the depth-to-groundwater, where possible, in areas that are currently unsuitable or marginally suitable for riparian vegetation and can be converted to riparian vegetation. The wetlands within the Brown Exclosure would function as a groundwater recharge site in an area with existing drought stressed riparian trees. Based on our observations, soils in these prescribed areas appear to contain sufficient fine-grained material to slow infiltration and create a permanent wetland feature following the introduction of the water quantity recommended in this report. While we are certain that water will infiltrate through

the base of the wetland, we expect the infiltration rate to be low enough to maintain persistent, standing water. Furthermore, over time the accumulation of organic material will likely result in decreased permeability, making a persistent wetland more probable.

An existing diversion from the Giroux Ditch and existing irrigation ditches that lead from the diversion would be utilized to supply water to the constructed wetlands within the Brown Enclosure. The two wetlands, ranging in size from 50 to 80 feet long, 20 to 40 feet wide, and 0.5 to 3 feet deep would be constructed with a small tracked excavator. Soils generated during excavation would be placed on the down-slope side of the excavation for the purpose of creating a berm to retain water within the ponds.

Apple Orchard Pasture

Two diversions are proposed from the Giroux Ditch in the Apple Orchard Pasture. The total supplemental water demand for riparian enhancement in the orchard pasture is 0.5 cfs; 0.25 cfs diverted from each diversion. Water diverted from the Giroux ditch will be trained into relic channels that will direct water into an unfenced forested area on the south side of the Apple Orchard Pasture. Diverted water will invigorate existing patches of trees and will support new riparian growth as well as improve pasture production.

Baker Pasture

Irrigation of the Baker Pasture area will continue as it has in the past. Current irrigation allocation is sufficient to support existing riparian vegetation and new plantings. Supplemental water must be delivered to the portion of the south Baker Pasture that is within the Baker Creek Enclosure. No water in addition to current irrigation allocation is anticipated.

Measuring and Irrigation Timing

Diverted flows will be monitored at the point of diversion using either a flume or V-notch weir. With the exception of the Giroux Ditch first diversion, the season of diversion and riparian irrigation will be the same as those implemented in the past. For the first diversion, water will be diverted year-round to ensure supply to the two ponds/emergent wetlands. These two wetlands will support a suite of aquatic organisms that are dependant on a constant water supply.

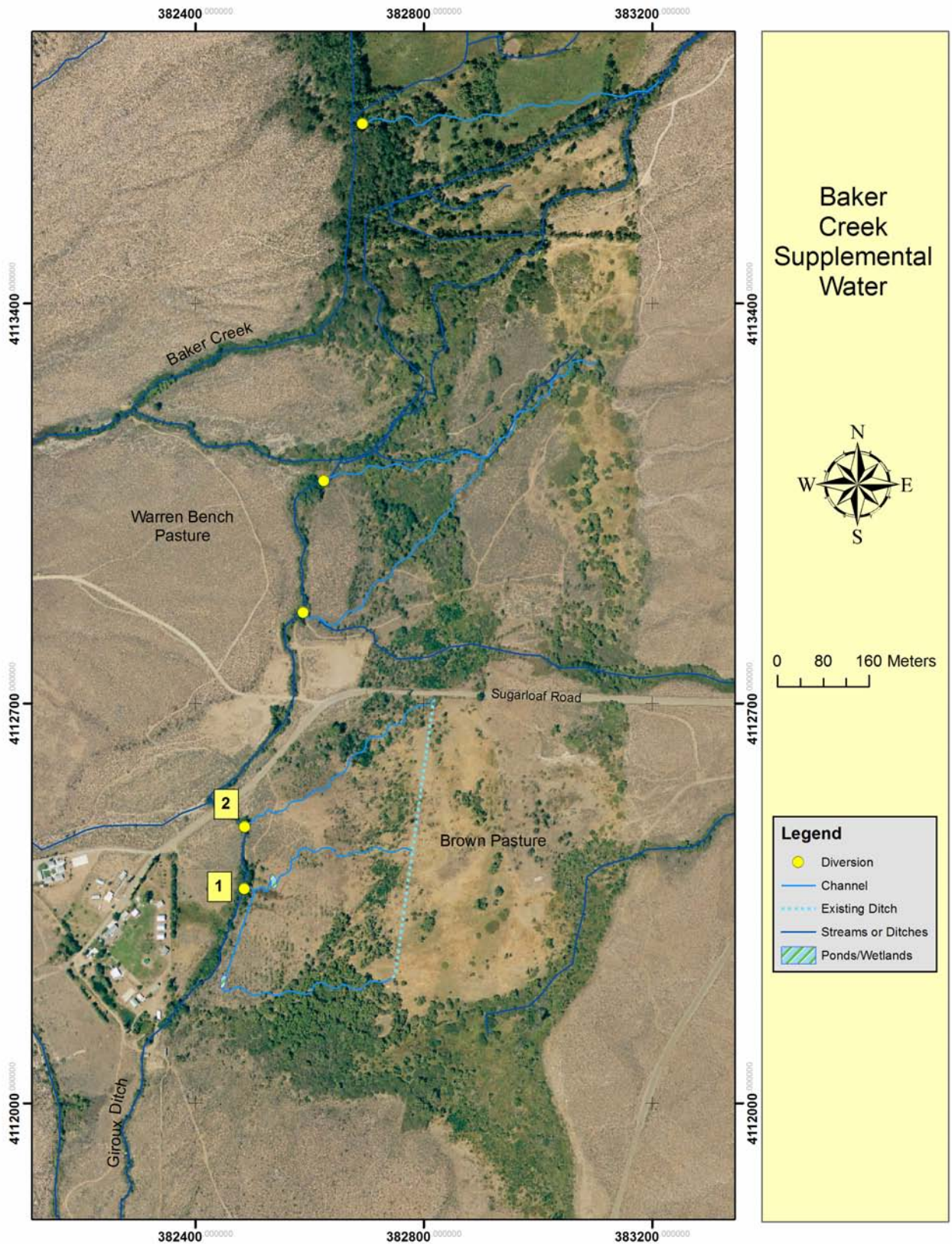


Figure 4. Supplemental Water for Riparian Forest Enhancement

6.0 GRAZING

Lease Description

The Baker Creek Lease is 1.5 miles west of the town of Big Pine, bordered on the west by BLM land and is presently divided into 5 separate pastures (Table 5 and Figures 5 and 6).

Table 5. Pasture Size, Baker Creek Lease

Pasture	Area (Acres)
Apple Orchard	566
Baker Creek	225
Brown	250
North	125
Big Pine	275

The Baker Creek Lease is in the Middle Owens River Sub-basin (Figure 5). The Lease (1,441 acres) is managed by the Four-J Cattle Corporation as a cow/calf operation. Most pastures are grazed in conjunction with surrounding BLM land. The Baker Creek, Brown and Apple Orchard Pastures produce almost all of the grazing forage harvested. The other pastures, the North, Big Pine and Warren Bench are composed of dry uplands and receive very little grazing use because of their low forage production.

Type E Vegetation Lands

Type E vegetation lands occur in the Lease and are identified and mapped from “Green Book” information (Green Book 1991). These lands are supplied with water sufficient to avoid decreases and changes from vegetation conditions that existed on such lands during the 1981 – 1982 runoff year (Inyo County and City of Los Angeles 1990). Designated Type E lands include 212 acres in four pastures (Table 6). 144 acres occurs in the Baker Creek Pasture, 29 acres in the Apple Orchard Pasture, 24 acres in the Brown Pasture and 15 acres in the North Pasture. LADWP is required by past Agreements (Inyo County and City of Los Angeles 1990) to manage a designated number of acres in the Owens Valley to meet Type E vegetation standards.

Table 6. Distribution of Type E Vegetation, Baker Creek Lease

Pasture	Area (Acres)
Apple Orchard	29
Baker Creek	144
Brown	24
North	15
Big Pine	0
Warren Bench	0
Total	212

Riparian/Wetland Lands

Riparian/wetland lands are associated with Baker Creek, divergent historical channels of Baker Creek, a spring (DWP – 26) in the Brown Pasture, a spring drainage through the Big Pine Pasture, and along irrigation canals and ditches. Irrigated areas in the Baker Creek Pasture resemble wetlands. Riparian tree and shrub habitat comprises 163 acres. Meadows (including irrigated pasture) comprise 137 acres. Riparian trees (mainly willow, locust and cottonwood) cover large parts of the Brown and Apple Orchard Pastures. Prior to the 1995 and 1999 fires, older trees dominated the canopy. Since the two fires, younger trees and shrubs now dominate and have replaced most of the older trees.

Rare Plants

The Owens Valley checkerbloom (*Sidalcea Covillei*), a T & E plant species and the Inyo County star-tulip (*Calochortus excvatus*), a California State plant species of special concern, occurs in the Lease (Figure 6 and Table 7). Star-tulip populations are monitored, but no special management is applied at this time. Both rare plant populations are doing well in the Lease.

Table 7. Distribution of Rare Plant Areas, Baker Creek Lease

Pasture	Area (Acres)
Apple Orchard	17.92
Baker Creek	16.49
Brown	10.64
Total	45.05

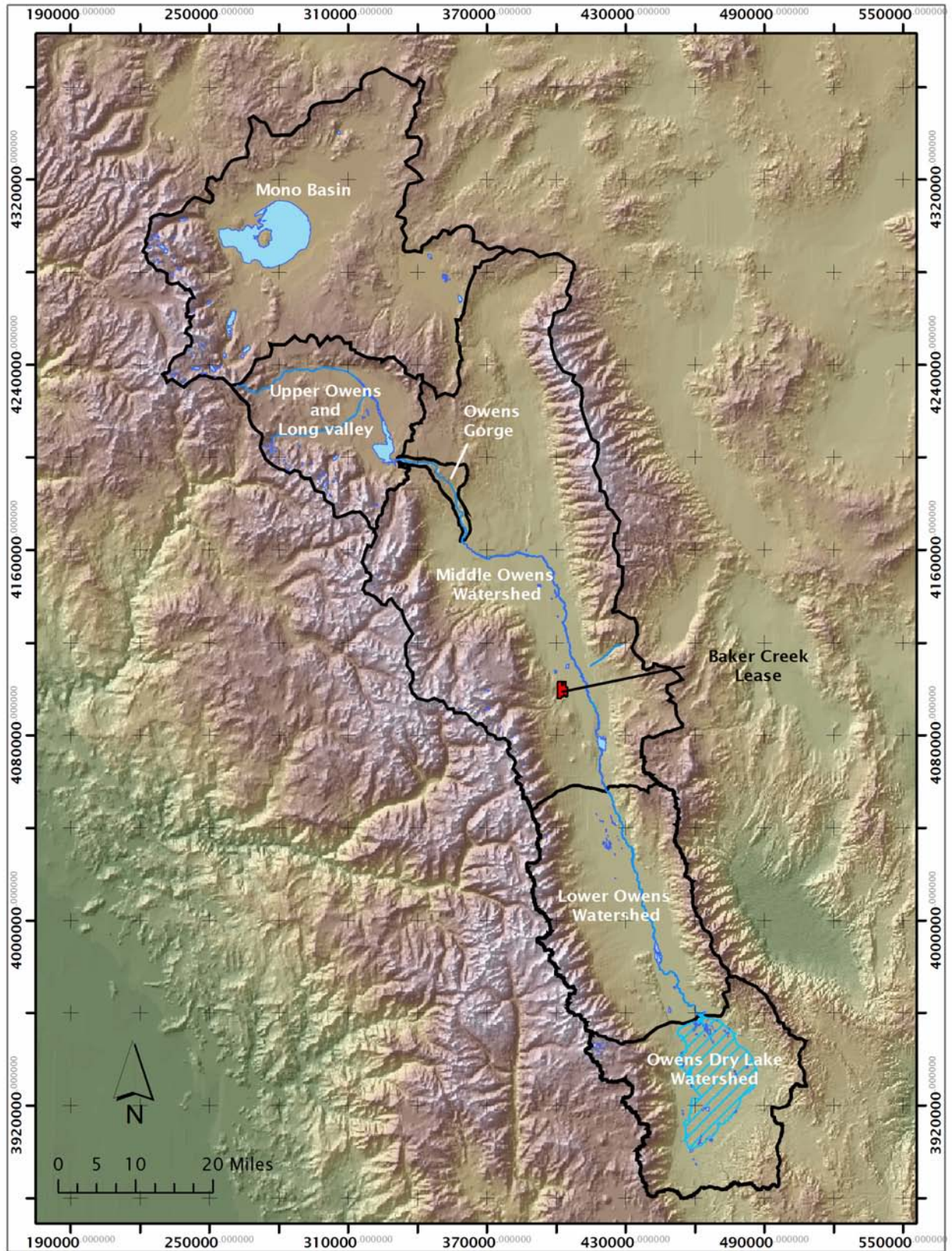


Figure 5. Owens River Watershed

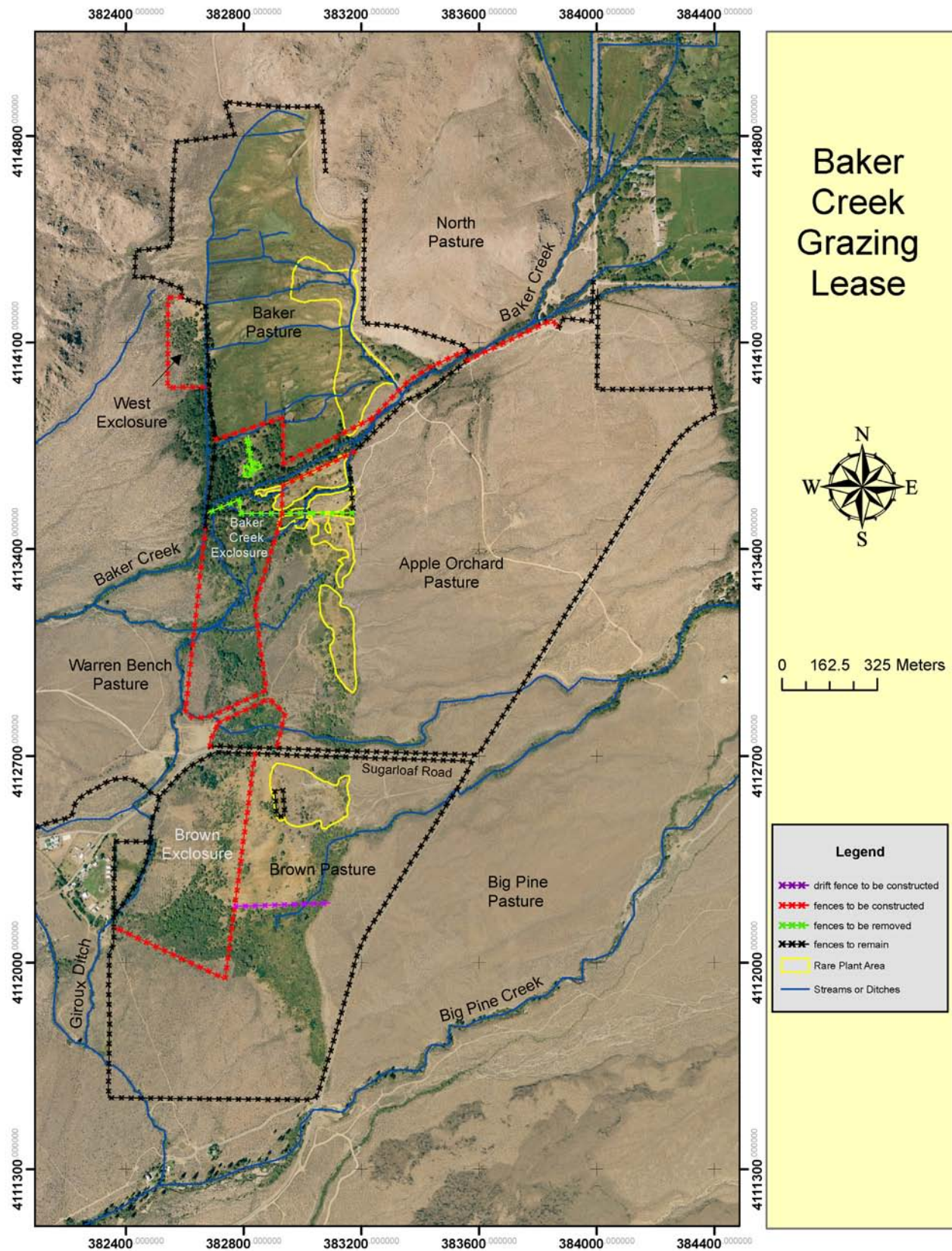


Figure 6. Baker Creek Lease

Present Grazing Management

Livestock, mainly cattle, have grazed the Lease annually under seasonal prescriptions for the past 150 years. Irrigated pasture, meadows, and riparian vegetation comprise only 20 percent (288 acres) of the lease, but provide 86 percent of the forage. Dry land types (1,153 acres) produce livestock forage only during short periods of “green up”, which may or may not occur each year. Present grazing duration, timing, and animal numbers are reviewed in Table 8.

Table 8. Present Grazing Management by Duration and Numbers

Pasture	Period	Numbers
Baker Creek	May 1 to Nov 1	150 to 175
Apple Orchard	Mar 1 to Jun 1	75 to 100
Brown	Jun 1 to Sept 1	30 to 40
Baker Creek	Sept 15 to Dec 31	30 to 40
Big Pine	Green Up	-
North	Green Up	-

*Numbers = Cows with Calves

Baker Creek Pasture

This pasture (168 acres) is mainly open meadow that provides little YBC habitat. 107 acres are irrigated producing high forage production and 43 acres are arid shrub-land with low forage production. Table 9 lists the vegetation types within the designated YBC area within the pasture. The lessee grazes 150 to 175 cow/calf pairs on the pasture from May 1 through November 1. This pasture supplies 62 percent of the livestock forage harvested from the Lease. Portions of the irrigated pasture and riparian habitat bordering Baker Creek are identified as YBC habitat. Rare plants occur in the southeast corner of the pasture.

Most of the pasture vegetation is in good to excellent condition. A narrow arm, however, that includes Baker Creek as it flows through the southern part of the pasture, is overused (Figure 6). Other riparian areas bordering Baker Creek are also modified by grazing. The narrow arm is aesthetically unpleasing because of vegetation damage caused by animal crowding. Vegetation has largely been removed leaving bare soil resulting in damage to Baker Creek. This overused area is upstream of a public campground and the heavy use is creating a public relations problem for LADWP.

Table 9. Baker Creek Pasture Vegetation Types

Vegetation Type	Acres
marsh/wet meadow	0.04
pasture/grassland	108.51
riparian shrubland	2.81
riparian woodland	0.71
undesignated upland	0.61
bare/other	0.28
unmapped-riparian	12.84
unmapped-upland	42.51
Total acres	168.30

Apple Orchard Pasture

The Apple Orchard Pasture (349 acres) lies between the Baker Creek Pasture to the north and the Brown Pasture to the south. This pasture represents a large portion of the potential cuckoo habitat (52.95 acres) on the lease. The pasture includes 281 acres of arid shrub-land with low forage production and 43 acres of riparian/meadow vegetation with high forage production per unit area. Table 10 lists the vegetation types within the designated YBC area within the pasture. The riparian vegetation is sustained by groundwater, intermittent surface flows in historical channels that diverge from Baker Creek, and leakage from irrigation ditches. Giroux Ditch (Figure 6) diverts water from Big Pine Creek, flows through the west side of the Apple Orchard Pasture, and drains into Baker Creek.

The Apple Orchard Pasture is grazed in conjunction with and during some of the same time periods as the BLM Warren Bench Grazing Allotment. Cows graze the BLM Warren Bench dry-lands, at the foot of the Sierras, only when spring plant “green-up” occurs. Cows graze the bench for a short time in the spring and then return to graze riparian and salt-grass meadows in the Apple Orchard Pasture. The pasture is used as a cow distribution and collection unit for grazing LADWP and surrounding BLM lands.

On average or above average precipitation years the lessee grazes 75 to 100 cow/calf pairs, but only when plant “green-up” occurs on surrounding BLM lands. On these “green up” years cows graze the Apple Orchard Pasture and BLM lands from March 1 through May 31, as conditions permit. Consequently, because “green-up” does not occur each year, only light spring grazing has occurred in the riparian areas of this pasture in the past. A healthy extensive rare plant population occurs on the drier meadows influenced by subsurface water in the north-central part of the pasture (Figure 6).

Table 10. Apple Orchard Pasture Vegetation within YBC Area

Vegetation type	Acres
marsh/wet meadow	0.43
pasture/grassland	7.86
riparian shrubland	17.09
riparian woodland	12.94
undesignated upland	29.46
bare/other	1.80
unmapped-riparian	0.00
unmapped-upland	1.30
Total acres	70.86

Brown Pasture

The Brown Pasture (240 acres) lies just north of Big Pine Creek and is composed largely of dry uplands surrounding riparian corridors maintained by seeps and springs. Giroux Ditch runs along the pastures western boundary carrying water from Big Pine Creek to augment flows in Baker Creek and irrigates the Baker Creek lease and other lands downstream. The ditch services two other water rights, the Inyo County Farm and the Knight Manor (housing). The diversion also helps LADWP meet its in-stream flow obligations for fish further downstream in Baker Creek. The pasture is 54 percent (131 acres) arid shrub-land with low forage production and 46 percent (112 acres) riparian/meadow vegetation (sustained by spring DWP 26) with high forage production. Table 11 lists the vegetation types within the designated YBC area within the pasture. Rare plants in healthy condition occur in meadows in the north-central part of the pasture.

The lessee presently grazes 30 to 40 cow/calf pairs (a registered beef master herd) from June 1 through September 15. Calves are weaned on October 15 and removed from the herd. The pasture is exterior fenced and the herd is not grazed in conjunction with any other pasture.

Table 11. Brown Pasture Vegetation within YBC Area

Vegetation type	Acres
marsh/wet meadow	4.98
pasture/grassland	16.60
riparian shrubland	31.98
riparian woodland	5.04
undesignated upland	8.82
bare/other	0.00
unmapped-riparian	2.35
unmapped-upland	121.29
Total acres	191.06

North and Big Pine Pastures

The North (125 acres) and Big Pine Pastures (275 acres) are grazed in conjunction with BLM permits outside the LADWP lease. These pastures are 98 percent (392 acres) arid shrub-land with low forage productivity and 7 acres of irrigated pasture with high forage production per unit area. The two pastures produce little forage and grazing methods are under the direction of the BLM as the lessee coordinates with the BLM to graze their lands.

Future Grazing Management

Grazing management changes are made to protect YBC habitat, maintain healthy riparian habitat, improve upland rangeland health, improve Baker Creek, and increase vegetation condition of irrigated pastures. This will be accomplished by decreasing animal numbers, changing the timing and duration of grazing, constructing exclosures and setting vegetation grazing utilization criteria.

Upland Grazing Management

Uplands will be grazed to sustain livestock grazing, maintain productive wildlife and fish habitats, protect rare plants, and maintain desired range conditions. The herbaceous plants (key species) in all uplands in any pasture will not be grazed more than an average of 65 percent in any year or grazing will cease at the end of the grazing period, whichever occurs first. In those pastures containing both riparian and upland vegetation, grazing will cease when either the riparian or upland criteria is met or the grazing period ends, whichever occurs first.

Riparian Grazing Management

Riparian vegetation will be managed to meet goals similar to the LORP and be compatible with YBC habitat needs. Riparian habitats can be grazed until 40 percent of the herbaceous forage (key species) is utilized (this includes use by elk and other wildlife) or until the end of the grazing period, whichever occurs first. In those pastures containing both riparian and upland vegetation, grazing will cease when the grazing criteria for either vegetation type is met.

Irrigated Pasture Land Management

Irrigated pastures or other irrigated areas, within the Lease, that are classified in good to excellent condition will not be assigned a herbaceous vegetation utilization standard. Any irrigated pasture or irrigated area classified in poor to fair condition will be assigned a grazing utilization and timing standard. Presently all irrigated pastures and all irrigated areas in the Lease are in good to excellent condition. Therefore, no standard will be set at this time for irrigated areas. A grazing timing, grazing duration period, and number of animals grazed will be assigned.

If in the future it is determined by LADWP that any irrigated pasture or irrigated area is in poor to fair condition or found to be in a downward soil or vegetation condition trend, this area will have a rehabilitation utilization and duration

standard applied to it. The standards or criteria assigned will depend on the control needed to reverse the condition or downward trend.

LADWP, in cooperation with the lessee, will determine irrigated pasture condition using the Natural Resource Conservation Service Pasture Condition Assessment. Pasture condition scoring involves the visual evaluation of 10 indicators each having 5 environmental conditions (Cosgrove, et al. 1991). Irrigated areas within the Lease scoring 80 or greater will be considered in good to excellent condition.

Exclosure Management

A Baker Creek Exclosure (see Figure 6) within Baker Creek and Apple Orchard Pastures will be closed to all grazing (Table 12). This area will be dedicated to producing soil and vegetation conditions beneficial to wildlife, fish, and water quality. The Brown Exclosure within the northwest corner of the Brown Pasture will be fenced and closed to all grazing. The West Exclosure lies along the western boundary of the Baker Creek Pasture. This exclosure will also remain ungrazed. Table 13 lists the vegetation types and acres covered for the total exclosures.

Table 12. Exclosures Size in Acres

Baker Creek Exclosure	72.34
Brown Exclosure	59.31
West Exclosure	9.79

Table 13. Vegetation Types and Acres within Exclosures

Vegetation type	Acres
marsh/wet meadow	0.47
pasture/grassland	9.29
riparian scrubland	53.55
riparian woodland	46.90
undesignated upland	14.87
bare/other	0.31
unmapped-riparian	3.58
unmapped-upland	12.47
Total acres	141.44

Baker Creek Pasture

The Baker Creek Exclosure will take the southern part of the Baker Creek Pasture and the western part of the Apple Orchard Pasture. Livestock numbers and duration of grazing will be modified as needed to account for the removal of this forage from the pasture base. This exclosure will be fenced and closed to all future livestock grazing. This closure will eliminate the problem developed by

past and present grazing that degraded soils and vegetation (especially cottonwood expansion) along the Baker Creek corridor.

A new fence constructed along the southern pasture boundary will separate the newly formed exclosure from the now smaller Baker Creek Pasture. Cows with calves (140 to 165) can graze the pasture from April 1 through December 31 as long as all grazing criteria are abided by (Table 14). 30 to 40 additional cows with calves can graze from September 15 to December 31, depending on pasture conditions. There will be no livestock grazing earlier than April 1 and no grazing from January 1 through March 31.

Table 14. Future Grazing Periods and Numbers, Baker Creek Lease

Pasture	Period	Numbers
Baker Creek	April 1 to Dec 31	140 to 165
Apple Orchard	Aug 15 to Dec 31	50 to 75
Brown	Sept 1 to Dec 15	30 to 40
Big Pine	Match BLM Regs	75 to 100
Baker Creek	Sept 15 to Dec 31	30 to 40
North	Match BLM Regs	75 to 100
Warren Bench	Match BLM Regs	BLM Regs
Brown Exclosure	No Grazing	
Baker Creek Exclosure	No Grazing	
West Exclosure	No Grazing	

*Numbers = Cows with Calves

Apple Orchard Pasture

The new Baker Creek Exclosure will take the northern and western portions of the Apple Orchard Pasture. Animal numbers, grazing timing, and grazing duration will be modified to account for the loss of this forage from the remaining pasture. The exclosure will be fenced and managed for wildlife and fish habitat and closed to all livestock grazing. This grazing closure will eliminate the problem developed by past and present grazing that degraded soils and vegetation (especially cottonwood expansion) along the Baker Creek corridor within the Apple Orchard Pasture.

Cows with calves (50 to 75) can graze the pasture from August 15 through December 31, as long as DWP grazing standards are abided by. A new fence will be constructed from the existing fence bordering Baker Creek to Sugarloaf Road. There will be a fenced access corridor connecting the east and west sides of Baker Creek (Figure 6). This fence will form the separate Apple Orchard Pasture which will be completely fenced. The western portion of the Apple Orchard Pasture, fenced out, will be included in the new Warren Bench Pasture.

Brown Pasture

Cattle (30 to 40 cows with calves) can graze this pasture from September 1 through December 15 as long as all grazing criteria are abided by. The September 1 entry date is compatible with rare plants as the flowering period is

mainly over. The Brown Enclosure (58.8 acres) will be formed in the Brown Pasture (Figure 6) by enclosing the northwest corner of the Brown Pasture. This enclosure will be closed to all livestock grazing.

North, Big Pine and Warren Bench Pastures

These pastures will be grazed in conjunction with surrounding BLM lands. Livestock grazing will abide by all guidelines provided in the BLM Warren Bench Grazing Allotment Management Plan. No known rare plant or YBC issues occur in either of these pastures at the present time.

Other Management Requirements

Corral

There is an existing corral in the Baker creek lease. If LADWP eliminates the corral the lessee and LADWP will jointly determine the location of the new corral.

Supplemental Feeding

Presently there is no supplemental feeding on the Lease. If supplemental feeding is warranted the lessee will follow LADWP guidelines. Stock can be fed supplements if needed to keep riparian and uplands in healthy condition and meet utilization standards. Livestock will be fed in areas away from water, riparian zones, and known sensitive plant and animal habitats. Feeding areas will be rotated to minimize impacts to any one area.

Livestock Watering

Most of the pastures have sufficient stock water and no further facilities will be constructed at this time. If, however, additional stockwater is needed LADWP will install watering facilities.

Fencing

New fences will be constructed to create the Baker Creek, West and Brown Enclosures. The savanna area of the Baker Creek Pasture will not be fenced. Additional inside fencing will be done to protect planted riparian trees in all pastures if necessary. Fences will accommodate recreational access, with walk-throughs as needed. Additional interior fencing and protective cages will be constructed to enhance riparian tree plantings as needed.

The lessee will maintain annually, to LADWP standards, all existing and newly constructed fences, including exterior, interior, and enclosure fences, prior to cattle entering any area to begin the grazing year.

Native Vegetation and Weed Control

Necessary weed control will be done annually on the lease. The lessee will inform LADWP as to whether chemical or mechanical weed control methods (or both) or no control will be used. If chemicals are used, the lessee will inform LADWP as to the location of herbicide application, timing of application, type of

chemical used, and the amounts of all herbicides to be used prior to any application. No herbicide or other chemical will be applied near standing or flowing waters, near rare plants or animal habitats of concern, or near human habitation without prior DWP approval.

Operational Emergencies

If a serious temporary (one year or less) grazing emergency occurs on a lessee's federal allotment(s) or on the lessee's private lands, that, in turn, results in serious reductions in allotted livestock numbers, AUM's, or duration and timing of grazing, temporary deviations in grazing lease protocols on LADWP lands may be made to lessen the lessee's emergency situation. Circumstances that may necessitate emergency changes in LADWP grazing practices are fires, forage reductions from high snow years, and forage reductions from drought conditions. During the attempt by LADPW to provide grazing relief to the lessee, all grazing standards and criteria for grazing riparian and upland vegetation will be followed.

7.0 RECREATION

The Baker Creek area is a widely acknowledged commons area where fairly unrestricted access and use has been in effect by local recreational users for half a century. The land and its natural resources are perceived and treated as public lands by recreational stakeholders. Currently there is unrestricted recreational day-use, except where posted, throughout nearly all of the Baker Creek area; recreational access even by leaseholders cannot be restricted to more than 25% of the lease holding, except for irrigated pastures. Though access can be denied to recreational users in irrigated pastures, most leaseholders do not deny such access. A casual system has been in use for many years that asks recreational users to always use a good neighbor policy of making sure they have left gates as they find them, open or closed, and treat agricultural, grazing, and water diversion areas with respect. With few exceptions this casual guideline has worked effectively for many years.

To continue to enjoy access to the Baker Creek area for a variety of recreational activities, stakeholders do not need to substantially change their recreational habits from current uses during the restoration efforts for yellow-billed cuckoo. There are currently light recreational impacts and pressure in the area, therefore recreation management is to remain relatively unchanged from current practices until, or if, increased demand and/or conflicts require increased management. The principle change in recreation will be denial of ORV use in enclosures. Otherwise the current recreation guidelines will remain in place.

Existing Recreation Guidelines

The City of Los Angeles owns about 250,000 acres in Inyo County. Over 75% of the 250,000 acres, or nearly 188,000 acres, is undeveloped and unrestricted land that is open to recreationists for fishing, hunting, hiking, birdwatching, and other

recreational activities that do not degrade the land, water, or wildlife resources. The following are guidelines for recreational use in the Baker Creek area and are the current policies of LADWP.

Camping

Overnight camping is allowed only in designated campgrounds, all of which are located outside the Baker Creek area. Designated campgrounds are developed, maintained and operated by Inyo County and most provide fire rings or barbecues, trash disposal facilities, and rest rooms. There will be no overnight camping allowed within the project area, but day-use picnicking, hiking, fishing, hunting, and other outdoor activities that are currently enjoyed will continue unchanged from current guidelines.

Fires

To protect against wildfires and to allow for the restoration of YBC habitat, no fires or fireworks are allowed in the Baker Creek area. Fires are allowed only in designated campgrounds.

Off-Road Vehicles

To limit disturbance to plants and wildlife, and to minimize any further degradation to soils and land forms, all mechanized off-road vehicles (including motorcycles, ATVs, RVs, etc.) are limited to use only on existing roads and trails. All off-road vehicle recreationists are requested to respect the concerns and needs of other recreational users, many of whom may be using the Baker Creek area to fish, hunt, hike, or observe birds and other wildlife. Noise and dust from off-road vehicles can be disturbing to wildlife, livestock, plants and soils. Care should be exercised to not use off-road vehicles near areas used by other recreationists seeking a natural outdoor experience away from residential and commercial noise and air problems, or in close proximity to grazing operations.

Leased Lands

The Baker Creek area will remain as lease-holdings for agricultural and livestock use. At least 75% of leased lands will continue to remain open for recreational access and enjoyment. All lands not open to recreational use will be posted, and all recreational users are asked to respect the operational concerns and needs of lessees. All gates should be left as found, either open or closed, and care should always be taken to not negatively impact or disturb agricultural or livestock operations, particularly in the use of firearms, off-road vehicles, or recreational activities that could potentially harm or disturb livestock or their pasturage.

Fishing

Access to fishing in Baker Creek will remain open. It is not anticipated that there will be any restricted areas in the initial phase of restoration. Fishing will continue to be subject to the regulations of the State of California, Department of Fish and Game.

Hunting

Hunting access in the Baker Creek area continues to be allowed and is subject to regulations of the State of California, Department of Fish and Game. Firearms are prohibited to be discharged within 150 yards of occupied buildings, farm structures, livestock and public roads.

Woodcutting

Any removal of older willow and cottonwood could harm the seed source for restoration and YBC habitat. Any woodcutting and wood gathering could be potentially harmful and is prohibited in the Baker Creek area.

Hiking and Biking

It is anticipated that the Baker Creek area will remain a superb hiking and biking day-use area that will appeal to all recreationists who enjoy birdwatching, wildlife viewing, or exercise in a natural and unique ecosystem. Areas that are off-limits for hiking or biking will be posted, and, as with other outdoor recreational activities, it is requested that hikers and bikers be careful to not disturb plants, build fires, or leave any trash behind. Pack it in and pack it out.

Artifact-Gathering or Pot-Hunting

It is prohibited by federal law to disturb or remove any artifacts from previous human activity and use. This includes not only native American artifacts, but also old LADWP structures and artifacts and any old mining or agricultural structures or artifacts.

Future Recreation Guidelines

Because of its accessibility (only a few minutes from the town of Big Pine and from paved roads near the Montessori school) and attractive woodlands, the Baker Creek area has several recreational uses that could potentially affect YBC habitat. The main recreational activities are associated with off-road vehicles (ORVs), hunting, mountain biking, hiking, bird watching, and other miscellaneous activities such as paintball shooting.

The major roads, trails, and important use areas are shown on the Baker Creek Recreation Roads and Trails (Figure 6). Each recreational access route (major road, 2 track ORV trail, or single track trail) is displayed by the size of road or trail. Recreation trails are overlain with the YBC habitat plans for exclosures and other areas in this figure. Exclosure fences will have walk-throughs to allow access to foot traffic for hiking, birdwatching, etc., but fences will deny access to motorized vehicles.

ORV's

ORVs are used in a large area on the west side of the study site along both sides of Sugarloaf road. This area includes a parking area south of the road and a bare sand pit area north of the road. The main trail leads from the sand pit off to

the east and has several side trails. ORV activities are the most visible recreational impact at Baker Creek. It can be seen in Figure 6 that the exclosures will have little effect on current ORV trails and paths. ORV use will continue throughout much of the Baker Creek area. ORV access will be maintained through the Baker Creek Exclosure as shown in Figure 6. Cattle guards will be placed on either end of the track to control livestock movement while allowing free movement of ORV's. The ORV track that the Baker Creek Exclosure fencing will cut off will be extended parallel to the fence to provide a loop trail as shown in Figure 7. New plantings for YBC habitat outside of the exclosures will be protected by signing to restrict ORV use to the existing trails and roads. Because closing the existing parking area may cause the creation of parking in other areas, the current area used to park and unload ORVs will not change.

Hunting

Although many types of hunting occur, hunting in the Baker Creek area is centered mainly on quail and doves. Hunters use the access roads and the parking areas, especially in the northeast area around Baker Creek. Since hunting season generally opens on September 1, and yellow-billed cuckoos generally leave the area around this time, it is believed that hunting will not pose a risk to yellow-billed cuckoos.

Mountain Biking

The Baker Creek area is an occasional mountain biking destination. Bike tracks are along ORV roads, double and single track trails. Mountain bikers appear to use the same trails as ORVs.

Hiking and Bird Watching

Disturbance to YBC habitat and nesting from hiking and bird watching will be negligible.

Miscellaneous Recreational Activities

Several other ancillary recreational activities occur in the Baker Creek area. One example is paintball games and shooting. The residue from this activity was evident around the northeast parking area. Less severe paint residue and shell casings occur west of the parking area where paintball shooters enter the study area on foot. Signing will be used to advise paintball enthusiasts to stay out of the exclosures and areas of new plantings.

Enforcement

Critical to providing intensive management of recreation activities in the Baker Creek areas will be enforcement. While information signing is essential and in some cases does achieve compliance, it is possible that signs will not provide adequate protection. In the event enforcement is required, LADWP will work with the Inyo County Sheriff's Department.

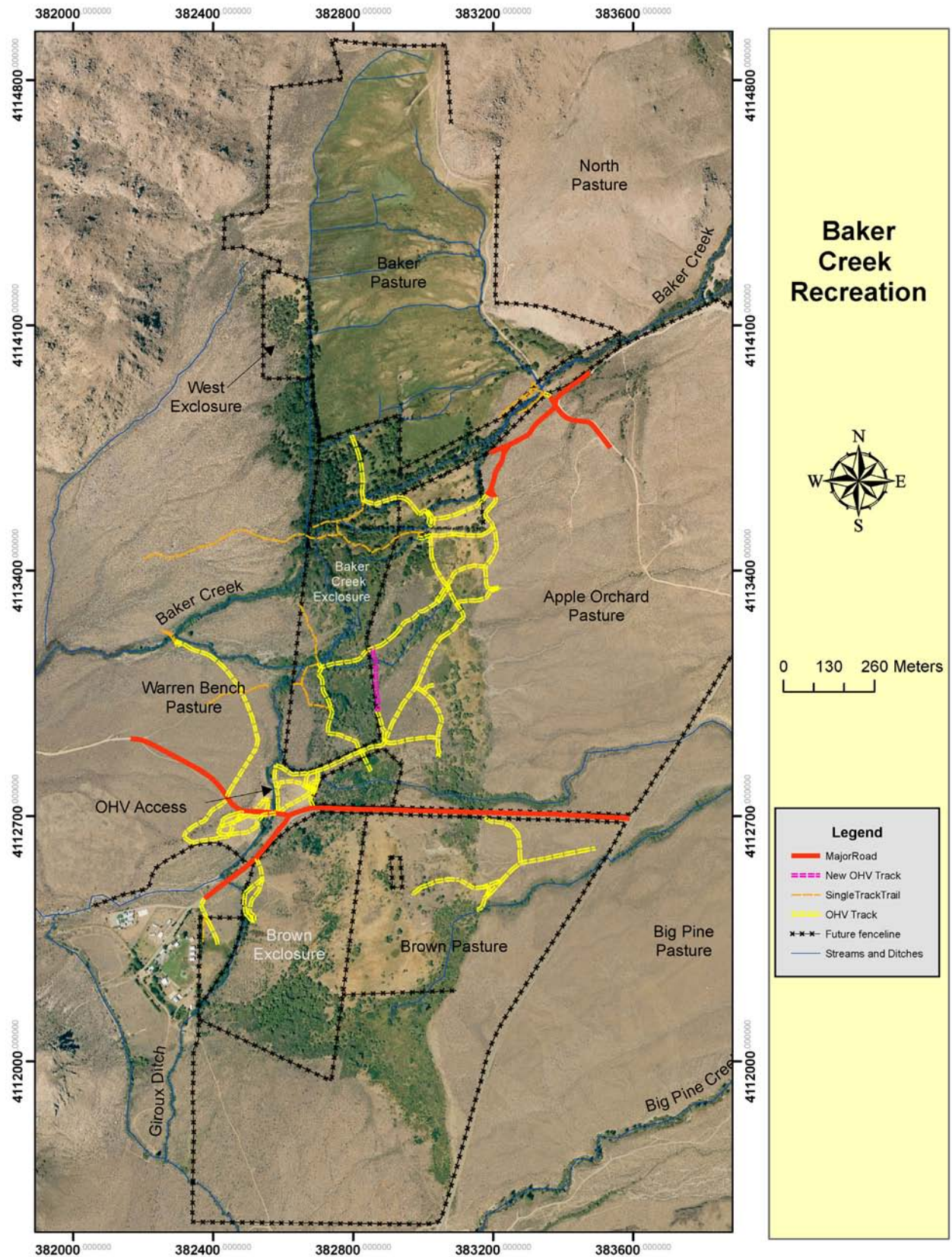


Figure 7. Baker Creek Recreation Map

8.0 FIRE CONTROL

A 1995 fire burned a quarter of the forested lands within the Lease. A 1999 fire burned an additional 24 acres of woodland riparian habitat in the Brown Pasture. These burns covered one of the two main activity areas for YBC (Ecosystems Sciences 2000). Vigorous tree-sprouting is occurring over most of the burn area. Today the burn is still recovering. Both locust and willow trees are making a good comeback.

Future grazing and wildlife habitat management changes within the Lease will increase the volume of fuels and in turn increase fire frequency potential. The major impact in the past to wildlife habitat in the Lease has been from fire effects. Therefore, more effort will be needed to prevent and manage fire within the Lease in the future. The closest fire resources would be the California Department of Forestry (CDF) Fire Station 58 located in Round Valley and Fire Station 59, located in Independence. The CDF has this area as a Designated Protection Area (DPA) which means the CDF will respond to fires first in this area. Generally if a fire is reported on SRA lands all wildland agencies respond with an appropriate response. If no CDF Fire Resources are in the area Interagency Fire (BLM and Inyo NF) will continue to staff the fire until CDF arrives and assumes control. If the fire is larger than a spot fire typically the Local Government Resources or fire districts are requested to respond. All fires in the Owens Valley are seen as a priority. The CDF and LADWP offices already have an agreement in place whereby a LADWP Resource Representative is consulted for all fires on LADWP land, and the Resource Representative is a part of the Joint Unified Command. The wildland fire agencies CDF, BLM, USFS and LADWP already have an "Assistance by Hire" agreement to work on fires mutually. Coordination will be done between LADWP and CDF fire prevention and control personnel for more effective fire management as it relates to the Lease.

No burning, firewood cutting or wood gathering will be allowed by any individual on the Lease without written approval from LADWP. The lessee will not burn any part of the Lease without receiving LADWP approval. All managed burning for the purpose of improving rangeland, wildlife habitat, and/or watershed condition, will be conducted under the direction of LADWP.

All burn areas resulting from unintentional fire will be removed from grazing for at least two years. LADWP will then determine the grazing rest needed to allow rehabilitation of fire impacts, should they exist. No managed burning will be allowed in riparian habitats without proper study and evaluation. Unintentional fires in riparian woodland areas will be given high priority fire suspension. A resource officer will be called in at the beginning of any fire and participate in the fire control decisions.

If fire occurs in cuckoo habitat, within grazed areas, the effects on cuckoo habitat will be evaluated. If existing western yellow-billed cuckoo habitat is reduced

more than 25 percent by fire, within grazed areas, a reduction in grazing use will immediately be evaluated and applied if warranted (Ecosystem Sciences 2000). The burned area will be monitored to follow recovery success.

9.0 MONITORING AND ADAPTIVE MANAGEMENT

Monitoring, Data Analysis, and Adaptive Management Measures

The ecological improvements proposed for the Baker Creek area should be implemented as an adaptive management design. This approach would incorporate research as part of the conservation action. The YBC enhancement project should integrate restoration design, management, and monitoring to systematically test the assumptions and then adapt the design and management according to lessons learned from monitoring results.

The purpose of the YBC project is to maintain and enhance habitat needed by YBC and to sustain an economically viable livestock grazing operation. To establish an adaptive management program, project managers should activate the following steps:

1. Design an Explicit Model of Your System
2. Develop a Management Plan that Maximizes Results and Learning
3. Develop a Monitoring Plan to Test Assumptions
4. Implement Management and Monitoring Plans
5. Analyze Data and Communicate Results
6. Use Results to Adapt and Learn (Salafaky et al., 2002)

Vegetation Monitoring

The Baker Creek area vegetation monitoring, data analysis and adaptive management measures are needed to (1) determine the overall project success; (2) determine whether the long term management goals are being attained; and (3) to determine whether remedial measures are necessary to meet project goals. The purpose of implementing a vegetation monitoring program is to quantitatively and qualitatively assess whether transplants are surviving within newly planted areas and to determine whether remedial measures are necessary to ensure transplant success.

One of the best ways to quantitatively monitor long-term changes in condition at Baker and Hogback Creeks is to repeat aerial photograph and vegetation mapping at 5 year intervals. To ensure this mapping is useful in assessing the responses of wildlife to vegetative change, it is necessary to develop mapping units that are based on plant community structure as well as plant species and community type. All mapping and data collection efforts will be incorporated into a GIS.

Vegetation Community Type Descriptions

Vegetation community types and landscape mapping units will be identified and defined for the Baker and Hogback Creeks Areas. Mapping units will be defined by the dominant overstory and dominant understory species characterizing a given vegetation community based upon important wildlife habitat values (primarily bird species). Mapping units will be verified in the field, revised as necessary, and then used for mapping. Although variation occurs within each vegetation community type at different locales, the species dominants consistently remain the same. Each vegetation community type will be assigned an acronym to correspond with the dominant species of that type. Riparian forest will be divided into a number of vegetation community types to provide more information for wildlife habitat values (primarily bird species) based on age classes, tree height, spacing, and dominant overstory and understory species. In addition, riparian shrublands and upland shrublands will be divided into mapping units. Other mapping units could include agricultural land, developed and/or disturbed land, rock outcrops, small open water bodies, and channels.

Mapping and Riparian Ocular Estimates

Vegetative community mapping will be performed on aerial imagery at a scale of approximately 1:6,000. Vegetation communities will be mapped, field verified, and digitized to determine the acreage of each type. Dominant overstory and understory species, as the major components of the plant community structure, will be used for mapping and naming purposes. Riparian plant communities will be the primary focus of the vegetation data collected for the purpose of assessing wildlife suitability. As part of the vegetation survey, stands of riparian vegetation will be assigned values, based on ocular estimates, for height, age classes, and canopy cover (foliar cover). Ocular estimates will be documented and mapped at each encounter of cottonwood or willow stands. In addition, riparian and upland vegetation type data will be collected and used during analyses. Ocular estimates of tree canopy (primarily cottonwood and willow) and tree height will be documented at each stand as they are encountered in the field. Individual trees will be included in the riparian vegetation community types, and will not be assessed separately. Estimates for both height and cover usually vary within the stands and ranges will be developed to represent these variations.

Planting Survival

Quantitative and qualitative analysis of planting survival will be conducted within the Baker Creek planting areas to determine survival rates and to assess the health and vigor of the plants. Plant survival will be evaluated within 10m x 50m plots (0.1 acre/0.04 hectare) established within planted areas. Four plots (0.4 acre/0.16 hectare) will be evaluated where cottonwood forest has been planted within mesic meadow areas of the Brown Pasture exclosure. An additional six plots (0.6 acre/0.24 hectare) will also be evaluated within areas where aggressive black locust control and replanting is implemented within both the Brown Pasture exclosure and Apple Orchard Pasture. Plant survival will also be evaluated within each of the fenced protected forest patches within all three

pastures. Plant survival will be evaluated within each plot and additional planting location by total count (i.e., a total count of live and dead individuals will be conducted to determine percent survival).

Qualitative analysis conducted within each study area will consist of visual observations of the health and vigor, herbivory and browse affects, insect damage, and undesirable species competition. Other incidental observations of adverse affects or conditions will be recorded on data sheets. Growth parameters such as branch length or tree height will not be collected as it is expected that each transplant will develop according to its own potential and adaptability to site-specific soil and hydrologic conditions. Additionally, such data would be time consuming and labor intensive. Digital photographs will be taken at each plot within the Brown Pasture enclosure on an annual basis to document growth changes over time. Plant survival data will be collected during the height of the growing season (i.e., July/August).

Permanent photo monitoring stations will also be established at strategic locations throughout the Baker Creek project site to document overall progress of habitat improvement within the planted areas. Photo monitoring stations will be identified to enable future identification.

Greenline Recruitment

New tree and willow recruitment will be evaluated along Baker Creek enclosures employing U.S. Forest Service greenline methodologies (Winward 2000). Recruitment studies will be conducted within approximately the same belt transects as evaluated during collection of additional vegetation data for the Phase 1 Task 1 report (Otis Bay 2004). Belt transects will be evaluated within the upper and mid-sections of the south Baker Creek channel and along the mid-section of the north Baker Creek channel. In general, a measure of cottonwood and willow recruitment will be conducted within a 6-foot (2m) wide belt transect along approximately 365 feet (122m) of both sides of the stream channel (each belt transect is equivalent to approximately 0.1 acre/0.04 hectare). Selected woody plants (cottonwood, red willow, arroyo willow, sandbar willow, water birch, box elder, and black locust) rooted within the greenline belt transects will be tallied based upon the following age class categories:

<u>Number of Stems at Ground Surface</u>	<u>Age Class</u>
1	Sprout
2-10	Young
>10, >1/2 stems alive	Mature
>10, <1/2 stems alive	Decadent
0 stems alive	Dead

GIS Mapping

GIS vegetation mapping of the site should be repeated every 5 years to detect changes in the riparian forest and determine effectiveness of the enhancement

plan. Recent, georeferenced aerial photography will be required for vegetation mapping

Adaptive Management Measures

Plant survival rates of installed plant materials will vary depending upon the health and vigor of the stock, handling and planting procedures, available moisture, soil conditions, and other environmental factors such as insect damage and wildlife herbivory. Plants will be planted in areas which have been determined to be desirable for their survival and long term growth; however, it is not uncommon for transplants to experience a mortality rate of 20-50% even given the best conditions. Planting rates will be increased by 20% to compensate for an average amount of expected mortality.

If 70% survival of cottonwood, red willow, and arroyo willow not be obtained following a three year monitoring period, additional plants will be planted.

Annual monitoring will also include a qualitative assessment of problematic species which may affect transplant success and overall habitat improvement. Should noxious weeds become a problem, measures to control these species, such as the use of selective wildlife safe herbicides and manual removal, will be implemented. A visual assessment of the perimeter fences will also be conducted to ensure livestock are adequately restrained from entering the permanent exclosure areas and the additional fenced areas. A return to grazing in the exclosures would be a valid alternative if monitoring and evaluation found it warranted.

Measures which will affect long term success that need to be periodically monitored include the condition of perimeter fencing, livestock trespass, recreational use, fires, and woodcutting. Personnel should regularly check the perimeter fences and conduct the necessary maintenance to ensure that fencing remains in good condition and is functioning properly.

Bird Monitoring – Baker Creek

The restoration effort at Baker Creek, if carried out successfully, will provide habitat for a wide variety of bird species in addition to the cuckoo. Bird surveys, utilizing 10-minute point counts, will be done in conjunction with the surveys for yellow-billed cuckoos. This valuable work can be done at very little addition cost (\$2,000/year for both Baker and Hogback areas), as the data can be taken while surveying for cuckoos. To accomplish this, the cuckoos surveys will need to be done by a field ornithologist who is competent in both surveying for cuckoos and surveying other species by ear. Analyses will consist of correlations of bird numbers for each species over time.

Annual Reporting

Annual monitoring reports will be submitted to LADWP and ICWD by December 15th for a period of at least five years, or as required by the MOU parties. Reports will include a summary of the monitoring results, YBC surveys, plant

survival data, greenline recruitment data, copies of data forms, and photographs of planting locations and photomonitoring stations. A discussion of project progress will be included with recommendations for remedial measures as necessary. Monitoring measures will be the same each year for a period of at least five years.

Yellow-billed Cuckoo Survey and Monitoring Protocol for Baker Creek

Introduction

The Yellow-billed Cuckoo has a large home range, calls infrequently when mated, and is rarely detected visually. It is also territorial only in a limited sense. These factors render traditional bird survey methods, such as point counts and transects, of limited value to determine the presence/absence or abundance of the species. Playback surveys are the recommended method for conducting surveys for the species. Because of large and overlapping home ranges, locating all nests in a population is the only way to census (i.e. to do a complete count of) the population.

Survey Method

Playback of the cuckoo's pair contact call ("kowlp" call) has proved to be the best method to survey the species. The tape-recorded call should be able to be easily heard for a minimum of 100 m. I recommend a dual speaker, sports tape recorder, like the Sanyo "Outsider" or Sony "Outback". These recorders have both the power to project the required distance, lack of distortion at high volume, and are rugged enough to stand up under field conditions. Any recording of the "kowlp" call is fine. Use of the recording from the Peterson Field Guide tape is good because it is distinctive and there is a discernable difference between a real cuckoo and another cuckoo surveyor's tape. Never use a tape of the cooing call, which is given only by unmated males, to survey for cuckoos. This call will reduce the response rate of mated cuckoos below what it would be if no call were used.

Surveys should be conducted between the hours of 6:30 and noon. The hot part of the day should be avoided as response rate declines sharply. Avoid conducting surveys when the temperature exceeds 100 degrees. Surveys in the late afternoon (6:00) and evening (8:00) are also possible but the survey results have not been compared to known populations. Survey stops located every 200 m along the forest edge are recommended. If the forest patch is greater than 100 m in width, it will be necessary to make two or more transects through the patch. No part of the patch should be more than 100 m from a survey location. In terms of the number of survey stations/100 acres, 12 stops would be needed for a square habitat patch (633 m x 633 m), 10 stops for a 200 m x 2000 m patch, and 20 stops for a 100 m x 4000 m patch.

The recorded call should be played about 10 times at each stop, with about 30-60 second pauses between each call. An alternative is to stop every 100 m and

play the tape 5 times at each stop. It has not been found that one method is superior to another. The pauses between the calls are extremely important. Cuckoos rarely respond instantly and usually wait 30 seconds or more before responding. If you are walking, talking, or playing the tape you will probably not hear the response. Approximately 3 miles of habitat can be surveyed per morning.

Three surveys of the study area should be conducted during the breeding season. Surveys should not be conducted before 15 June, because most cuckoos have not arrived before that date. Surveys should not be conducted after 10 August because many cuckoos have left their breeding areas by that date and the remaining cuckoos have become very quiet and rarely respond. Surveys should be conducted 10 to 14 days apart during the 15 June to 10 August period. This spacing allows the surveyor to hit the various stages of the nesting cycle for any given pair, increasing the chance of response. An ideal spacing would be the first survey about 20 June, the second about 4 July and the third about 1 August. Surveys should not be carried out in winds over 7 mph because this reduces both the cuckoo's response rate and the surveyor's ability to hear the response. Likewise, surveys should not be conducted when it is raining. Rain is generally not a problem in California during the survey period.

Survey Results

With surveys for sensitive species, the problem of presence vs. absence vs. not found always arises. A response by a cuckoo during a survey of course indicates that a cuckoo is present at the site. Surveys conducted at sites where the population is known indicate that with three surveys there is approximately a 95% chance of detecting at least one member of a pair. Therefore, there is approximately a 5% chance of cuckoos being present at the site but not being detected during the survey. The absence of cuckoos in any given year does not indicate that the site is never used by cuckoos. Some sites in California have been unoccupied by breeding pairs for five or six years only to be reoccupied. In addition, numbers of pairs can vary greatly from year to year at even the best sites. At the South Fork Kern River, from 1985 to 1997, the cuckoo population has varied from a low of three pairs to a high of 23 pairs. Surveys should be conducted at the Baker Creek site yearly for a minimum of 25 years.

Cuckoo Response and Call Context

Cuckoos can respond to the taped calls in several ways. How they respond depends on their breeding status, breeding season phenology, and individual variation. Unmated male cuckoos will often fly into where the observer is located and, after one or two minutes, will respond with a cooing call. The cooing call is a mate attraction call and is therefore the song of the cuckoo. To the inexperienced, the call could easily be mistaken for a Mourning Dove. Experienced observers sometimes mistake this call for the call of a Greater Roadrunner. The main difference is that the Roadrunner call descends while each note of the Yellow-billed Cuckoo call is on the same pitch (except sometimes that last note or two are on a lower pitch). This cooing can continue

indefinitely and unmated males cuckoos will sometimes follow a surveyor for several hours. It is sometimes necessary to skip one or more survey location to lose these unmated males. Unmated female cuckoos, when they respond at all, often fly in and silently observe the surveyor. On a few occasions they respond with a low guttural call similar to, but much lower and hoarser than cooing.

Mated male and female cuckoos sometimes also respond by flying in silently, but usually they respond from a ways off with a contact “kowlp” call. Mated cuckoos never coo. Both male and female cuckoos make a “kowlp” call and the sexes can only be told apart by call with much experience. In the vicinity of an active nest both male and female will make a soft knocking call which is used to tell the mate and young that a predator is near. This call can be made in response to your presence or to the presence of a hawk or owl. Juvenile cuckoos that are still dependent on the adults for food will respond with a soft clucking call, which tells the parents their location. As the young get older (3-4 weeks out of the nest), the clucking gets louder and begins to resemble the parents “kowlp” call.

Surveyor Qualifications

Surveys should be conducted by qualified ornithologists with experience in successfully surveying yellow-billed cuckoo populations. They should understand and have experience with cuckoo call context. This is needed because of the cuckoo’s cryptic nature, the difficulty of identification of some of its calls, and the need to understand call context. Verified sightings should be considered sightings that have been made by field biologists who have experience with the species.

Survey Recommendations for Baker Creek

To monitor the cuckoo population at Baker Creek, cuckoos will be surveyed at the site annually for a minimum of 20 years, using the survey protocol listed here. The surveys should begin in summer 2005 prior to the beginning of restoration activities. Nest location and nest monitoring is not necessary to determine population trends, but is needed to determine exact numbers of cuckoos at the site. If evidence of nesting pairs of cuckoos is detected, nests should be located. Nest location and monitoring will also provide valuable information needed to manage this population of cuckoos. It is recommended that when the surveys show that nesting cuckoos have reoccupied the site, a 5 year study be carried out to locate all nests, determine nesting success and monitor food resource use. This study will be carried out by a qualified ornithologist with experience and success in locating nests of Yellow-billed Cuckoo.

Grazing Monitoring and Evaluation

Utilization Monitoring

Utilization cages will be placed as needed to monitor forage use by livestock. Cages will be positioned annually in selected pastures prior to any livestock grazing. The utilization on key forage species will be documented using locally developed key species height-weight curves.

Monitoring Range and Pasture Condition

Range trend and pasture condition will be monitored. To guide future grazing management decisions range condition monitoring in non-irrigated upland habitats will be conducted at permanent transect locations. Transect monitoring will consist of nested frequency sampling, vegetative cover sampling, shrub age classification, visual obstruction readings, and photo documentation. Sampling protocols will follow procedures outlined in the Interagency Technical Reference "Sampling Vegetation Attributes" in the Rangeland Analysis and Planning Guide (BLM 1996).

Adaptive Management

Management directions will be modified as needed over time based on review of monitoring information. Adaptive management provides flexibility to account for unforeseen benefits or impacts. Future grazing management direction may be changed based on upland and riparian habitat assessments. Fencing, forage utilization, livestock water sources, timing and duration of grazing will be adjusted if necessary to achieve DWP, LORP, and Lease goals.

10.0 BUDGET

Preliminary Cost Estimates Required to Implement Monitoring and Adaptive Management Measures

Preliminary costs required to implement the proposed final enhancement plan are summarized in Table 15.

Table 15. Baker Creek Vegetation Preliminary Cost Estimates

Planted Areas	Brown Exclosure, Baker Creek Exclosure, and West Exclosure (19.5 acres planted)	Fenced Protected Forest Patches (3.4 acres planted)	Total Estimated Cost (22.9 acres planted)
Planting Materials/Equipment (\$2,000/ac)	\$39,050	\$6,800	\$45,850
Planting Labor (3 man days/ac)	58.5 man days	10.2 man days	68.7 man days
Irrigation Materials/Equipment (\$1,100 /ac)	\$21,450	N/A	\$25,190
Irrigation Labor (1 man days/ac)	19.5 man days	3.4 man days	22.9 man days
Fencing/Corral Materials/Equipment (\$2.50/ft)	\$43,238 (17,295 feet)	\$36,750 (14,700 feet)	\$79,988
Fencing/Corral Labor (0.006 man days/foot)	104	88	192
Black Locust Eradication (13 acres) Materials/Equipment (\$3,350/ac)	\$43,550 (13 acres)	N/A	\$43,550 (13 acres)
Black Locust Eradication (13 acres) Labor (14 man days/ac)	182 man days (13 acres)	N/A	182 man days (13 acres)
5-Year Miscellaneous Maintenance Supplies (Irrigation, Weed Control) (\$305/ac/yr)	\$29,737.50	\$5,185	\$34,922.5
5-Year Miscellaneous Maintenance Labor (Irrigation, Weed Control) (5.7 man days/ac/yr)	555.75 man days	96.9 man days	652.65 man days
5-Year Vegetation Monitoring Program (20 man days/yr)	100 man days	Included with other exclosures	100 man days
Total Estimated Project Capital Expense	\$177,026	\$48,735	\$229,501
Total Estimated Man Days for Project	1,020 man days	199 man days	1,219 man days

Vegetation Monitoring Costs

After five growing seasons (the 6th year of monitoring), the Baker project site vegetation should be remapped using GIS. The GIS mapping along with the annual vegetation monitoring would require approximately two weeks of field time (including travel) and ten days to write-up the monitoring report. Professional services are estimated at 20 man days per year plus other direct costs (mileage, hotel, per diem, document reproduction). GIS vegetation cost will occur four times over a 24 year monitoring period. These costs are not included in table 15 and do not include the cost of aerial photos.

Yellow-billed Cuckoo Survey Costs

Yearly surveys for the two sites (Baker and Hogback Creeks) will take approximately 9 days to conduct and 5 days for report preparation. The cost will be approximately \$14,000 for a qualified surveyor to conduct this work.

Grazing Monitoring Costs

Monitoring costs of the Baker Creek Lease for utilization, range and pasture conditions, and livestock compliance (numbers and on/off dates) would be approximately \$22,000 annually.

11.0 IMPLEMENTATION SCHEDULE

Implementation will start with approval of the final yellow-billed cuckoo habitat enhancement plan by the LADWP Board of Commissioners.

The next step, after plans are approved, will be to (1) complete CEQA and public review; (2) formulate a detailed planting, diversion, and irrigation site map; and (3) order and collect plant materials, seed, equipment, and supplies.

Pond and diversion construction, planting, seeding, and irrigation will be initiated just after plants become dormant in the fall (November). The first implementation task will be to construct diversions, ditches, and ponds. Then the planting and seeding will begin. Planting and seeding should be finished by the end of January so that the germinating seed and rooting plants can take advantage of moderate temperatures and higher soil moisture levels. Irrigation systems needed for temporary supplemental water must be in place by March. Therefore, pole planting activities will be scheduled for late fall 2005. Root stock material will be collected for propagation in early winter 2005, propagated through the growing season, and planted in late summer or early fall 2006.

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APPENDIX A: COMMENTS AND RESPONSES TO *DRAFT* YBC ENHANCEMENT PLANS

Three letters were received as comments regarding the Final Draft YBC document, and they are presented here with responses from Ecosystem Sciences and subconsultants. Comments are printed in plain text, while scientists' responses are italicized. Supplementary documents (Appendices B,C,D) are referenced in certain responses and these documents are provided at the end of the section.

Comment and Response Set #1: Four J. Cattle Corporation

One of the stated goals of the YBC enhancement plan is to restore habitat to the condition this area exhibited in 1968 (page 6). The main decline in habitat has been the result of vegetation fires over the years from lightning and man made causes. The area has been grazed for 150 years, and during that time, the current habitat was developed. We have not noted any reports that show there were 2 to 4 (or any) breeding pairs prior to, or in 1968. Four J Cattle is agreeable to help reestablish desired habitat, but it must be noted this is the fringe of the YBC range, and that there may never be an increase of YBC activity in this area. Many uncontrollable elements will affect the length of time and desired habitat change—among them, weather cycles, insect and disease in local vegetation, fire damage, wildlife damage to trees, and failure of new plantings to be successfully established. Under survey recommendation for Baker Creek (page 47), it is stated that cuckoos will be surveyed at the site annually for a minimum of 25 years. Other places in the report state a monitoring program of five years, and a program to remove of locust trees over a ten year phase. The implication of these statements is this project is never ending, and “adaptive management” can be ever changing. For this plan to be reasonable and feasible; there must be limits set on this enhancement project. At the end of an established period of time (and not 25 years), the enhancement must be considered complete. If the established habitat has not resulted in the increase of YBC, it may be because this is not possible. Under adaptive management, a return to grazing in the exclosures must be a considered alternative. Permanent exclusion of grazing is not adaptive or desirable for this area. It is our observation that grazing enhances habitat, reduces under-story fuels, and will be necessary to return the area to the 1968 desired condition.

The MOU is silent on the end point for this project, and this is a political not a scientific issue. Under adaptive management a return to grazing in the exclosures would be a valid alternative if monitoring and evaluation found it warranted and acceptable without harm to YBC or their habitat.

Four J Cattle has agreed to cooperate with this enhancement plan, but we must maintain control of all of the Baker Creek pasture. All open pasture must remain open pasture with no tree planting, and must be maintained as Type E

vegetation. We cannot agree to planting cottonwood trees in “30 small enclosures” in the pasture area and creating “savanna grazing”. The possible addition of 1.1 acre of YBC habitat is the stated goal, but this small acreage would result in loss of cattle forage. Another stated project goal is to sustain an economically viable livestock grazing operation (page 40). This can only be done leaving the Baker Creek pasture intact.

In order to fairly balance YBC habitat enhancement with grazing, all feasible enhancement opportunities need to be taken. Savanna grazing is a good and fair balance.

It should be noted that both the Apple Orchard and the Brown Pasture are basically unusable with grazing limited to 1 September to 15 December. The Brown Pasture area, outside of the enclosure, is too small to warrant grazing. The proposed savanna plantings will further reduce the amount of forage available. If the Brown pasture is not grazed, there will be an increased fire danger. The problem with building the currently planned enclosure in the Brown Pasture is that this enclosure takes the Brown Pasture out of agriculture. “Cattle grazing will continue throughout most of the Baker Pasture, Apple Orchard Pasture, and Brown Pasture (page 15),” is misleading, untrue and implies this project does not make major changes to the agricultural lessee. Deferred grazing and no enclosure fencing should be revisited for management of the Brown Pasture.

Noted, but the scientific team will still require the enclosure and savanna plantings. The text has been modified to read “...Cattle grazing will continue...”

There should be a plan to remove dead burned trees after a fire to reduce fuel in future fires.

Noted.

The plan to convey water from the Baker/Giroux Ditch to dry channels can only be possible on adequate precipitation years. This should be noted in the report, and re-watering dry channels shall not have priority over irrigation water for Four J Cattle.

Four J Cattle water rights and irrigation methods will not be altered.

Although Four J Cattle also owns the Twin Lakes Lease, the Baker Creek Lease is a separate lease, and is not part of the Twin Lakes Lease as stated in the lease description.

LADWP provided us with the description that Baker Creek is part of the Twin Lakes lease, but this has been deleted in the text.

The narrow arm along Baker Creek near the Baker Creek campground is not the result of overgrazing. This area is upland, not irrigated, therefore devoid of grass and under story growth because of the large number of trees that are established in this area. The cattle drift along the fence, and lay in this area to get relief from insects.

Nevertheless, cattle do impact this area and fencing will result in the return of grass. Wording in the text was changed from “overgrazing” to “overuse”.

Supplemental Feeding—the grazing period in the Baker Creek area has been changed, and Four J Cattle reserves the right to use supplemental feed.

Noted and text has been changed to reflect this option.

Livestock watering—“All pastures have sufficient stock water”—this statement is no longer true with the plan to fence all creek and riparian areas. This plan needs to address stock water at Baker Creek Pasture and the Brown Pasture. This additional water and cost of construction is not included in this plan.

Noted, but we are not sure that additional stock water is needed since Baker Creek is an irrigated pasture and stock also have access to water in the Brown pasture.

Fencing—it should to be noted that our operating corral is now in the Baker Creek enclosure. As part of the concession to include the corral in the enclosure, the plan needs to acknowledge that a new corral will be constructed as well as the proposed new fencing. The cost of this new structure is not included in the cost analysis.

Agreed a new corral is needed and to be built at LADWP’s expense. The cost of the corral is really a function on person days of labor which LADWP will need to define.

Fire Control—this plan acknowledges that restrictions on grazing will increase the volume of fuels and increase fire frequency potential. Also, eliminating habitat fragmentation areas will tie the areas together, and destroy the natural fire breaks that are now in the area. This plan has the potential of actually destroying the habitat they are trying to restore. It will also increase the fire danger for the Bernasconi Center as well as the town of Big Pine.

Noted.

“If fire occurs in cuckoo habitat the effects on cuckoo habitat will be evaluated. If existing western YBC habitat is reduced more than 25 percent by fire, a reduction in grazing use will immediately be evaluated and applied if warranted (Ecosystem Sciences 2000).” These sentences are unclear, but may be interpreted to mean

if there is a burn in the exclosures, grazing may be restricted in the grazing areas. This needs to be clarified, and if this is the intent, it is not acceptable.

Agree, and wording has been changed in the text.

This project and the subsequent monitoring are described as a research project with lessons that can be learned from monitoring the results. This learning experiment is at our expense. The MOU parties should be willing to make concessions to our concerns, so it can be a successful project for all concerned. We appreciate the opportunity to comment on this project. If any of our comments are unclear please feel free to contact us. We are disappointed in the current outcome of this proposal. We felt that original enhancement plan (Technical Memorandum #21) adequately fulfilled the requirements of the MOU. It is too bad that small vocal groups can affect areas without any consequences to them personally. If they were responsible for the cost and outcome of the project, and its affect on parties harmed by the process, maybe we could come to a better solution for everyone involved.

Noted and thank you for your attention and input.

Comment and Response Set #2: Los Angeles Department of Water and Power

(1) As the party responsible for implementing and paying for the plans, LADWP is concerned that the focus of the plans goes way beyond what is needed to meet LADWP's MOU obligations, and that some of the recommended actions and projects are not reasonable and cost-effective. We are concerned that the timeframes, divulged costs, and uncertain hidden costs of adaptive management have turned this project into a multimillion dollar effort and go well beyond the original intent of the MOU. LADWP's Board of Water and Power Commissioners will have to decide if the recommended actions and/or projects are reasonable and feasible. There is a substantial amount of money and resources being put into this project with an uncertain chance that we may see a net benefit of a couple of breeding pairs of Yellow-billed cuckoos.

All recommendations in the plan are reasonable and feasible. The project need not become a multimillion dollar effort. Much of the labor could come from obtaining an AmeriCorp NCCC or a Student Conservation Association crew. The model that The Nature Conservancy has successfully used on many projects of this type is to hire a project leader who then gets grants, manages volunteers, and manages youth corps. It is also anticipated that with the level of interest from the MOU partners that much of this work will be done with volunteers from the local community. This project could result in a 10-15% increase in the yellow-billed cuckoo population in California, which is a significant increase.

(2) One disturbing component of the management proposals is the assumption that significant amounts of water can be utilized in a consumptive manner for enhancement purposes. All Baker Creek and Giroux Ditch water is accounted for and no LADWP water is available.

The amount of water called for in the project design is minimal. We anticipate that the water will come from the Inyo County Farm's allocation and that DWP and ICWD will have to negotiate this for the benefit of the project.

(3) It is not reasonable to expect LADWP to be held accountable for circumstances beyond its control. If a fire destroys the habitat, which the team recognizes is a distinct possibility due to the increased fuels, to assume that LADWP would be responsible to redo any projects or actions is not appropriate. If for some reason the assumptions made by the current Yellow-billed cuckoo experts are incorrect, it should not be expected that LADWP would make changes to the projects or actions. Five to 10 years down the line, if the project recommended by the "experts" fails to attract any birds, LADWP should not be asked to undertake another extraneous and expensive project, as we have already shown a good-faith effort.

The MOU does not give guidance on these issues and they are outside the scope of the present plan. They should be negotiated between the MOU parties.

(4) While LADWP is committed to fulfilling its obligations under the MOU, it is imperative that we know what the costs are associated with the recommended actions and projects. A comprehensive summary of associated costs of the recommended actions and/or projects should be included in all proposals. While additional information has been provided in the cost estimate tables, the tables presented in these proposals grossly underestimate the costs of the projects because they do not include the cost of monitoring, water, and labor.

The consultants were instructed in the last review of the draft plan by LADWP to include person days not dollars for labor. The plan budget followed that instruction.

(5) The MOU calls for a plan that will identify reasonable and feasible actions or projects to maintain or improve the habitat of the Yellow-billed cuckoo. The MOU never contemplated researching or monitoring the Yellow-billed cuckoo or any other birds. Monitoring or researching birds would be nice if monetary resources were not an issue, but they are and LADWP does not consider this to be a reasonable expenditure given the very specific MOU goal strictly related to maintaining or improving habitat of the Yellow-billed cuckoo.

With a plan of this magnitude, it would be remiss if we did not include monitoring. Monitoring to determine if the project meets the goal of re-establishing the cuckoo population is absolutely necessary. In this final plan, monitoring of other

bird species has been integrated into the cuckoo monitoring and the bird monitoring costs have been greatly reduced.

(6) The new fences presented in the proposal for the Baker Creek Exclosure are an improvement over the January 31, 2005 fence configuration, but a portion of the fence still bisects rare plant polygons as noted in your plan. It is not appropriate to impact a state-endangered species and a species of special concern to create an exclosure that may create potential habitat for another species.

The plan clearly states that riparian restoration will not be done in the rare plant area within the Baker Creek Exclosure.

(7) The MOU specifies that "each plan will identify reasonable and feasible actions or projects to maintain and/or improve the habitat of the Yellow-billed cuckoo." The final report should provide a definitive list of the recommended actions and/or projects to be considered by the LADWP Board of Water and Power Commissioners.

The final Baker Creek Yellow-billed Cuckoo Enhancement Plan is a definitive list of recommended actions and projects.

(8) On Page 3, Figure 1. The Baker Creek Exclosure should be modified. While this fence alignment is an improvement over the previous plan, the new fence line still bisects the rare plant populations located in the Apple Orchard Pasture. It is not appropriate to impact a state-endangered species and a species of special concern to create an exclosure that may create potential habitat for another species.

The plan states that riparian restoration will not be done in the rare plant area within the Baker Creek Exclosure so no adverse impact is anticipated.

(9) On Page 3, Figure 1. One of the fences in the Apple Orchard noted for removal should remain in place. The fence located on the east side of the Apple Orchard meadow controls vehicle access to the rare plant area and, therefore, should remain in place. This fence is controlling vehicle traffic through the densest areas of rare plants and, therefore, should remain intact. This fence currently provides a walk-through for recreationists to enter on foot. Removing this fence will not benefit Yellow-billed cuckoos, but it will most likely impact the rare plants.

This fence will not be removed.

(10) On Page 3, Figure 1. The fence in the Brown Pasture that is noted for removal should be left in place, as this is a lease boundary fence and the area to the west of this fence is leased by Inyo County (Appendix A: Comments and

Responses to Preliminary Recommendations Report notes this fence will remain in place, but the figure has not been changed).

This fence will not be removed.

(11) A Wetland Control Structure is noted in the Brown Pasture This structure is not discussed in the draft plan. Is this structure to be included in the current plan? A change in hydrology could negatively affect the adjacent rare plant population.

The structure is removed and not a part of this plan.

(12) Page 13, Table 1. As noted above, the Baker Creek Exclosure should be modified so that it does not bisect the rare plant population in the Apple Orchard Pasture. This modification will change the values in *Table 1. Rare Plant Habitat Acres* to 0 for the Baker Creek Exclosure.

The plan states that riparian restoration will not be done in the rare plant area within the Baker Creek Exclosure so no adverse impact is anticipated. The proposed fence lines were designed for ease of construction and maintenance.

(13) Page 17, Habitat Goals within Protected Forest Patches Located Outside of the Livestock Exclosure. Apple Orchard – There are inconsistencies when discussing planted patches. On page 17, it states that there will be 28 patches, but page 7 states 5 patches. Baker Creek Pasture – There are inconsistencies when discussing planted patches. On page 17, it states that there will be 25 patches, but page 6 states 30 patches.

Noted and corrected – 5 patches in the Apple Orchard pasture and 25 patches in the Baker Creek Pasture.

(14) Page 19, Management Options and Additional Actions to Improve and Enhance Yellow-billed Cuckoo Habitat. This section discusses locust removal using a small tracked excavator and dozer, and dragging the locust trees to locations where the public can cut the trees for firewood. This management option is problematic for many reasons, including: many areas are so wet that equipment access will cause problems and locust trees should not be dragged across sensitive areas. Other options should be included that would cover individual circumstances. These options could include: (1) using herbicide to kill the locust but leave the dead trees in place; (2) cutting the trees, treating the stumps with herbicide, and removing the trees in a less invasive manner; (3) The important need is to remove the trees necessary in a manner that minimizes damage; and (4) Snag habitat can be left in certain areas as they can be important to a variety of species.

Comment noted and plan changed. Dead standing black locust will be left in place if they are providing wildlife value or if they cannot be removed without

creating more damage than being left in place. Trees will be removed in a manner that minimizes damage.

(15) This plan calls for an additional release of 1.25 cfs (455 acre-feet) from April to September. From an operational standpoint, this cannot be accommodated in runoff years of 90 percent or below. In years below 90 percent of normal, other water uses on Baker Creek downstream from the project would need to be reduced. Baker Creek may have to experience drought situations like other areas naturally do. The additional or supplemental water being requested for the project is not available from a water rights standpoint. The water rights are accounted for and committed to other beneficial uses and appropriated water rights downstream. These beneficial uses and appropriated water rights include: LA Aqueduct, Riparian and fish flows in Baker Creek, LADWP irrigated pasture, Stockwater, Big Pine Saddle Club, Non-LADWP water rights, Inyo County Farm, Old Reynolds property. Any supplemental water being requested will have to come from another source. The lessee cannot be asked to voluntarily cut back on his irrigation allotment, and the original intent of the MOU did not anticipate such a measure. In above-average years, the flexibility exists to accommodate supplemental releases for plantings, but plant establishment cannot be reliably implemented if it is dependent upon above-average runoff years.

The amount of water called for in the project design is minimal. We anticipate that the water will come from the Inyo County Farm's allocation and that DWP and ICWD will have to negotiate this for the benefit of the project.

(16) Planting should focus on areas that have an existing water table that is high enough to sustain cuttings rather than force cottonwoods and willows into a habitat that cannot naturally sustain this type of vegetation.

Plantings are focused on areas with existing water table that is high enough to sustain cuttings. The more intense management of the water and plantings is the result of removing the majority of the Baker Creek from the project design. This tradeoff required moving from an extensive to an intensive project to come close to the original goal.

(17) The additional 635 acre-feet of water equates to a replacement cost of \$250,000 per year that should have been included in *Table 15. Baker Creek Vegetation Preliminary Cost Estimates*. The 635 acre-feet of additional water is to be used to create 22.9 acres of additional habitat. This equates to approximately 28 acre-feet of water per acre for irrigation, which is entirely too excessive. Other ways to supply and to reduce water demand should be investigated.

We do not anticipate for there to be any additional cost for the water. The amount of water called for in the project design is minimal. We anticipate that the water will come from the Inyo County Farm's allocation and that DWP and ICWD will have to negotiate this for the benefit of the project.

(18) Page 23, Type E Vegetation. According to the Green Book Mapping, the Apple Orchard has 45 acres of Type E vegetation that is Rush Sedge Meadow; the Baker Creek Meadow is 100 acres of Irrigated Agriculture; and the Brown Pasture has 25 acres of Rush Sedge Meadow. Table 6 should be corrected with a total of 170 acres of Type E vegetation. An irrigation allotment is provided for Irrigated Agriculture.

The Greenbook mapping provided to Ecosystem Sciences by Whitehorse Associates identifies 212 acres of Type E Vegetation at Baker Creek.

(19) Page 26, Figure 6. Baker Creek Lease. This figure shows that the existing operating structure (corral) in the Baker Pasture is to be removed; but, it should also show the replacement corral to be placed at the northeast end of Baker Pasture. The cost of this replacement corral should be included in Table 15.

Construction of a new corral is part of the plan.

(20) Page 40, Monitoring, Data Analysis, and Adaptive Management Measures. This is not a research project, but rather recommended actions or projects to maintain and/or improve habitat for Yellow-billed cuckoo. This document states that the purpose of this project is to maintain and enhance habitat needed by Yellow-billed cuckoo and other neotropical migratory birds. Other neotropical migratory birds were never noted in the MOU. This document states that the cost of bird monitoring, which is separate from Yellow-billed cuckoo monitoring, is \$40,000 per year. Monitoring of birds other than the Yellow-billed cuckoo equates to \$1 million over the suggested monitoring timeframe. This is not within the intent of this provision of the MOU and should be removed. Monitoring should be limited to only habitat characteristics that could be subject to some type of habitat improvement or maintenance adaptive management and to a more reasonable time period (25 years is excessive). The costs associated with monitoring and adaptive management should be included in Table 15. The cost of bird and grazing monitoring alone equates to as much as \$2 million, an unreasonable expenditure.

It is agreed that this is not a research project. We believe that it is important to track the effects of this restoration project on both cuckoos and other birds. The separate bird monitoring project has been removed from the plan and bird monitoring will be done in conjunction with cuckoo surveys. The additional cost of this breeding bird monitoring will be \$2000/year for both the Baker and Hogback sites and will cover the additional costs of report preparation. With monitoring of restoration, even in a fast growing riparian system, it is necessary to look over a long period of time. At the Kern River Preserve bird populations did not stabilize until well into the 2nd decade. Cuckoos did not use the sites at all until year 7 (on average). A short-term monitoring plan of 5-10 years would not show the full effects of this project. However, we agree that 25 years may not be needed and have reduced the monitoring time-frame to 20 years. It is possible

that external funding for cuckoo surveys could be obtained from California Department of Fish and Game, US Fish and Wildlife Service, or private foundations.

(21A) Page 49, Table 15. Baker Creek Vegetation Preliminary Cost Estimates. This table is a gross underestimate of the costs associated with this plan. Some of the costs that are not delineated include:

(21A) The cost of water for the project that is beyond the current Baker Creek area water uses of 635 acre/feet or \$250,000 annually for the life of the project--\$1 million every four years.

As stated above in #17, we do not anticipate any water costs associated with this project.

(21B) The cost of monitoring ranges from \$580,000 to \$2,000,000, which includes: bird monitoring costs of \$40,000 per year for five or 25 years, or \$200,000 to \$1,000,000; Yellow-billed cuckoo survey costs for Baker and Hogback, with a cost of \$12,000 per year for 25 years, or \$300,000; Yellow-billed cuckoo nesting surveys, with a cost of \$30,000 per year for five years, or \$150,000.

In the final plan we are scaling down the cost of the monitoring by conducting the bird monitoring at the same time as the cuckoo monitoring, thus reducing the cost by \$38,000/year. The cost of the cuckoo and other bird monitoring would be increased to \$14,000/year. This covers the cost of monitoring at both the Baker Creek and Hogback sites. This is figured on one party doing both sites and would be more (closer to \$10,000/year) for each site if done separately. The time frame for the cuckoo monitoring has been reduced from 25 to 20 years which should give sufficient time to determine if the goals of the project were reached. The cuckoo nesting study will give valuable data needed to manage this population. It will only be done if cuckoos occupy the site. The cost of cuckoo and other bird monitoring for 20 years is \$280,000 and the cost of the nesting study if it is needed is \$150,000 for a range of \$280,000 to \$430,000 for total bird monitoring costs over the life of the project.

(21C) Grazing monitoring costs, which appear to be \$22,000 per year for an unspecified duration; however, if it was for five or 25 years, this equates to \$110,000 to \$550,000.

We do not anticipate a cost for the grazing monitoring, as it will be handled by LADWP's staff as part of the grazing program. These costs should not be considered part of the project.

(21D) The cost of aerial photos at 1:6,000 to be taken at five-year intervals, with an estimated cost at \$8,000 per year taken five times, or \$40,000.

We anticipate that these aerial photos will be taken as part of LADWP's normal photo updating, rather than as a separate expenditure. These costs should not be considered part of the project.

(21E) The cost of 1,218.25 days of labor, which could range between \$150,000 and \$300,000 (at \$15 to \$30 per hour). The estimate for irrigation labor of one-man-day per acre seems very low if drip irrigation is to be utilized; this should be multiplied by the number of years of irrigation.

As stated in #1 there are many ways to reduce labor costs including community volunteers, and youth corps. The Tree People based in Los Angeles are a very efficient way to get large numbers of trees planted in a short period of time. On planting days on the Kern River Preserve this group has been able to provide over 100 volunteers.

(21F) Costs for replanting are not included.

Costs for replanting (if needed) are included in 5-year maintenance Labor.

(21G) Costs of this plan could realistically well exceed \$2.3 million (including Yellow-billed cuckoo monitoring at Baker and Hogback) for 22.9 acres of additional habitat, or approximately \$100,000 per acre. During the State Water Resources Control Board (SWRCB) hearings for Mono Lake, the SWRCB did not approve certain waterfowl measures that were estimated to be approximately \$34,000 per acre, as this was considered unreasonable.

If the project is managed well, we anticipate that the final costs for materials, labor, implementation, and monitoring will cost between \$650,000 and \$850,000. Using the 22.9 acres of additional habitat as the only benefit of the project is extremely misleading. An additional 75.2 acres will be upgraded from low to high suitability. The project effect is actually on 98.1 acres not 22.9 acres. The actual cost of the restoration project would be \$6,626 to \$8,665/acre. The average restoration for riparian systems in California is approximately \$10,000/acre.

(22) This schedule needs to be adjusted per the court decision requiring a completed plan by April 22, 2005. To set a schedule prior to the LADWP Board of Water and Power Commissioners' approving the actions and/or projects is inappropriate.

Noted

Regarding **Hogback Creek** Draft Yellow-billed Cuckoo Enhancement Plan:

(23) Page 2, Restoration Activities. This section discusses irrigation for one to two years even though the response to comments states that no supplemental water will be required.

We do not believe that irrigation will be needed at this site. If it is needed it will be for one to two years.

(24) Page 6 states that it is important that current hydrologic conditions, such as springs, seeps and channel flow, not be reduced or eliminated; that it is imperative to retain current spring flow regimes throughout the Hogback Creek project area. Previous documents stated that Hogback Creek was migrating westward and that recruitment in some areas would no longer be expected. Previous documents also stated that the source for spring and seep flow was Hogback Creek. If this is the case, changes in current hydrologic conditions seem inevitable and planting locations should take this into account.

Noted.

(25) Page 22, Monitoring Protocol. Monitoring should be limited to only habitat characteristics that can be subject to some type of adaptive management for habitat maintenance or improvement.

The intent of the monitoring plan is to determine whether or not the restoration plan is implemented successfully and whether or not it meets its goals and objectives of the project.

(26) Page 24, Survey Results. A commitment to monitor for 25 years is excessive.

Noted – the cuckoo monitoring has been reduced to 20 years.

(27A) This table is a gross underestimate of the costs associated with this plan. Some of the costs that are not delineated include:

(5A) 368 days of labor, which could range from \$44,160 to \$88,320 (at \$15 to \$30 per hour).

There are many ways to reduce labor costs including community volunteers, and youth corps. The Tree People based in Los Angeles are a very efficient way to get large numbers of trees planted. On planting days on the Kern River Preserve they have been able to provide over 100 volunteers.

(27B) Grazing monitoring of \$11,000 per year, or \$55,000 for five years.

We do not anticipate a cost for the grazing monitoring, as it will be handled by LADWP staff as part of the grazing program. These costs should not be considered part of the project.

(27C) Aerial photos at 1:6,000 to be taken at five-year intervals, with an estimated cost at \$8,000 per year taken five times, or \$40,000.

We anticipate that these aerial photos will be taken as part of LADWP's normal photo updating, rather than as a separate expenditure. These costs should not be considered part of the project.

(27D) Yellow-billed cuckoo survey costs for Baker and Hogback, with a cost of \$12,000 per year for 25 years, or \$300,000.

The cost of cuckoo surveys has already been counted in the Baker Creek Restoration Plan. The length of the survey period has been shortened to 20 years. The total cost of cuckoo and bird surveys at both sites is \$14,000/year for 20 years.

(27E) Costs for replanting are not included.

Costs for replanting (if needed) are included in 5-year maintenance labor.

(27F) The cost for this plan could realistically exceed \$250,000 to create 5.5 acres of potential habitat, or \$45,000 per acre, not counting the \$300,000 cost of Yellow-billed cuckoo monitoring noted above in the Baker Creek budget.

If the project is managed well, we anticipate that the final costs for materials, labor, implementation, and monitoring will cost between \$90,000 and \$150,000. Using the 5.5 acres of additional habitat as the only benefit of the project is extremely misleading. An additional 36.0 acres will be upgraded from low to high suitability. The project effect is actually on 41.5 acres not 5.5 acres. The cuckoo and bird monitoring costs are already covered under the Baker Creek Restoration Plan. The actual cost of the restoration project would be \$2,237 to \$3,614/acre. The average restoration for riparian systems in California is approximately \$10,000/acre.

(28) This schedule needs to be adjusted per the court decision requiring a completed plan by April 22, 2005. To set a schedule prior to the LADWP Board of Water and Power Commissioners' approving the actions and/or projects is inappropriate.

Noted.

(29) The project, as proposed, is unacceptable from a cost standpoint. When the goal is to maintain and/or improve Yellow-billed cuckoo habitat, \$100,000 per acre is unreasonable. The recommended actions and/or projects need to be consistent with the MOU requirements and allow us to move forward in meeting our obligations in a cost-effective and reasonable manner.

The actual restoration costs would be \$2,237 to \$3,614/acre (see 27F).

Comment and Response Set #3: Sierra Club

(1) Please consider the following Sierra Club comments on the Baker Creek and Hogback Creek Draft Yellow-Billed Cuckoo Enhancement Plans dated March 21, 2005 by Ecosystem Sciences with Dr. Steve Laymon and Otis Bay Consulting.

At the risk of seeming overly tendentious and repetitious, the Sierra Club reiterates that it has been our hope that this process will result in the implementation of a habitat enhancement plan for the Yellow-billed Cuckoo (YBC) and other wildlife at Baker and Hogback Creeks that will improve riparian habitat at the sites in a substantial and meaningful way.

The initial Phase II report presented a plan for Baker Creek (the site with the greatest potential for improvement of habitat for YBCs) in which three Priority Enhancement Areas (PEAs) were identified and three Management Alternatives were described to create suitable habitat to support at least 3 to 5 breeding pairs of YBCs. The Management Alternatives ranged from Alternative 1 (the "no action" option under which a total of 5 acres of new habitat could be created) to Alternative 2 (an intermediate option under which a total of 48.5 acres of new habitat could be created) to Alternative 3 (the most aggressive option under which a possible 75.8 acres of habitat could be created). The latter option would presumably result in the eventual establishment of the maximum suitable habitat for the YBCs possible at Baker Creek. Under this plan grazing would be eliminated from the PEAs.

On January 31, 2005, in accordance to the Work Plan, the Phase II Task 3, Phase III Task 1 Preliminary Recommendations for Baker and Hogback Creeks were issued in the form of separate reports. In the case of Baker Creek the Phase II concepts were in large measure scrapped in favor of the establishment of 11 management areas (now 10 areas in the Draft Plan) including three exclusion areas (West Exclusion, Baker Creek Exclusion and Brown Exclusion) in which livestock grazing would be eliminated by fencing and seven non-exclusion sections in which grazing would be allowed to continue, but at reduced levels and under stricter controls. In addition to grazing restrictions, YBC habitat would be maintained and enhanced by plantings of cottonwoods, willows and other riparian plant species, limited water diversions and irrigation, black locust removal, and minor restrictions on recreational activities. Under this scheme a total of 32.5 acres of new YBC suitable habitat would be created, a figure intermediate between the Alternative 1 (no action) and Alternative 2 (intermediate) figures as presented in the Phase II report. The major changes presented in the Preliminary Recommendations resulted apparently due to objections by LADWP and the affected lessee about the need to maintain sustainable agriculture, as well as other issues, among them the availability of water for supplemental irrigation, Type E land conversions and recreational impacts (see LADWP and lessee comments on the Phase II report). Although the Sierra Club expressed several reservations regarding how this new plan was formulated and about some of the underlying assumptions and data used (see our March 15, 2005 comment letter), our organization chose to support the Preliminary Recommendations. We recognized that some compromises were appropriate in order to protect the economic interests of the lessee. In our

opinion, the plans if implemented in the two areas would result in meaningful improvements for the YBCs and other wildlife. We also recognized that while increase in the quantity of new habitat is desirable, the plan would also result in increases in overall habitat quality and continuity, which are equally important.

Preliminary recommendations were just that – preliminary, and have limited relation to the draft and final plans. The scientific team used these recommendations and the analysis used in making the recommendations as building blocks in the next phase toward the draft plan. In other words, the preliminary recommendations were an iterative step. The preliminary recommendations and the draft to final plans are not necessarily comparable. The draft and final plans are based on the data set, the analysis performed for the preliminary recommendation phase (mapping, vegetation classification, suitability analysis, water and planting requirements), comments and accepted suggestions from the MOU parties on the preliminary recommendations, and the judgment of the scientific team.

(2) On March 23, 2005 the Consultants shipped their Draft Yellow-billed Cuckoo Enhancement Plans for Baker and Hogback Creeks. At Baker Creek the primary change appeared to be a realignment of fencing between the Baker Creek Exclosure and adjacent Apple Orchard Non-exclosure section. Nevertheless, the acreage of total new habitat for Baker Creek was further reduced by 9.6 acres to 22.9 acres, a 30% reduction from the Preliminary Recommendation plan. Compared to the Phase II proposal, 22.9 acres of new habitat falls almost halfway between Alternative 1 (5 acres) and Alternative 2 (48.5 acres). New habitat creation was reduced in every management area but the rare plant areas and the Brown Exclosure. A careful reading of the text suggests that the reduction in new habitat acreage is due to a planned reduction in plantings, but no explanation for the change was provided. Why have the Consultants proposed this reduction? In the opinion of the Sierra Club the latest proposal, if implemented, will represent a disappointingly modest effort to meet the project objectives.

The preliminary recommendations and the draft to final plans are not necessarily comparable. See answer to comment (1).

(3) The Baker Creek Draft Plan states that the plan would create habitats in the Baker Creek area to support 2 to 4 breeding pairs of YBC (p.12). According to the Draft Plan only 22.9 acres of suitable YBC habitat would be added to the Baker Creek area, but it would also enhance existing low and medium quality YBC habitats to greatly increase the highly suitable habitat at the site. However, the Phase II Alternative 2 would add 48.5 acres of suitable YBC habitat and would also enhance existing low and medium quality YBC habitats, yet that alternative was deemed to only support 2 to 3 breeding pairs. Please explain how the creation of more than twice as much new YBC habitat in Phase II Alternative 2 results in an estimate of the same or fewer pairs than in the Draft Plan?

The number of cuckoos that the Baker Creek area will support depends on both the habitat and the choices made by the cuckoos that colonize the site. Male cuckoos chose the general area, while female cuckoos chose the actual nest site. Males may perceive that an area like Baker Creek is suitable for nesting, but females may find the site lacking in some micro or macro habitat quality such as suitable nesting sites or adequate food resources. Little is known about how cuckoos decide how far apart their nests will be. In some conditions they can put their nests within 30 m of each other. This is not the norm and probably only happens when nesting habitat is scarce and food is abundant. Based on the proposed configuration of habitat in the Restoration Plan, two to four pairs of cuckoos could nest on the site. As you will note, two to four pairs is not very different from two to three pairs. This one pair difference could be a result of choice of nesting site by one female. If the plan is implemented there will be 215.9 acres of cuckoo habitat at the Baker Creek site. In “good food years” at the Kern River Preserve cuckoos used about 25-50 acres of habitat per pair and in “poor food years” they used up to 100 acres per pair – thus one could assume that 2 to 4 pairs could breed at the Baker Creek site after restoration. The Final Baker Creek Restoration Plan outlines a very intensive restoration effort, much more intensive than any of the options in the preliminary draft plans. The restoration will impact nearly 100 acres – a creation of 22.9 acres and an improvement to highly suitable for 75.2 acres. As can be seen, the improvement of habitat has a much greater impact on the suitability of the area for cuckoos than the creation of habitat (this is not to say that the creation of 22.9 acres is not significant).

(4) In response to our comment on the preliminary recommendations regarding the need for an explanation of the constraints listed in the report (Sierra Club comment 1, p. 75), the Baker Creek Draft Plan states that the plan “meets all of the constraints and goals in the MOU. In the end planning was not constrained by rare plants or Type E vegetation or water availability or sustained agriculture.” If one were to believe other statements in the same Draft Plan, this statement does not appear to be true. For example, in response to recommendation number 10 from the Laymon and Williams 1999 report, which recommends a minimum goal of 250 acres of forested habitat in the Baker Creek area, the Baker Creek Draft Plan states (page 11):

“The Baker Creek Restoration Plan will provide 215.9 acres of yellow-billed cuckoo habitat. This is 34.1 acres short of the 250 acre recommended minimum, but a 22.9 acre increase over the current condition. In light of the need to continue sustainable grazing at the site, it does appear to be a reasonable compromise between the present condition of 193 acres of cuckoo habitat and the 270 acres proposed in alternative 3 of the draft plan.”

A careful reading of the text of the Draft Plan reveals that the correct figure for the number of acres of YBC habitat that the plan is expected to provide is not 215.9 acres, but only 192.1 acres, making it 57.9 acres short of the

recommendation (see our discussion below and our Table 2). Also, the figures for each management area in the Draft Plan reveal that the present condition is 169.2 acres of YBC habitat, not 193 acres as given in the above statement (see our Table 2). Despite these errors, the above statement appears to be a clear statement that the plan was indeed constrained by a need to continue sustainable grazing. Other statements in the Draft Plan also make it clear that there were other constraints that affected the content of the recommendations in the Draft Plan. Sierra Club demands an honest answer to our request that the plan include a discussion of project constraints, including the source of each constraint and the limits each constraint imposes on the recommendations.

At the meeting with the MOU parties in March, ES was asked to rectify the acreages. We have done so. The acreages presented in this report are correct. Refer to Appendix B for an explanation of where the Sierra Club's confusion about acreages originates. They have failed to include the Warren Bench Pasture in some of their computations.

Sierra Club's questions about the constraints the scientific team used to formulate the plan were clearly answered at the presentation as well as in the response to comments on preliminary recommendations in the draft plan. There is no question that the chief constraint was a plan that accommodates sustainable grazing. The scientific team worked hard to find an acceptable balance between enhancing YBC habitat and grazing requirements; this required substantial changes from the preliminary recommendations. It was necessary to revise the preliminary recommendations to accommodate grazing because the MOU requires the enhancement effort to maintain sustainable agriculture. Other issues (water, type E vegetation, rare plants) were not considered particularly constraining by the scientific team. However, if the point Sierra Club wants clear and on-record is that YBC habitat was reduced to allow for grazing then the answer is most certainly yes.

(5) A review of the acreage figures presented in the text in the Baker Creek Draft Plan reveals continued numerical discrepancies. Such discrepancies were discussed in our March 15, 2005 letter. The only response to our comment on this was that the Draft Plan reconciles all acreages (Baker Creek Draft Plan, p. 80). We present Tables 1 and 2 in an effort to document our concerns with numerical discrepancies in the Draft Plan as discussed below.

Baker Creek YBC Enhancement Plan

Table 1. New YBC habitat created in PEAs and total YBC habitat under Alternatives 1 through 3 at Baker Creek (from Phase II Report, November 2004, Tables 1-5).

Management (ac)	Size (ac)	New Habitat Created (ac)	New Habitat Created (ac)	New Habitat Created
<u>Alternatives</u>	<u>(ac)</u>	<u>Alter. #1</u>	<u>Alter. #2</u>	<u>Alter. #3</u>
PEA #1 (Brown Pasture)	44.7	2.0	15	26
PEA #2 (Baker Ck. Pasture)	40	2.0	30	34.8
PEA #3 (Apple Orchard)	50.2	1.0	3.5	15
TOTAL	134.9	5.0	48.5	75.8
Total Habitat *		<u>Alter. #1</u> 198	<u>Alter. #2</u> 241.5	<u>Alter. #3</u> 268.8

* Total habitat is the existing habitat plus the new habitat created. According to the Phase II report presently 193 acres of YBC suitable habitat exists at Baker Creek.

The preliminary recommendations and the draft to final plans are not necessarily comparable. See answer to comment (1).

Table 2. Comparison of Preliminary Recommendations (Jan 1, 2005) and Draft YBC Enhancement Plan (March 21, 2005) at Baker Creek. For each management area the first row presents the Preliminary Recommendation figure as reported in the text and the second row the Draft Enhancement Plan figure (in parenthesis) as reported in the text.

Management Area	Total Acreage	Existing YBC Habitat (ac)	New YBC Habitat Created (ac)	Existing and New YBC Habitat (ac)	Difference in New YBC Habitat Between Prelim. Rec. and Draft
West Enclosure	9.8 (9.8)	5.2 (5.2)	1.5 (0.5)	6.7 (5.7)	-1.0
Baker Creek Enclosure	53.4 (72.3)	38.4 (53.8)	7.5 (5.0)	45.9 (58.8)	-2.5
Brown Enclosure	59.3 (59.3)	41.7 (41.7)	14.0 (14.0)	55.7 (55.7)	0
Baker Creek Pasture	151.1 (151.8)	3.3 (2.7)	4.7 (1.1)	8.0 (3.8)	-3.6
Apple Orchard Pasture	71.7 (53)	38.5 (24)	1.5 (1.0)	40 (25)	-0.5
Brown Pasture North	66 (66)	13.4 (13.4)	2.6 (1.3)	16 (14.7)	-1.3
Brown Pasture South	114.4 (114.4)	19.3 (19.3)	0.7 (0)	20 (19.3)	-0.7
Baker Pasture Rare Plant Area	16.5 (16.5)	0 (0)	0 (0)	0 (0)	0
Apple Orchard Rare Plant Area	12.5 (12.5)	4.5 (4.5)	0 (0)	4.5 (4.5)	0
Brown Pasture Rare Plant Area	10.6 (10.6)	4.6 (4.6)	0 (0)	4.6 (4.6)	0
Total	525.7** (526.6)**	168.9 (169.2)	32.5 (22.9)	201.4 (192.1)	-9.6

** Total acreage excluding Rare Plant Areas, assuming their areas were included within the Management Areas they are located

The differences in the numbers between the Jan. 31 (not Jan. 1) draft and the April 21 draft were due to fenceline changes. The scientific team, through a series of meetings, determined that project goals were best met by a revision in the fencelines. Careful examination of the maps provided in each report will illustrate the changes. The preliminary recommendations and the draft to final plans are not necessarily comparable. See answer to comment (1).

(6) Our concerns with numerical discrepancies in the Baker Creek Draft Plan include the following:

(6A) The text indicates that the Baker Creek area consists of 411 acres, however, adding up the areas listed in the text for the various management Sections a total of approximately 526 acres is derived, excluding the indicated Rare Plant Areas (see our Table 2).

Originally, the project area was computed to be 411 acres. During the plan revision process, the project area was expanded to include additional pasture and upland areas. Inclusion or exclusion of pasture and upland areas within existing and future fencelines can dramatically affect total acreage figures. Regardless, the most important acreages for this project refer to YBC habitat.

(6B) The original Phase II report indicated that at present 193 acres of YBC suitable habitat exists at Baker Creek (see our Table 1). This was changed to 170.6 acres in the Preliminary Recommendation report and then back to 193 acres in the latest document (Baker Creek Draft Plan, pp. 2, 8-9, 11). In fact, adding up all the YBC habitat acreage figures for all the management areas does yield approximately 170 acres, a 12% discrepancy from the figure given in the text (see our Table 2).

Refer to Appendix B for an explanation of where the Sierra Club's confusion about acreages originates. They have failed to include the Warren Bench Pasture in some of their computations.

(6C) The text indicates that overall YBC habitat will increase from 193 acres to 215.9 acres as a result of the project, whereas the addition of the appropriate figures presented in the text indicates that 169.2 acres of existing habitat will be increased to 192.1 acres (see our Table 2).

Refer to Appendix B for an explanation of where the Sierra Club's confusion about acreages originates. They have failed to include the Warren Bench Pasture in many of their computations.

(6D) As discussed in the Draft Plan, total new YBC habitat created is reduced 9.6 acres from the projections in the earlier Preliminary Recommendation for reasons that are not made entirely clear.

The preliminary recommendations and the draft to final plans are not necessarily comparable. See answer to comment (1).

(6E) These discrepancies and reductions in habitat creation are all the more significant because of the goal to create suitable habitat for 3-5 breeding pairs

of YBCs at Baker Creek. We know based on Laymon's earlier studies that YBC breeding pairs require 50-100 acres of more or less contiguous habitat to nest successfully. We know that existing habitat at the site is highly fragmented and marginal for the birds and probably totals somewhere in the range of 170-193 acres. Therefore, knowing with assurance how much habitat is present and its quality and continuity are necessary in making decisions as to what actions are "reasonable and feasible" and whether or not the plan can reach project goals or not. Twenty acres here or there may be critical in those determinations and is no small matter. Right now that necessary assurance about the nature of the site is in question.

In regard to the acreage questions, refer to Appendix B for an explanation of where the Sierra Club's confusion about acreages originates. They have failed to include the Warren Bench Pasture in some of their computations.

The only way to reach the 250 acre habitat level and thus make the area suitable for up to 5 pairs of cuckoos is to reforest approximately 35 or more acres of Baker Creek Pasture which would then not meet the goals of maintaining a sustainable livestock operation at the site. The draft and final YBC enhancement plans are, in the unanimous view of the scientific team, a well balanced plan of resource use that represents the best opportunity to improve habitat and meet the MOU requirements. The analysis presented by the scientific has been exhaustive, extremely costly, and is complete. No member of the scientific team believes any additional data is necessary to bolster our conclusions, no other information is missing that would alter the scientific teams recommendations. While the Sierra Club is not assured, the team of experts are sure that this is the best plan with the best hope to enhance YBC habitat.

(7) In the section on effects on YBC, the Baker Creek Draft Plan states (p. 8), *"Currently the area is occupied only by unmated cuckoos in some years."* What data do you have to support that statement? Please provide us with this data as we cannot find it in the Phase I report or later project reports. Unless you have recent unreported observations, including surveys made at the time of year YBCs would be expected to occur, this statement is not supportable. In fact, this statement is contradicted by data in the Phase I report and data from Tom and Jo Heindel that was provided to the Consultants, the MOU parties and the lessees at the February 28, 2005 YBC presentation meeting in Bishop. The Phase I report cites 1977 evidence for one nesting YBC pair at Baker Creek and possibly 3 pairs in 1991 (p. 7). The Phase I report also states (p. 7), *"No cuckoos have been seen at Baker Creek since 2000, but there has also been a scarcity of observers at the site."* Prior to 2000, when the Heindels were looking for cuckoos at Baker Creek at the proper time of year, they reported 2 cuckoos observed in 1998 and 2 in 1999. Sightings of 2 cuckoos in 1998 and 1999 were also reported in the Phase I report. The Phase I report does not say anything about whether or not the two birds observed in each of these years represent a mated pair. However, the Heindel data presented on February 28th included the information that in each year the two cuckoos observed were heard singing the "cowp" call.

The Baker Creek Draft Plan states that the “kowlp” call is “the cuckoo’s pair contact call” (p. 45). According to Tom Heindel (personal communication to Mark Bagley), “cowp” and “kowlp” are different spellings of the same call and that this indicates that the two cuckoos observed in 1998 and the two in 1999 were mated pairs.

In a quick survey of the Baker Creek area in July 2005 Laymon was unable to find any cuckoos at the site. The cuckoos found at the Baker Creek site in 1993 by Laymon consisted of a single unmated male. All cuckoos, whether mated or not make the kowlp call. This call can be made at any time and unmated cuckoos can call back and forth to each other using this call. The cooing call is made by only unmated males. It requires more than a kowlp call to determine that a cuckoo is part of a pair. A person who has studied cuckoos for many years, such as Dr. Laymon, can usually determine by the form of the kowlp call and by the way two cuckoos respond to one another whether they are part of a mated pair. The average excellent birder would not be able to make this determination. The habitat at Baker Creek is currently highly degraded and fragmented and it is highly unlikely that it would currently support a pair of cuckoos. There is really no good territory available to a pair of cuckoos. It is however possible that in a “good food year” a pair of cuckoos might attempt to nest at the site.

(8) The Baker Creek Draft Plan states (p. 9), “This plan would return the site to close to 1968 condition.” If one were to believe the information presented in the Phase I report and the Draft Plan, this statement is demonstrably false. The Phase I report (p. 8) states that between 1968 and 2000 the Baker Creek area experienced a 61 acre decline in riparian woodland (including cottonwood, willow and black locust riparian forest types), from 144 acres in 1968 to 83 acres in 2000. The Draft Plan (Table 4) shows increases from existing conditions of 21.2 acres of cottonwood forest and 0.7 acres of red willow riparian forest, with a decrease of 13.0 acres of black locust riparian forest. The total increase in native and black locust riparian forest types is thus only 8.9 acres. Compared with the loss in these forest types of 61 acres since 1968, how could the addition of 8.9 acres, about 15% of what was lost, possibly be construed as being “close to the 1968 condition”? The Draft Plan (Table 4) indicates that the desired or expected future conditions under the plan would result in a total of 91.41 acres of riparian woodland (including cottonwood, willow and black locust riparian forest types). How could this expected 91.41 acres possibly be construed as being “close to the 1968 condition” which had 144 acres of riparian forest? This is less than two-thirds of the area of the 1968 riparian forest!

A look at and comparison of the 1968 aerial photos, the current aerial photos, and the Final Restoration Plan for Baker Creek will reveal that the proposed restoration when fully implemented will yield a vegetative pattern that is very similar to the pattern in the 1968 aerial photo. This is much more important than any discussion of acres. As was discussed at the presentation of the draft plan, each mapping and aerial photo interpretation presents an opportunity for errors in

the number of acres. A 10% to 20% error rate (40 to 80 acres in our present exercise) is not unusual, though one always hopes that the rate will be within 5% (20 acres in our present exercise). We do not have an absolute standard by which to compare our habitat acreage estimates, therefore we do not know which if any of the figures is absolutely right and which is not. We believe that the habitat acreage presented in the cuckoo suitability exercise is the most accurate of any numbers presented in this series of reports. Ideally we would have done the same exercise on the historical photos, but the lack of a color image, lower quality image, and a distorted image precluded us from doing this mapping – we had to simply separate forested from non-forested. The acreage presented on the 1968 photos may be off by 5% to 20% in the amount of riparian habitat that is estimated. The figures from the recent photo may be off by 5% or more. The decrease from 1968 to the present may be only 30 acres rather than 61 acres – if this is the case an increase of 22.9 acres would be very close to reaching the 1968 level. What is important is that we are certain that there was more riparian forest in 1968 than there is today, that today's forest condition is highly degraded and fragmented and that with the implementation of the restoration plan the condition will become much more like the 1968 condition than the 2005 condition.

(9) In reference to our March 15, 2005 comments regarding incomplete descriptions in the Phase I report of the methods used in developing the Habitat Suitability Maps and missing data required for those maps (Sierra Club comment 5, p. 77), the Baker Creek Draft Plan states (p. 80), “Dr. Laymon will, once again, respond to these issues in a separate memo to MOU parties.” First, for some unexplained reason this response was not included in the March 21 Draft Plan as it should have been, even though Dr. Laymon’s memo is dated March 14 and it was forwarded to us by Mark Hill via email on March 18. Second, Dr. Laymon’s memo (done jointly with Ecosystem Sciences’ Derek Risso) is wholly inadequate and does not provide the information that we and others have been asking for for months. Dr. Laymon is NOT “once again” responding to these issues as he has failed to respond to the specifics in the past and, unfortunately, as we explain below he has again failed to respond to most of the issues we raise.

The reason that the memo was not included in the draft plan was because, as stated above, it was a separate memo. By definition, if it is a separate memo it is not included. The memo was provided as a courtesy and was intended to clarify the methodology in general terms. In fact, the complete methods were provided to MOU parties in a progress package sent 3.9.04. However, as a further courtesy, we have provided additional information on the mapping and habitat suitability methodology in Appendices C and D.

(10) As we pointed out in comment 5, we do not believe that the Phase 1 report complies with the YBC Work Plan Phase 1 Subtasks 1.3, 1.4 and 1.6. The information provided by Laymon and Risso does not resolve those issues. We hereby, once again, ask that an adequate explanation be provided to our concerns expressed in comment 5 and that appropriate revisions be made to the Phase I report to bring it into compliance with the YBC Work Plan with respect to

our comments on Subtasks 1.3, 1.4 and 1.6. We will address Laymon and Risso's memo below and reiterate the concerns that we believe have still not been addressed.

Laymon and Risso's March 14, 2005 memo regarding "Yellow-billed Cuckoo Habitat Suitability Mapping" states in its entirety:

"The purpose of this memo is to summarize how the Habitat Suitability mapping for Yellow-billed Cuckoos was done at Baker and Hogback Creek. The vegetation maps created through a combination of remote sensing and field verification were used as the base for generation of the YBC habitat suitability map. Next, the habitat suitability model was developed using four habitat parameters that had been shown to be important in research that was conducted on Yellow-billed Cuckoos in the South Fork Kern River Valley.

Habitat transects were then run through the study sites. If a polygon had a habitat transect point within it, that polygon was rated for the four habitat variables based on the transect data. Naturally, transects did not sample all polygons. Therefore those polygons that were not directly sampled in the field were examined individually. These polygons were classified using the available information: dominant species (from veg. map), canopy cover (estimated from aerials), and landscape context (neighbor scores, patch size, etc.). In these cases, only the suitability of the site was listed and the individual variable ratings were not listed (this explains the 0s in the table). Often, polygons directly adjacent to measured polygons were lumped into the same habitat suitability level.

The data was then input into a GIS system and the Habitat Suitability map was created. The map was then ground truthed in several ways. First, I looked at the map and used my extensive field knowledge of the sites to determine if there were any errors in the suitability. The map was then taken into the field and the results were compared to the vegetation structure in the field."

First, we will address the repeated refusal to provide data that the described Habitat Suitability mapping methods state was collected. The Laymon and Risso memo states that polygons that were not directly sampled in the field were individually examined and *"were classified using the available information: dominant species (from veg. map), canopy cover (estimated from aerials), and landscape context (neighbor scores, patch size, etc.). In these cases, only the suitability of the site was listed and the individual variable ratings were not listed (this explains the 0s in the table)."* In our comment 5 we point out that Phase 1 Subtask 1.4 requires in part, *"A table will be included in the report that displays,*

for each forest patch, the index or measurement used for each characteristic and the model result.” By not listing the individual variable ratings (except for the dominant species) for the polygons that were not directly sampled, you have not fulfilled the requirements of Subtask 1.4. Why you cannot provide the canopy cover estimates and the landscape context data that Laymon and Risso say is “available information” is beyond our understanding as scientists. These data have been asked for repeatedly by ICWD and Sierra Club. The fact that you refuse to provide these data is completely unacceptable and causes an atmosphere of distrust. In fact, the MOU requires in Section III.I that all data prepared pursuant to the MOU be provided to the MOU parties.

The information has not been withheld, but was supplied to the MOU parties in a progress package sent 3.9.04. However, as a further courtesy, we have provided additional information on the mapping and habitat suitability methodology in Appendices C and D. Two additional documents are provided that explain the sampling techniques and methodology used to define YBC habitat at the two sites (Appendix C and Appendix D). The first document is the original YBC sampling protocols which outline the field work entailed in determining YBC habitat at Baker and Hogback Creeks (Appendix C). This document was provided to LADWP and ICWD in March of 2004. The second document is the methodology used to determine YBC micro-habitat at the two sites (Appendix D). Added to the YBC micro-habitat suitability document is a table that shows exactly how micro-habitat scores were given. These two documents should answer several of the above and following questions. Specifically, please note that the “not directly sampled polygons” were classified using the dominant vegetation score and the canopy closure score and then subjectively using landscape context. There seems to be some dispute as to what “landscape context” is. In an effort to alleviate some of the dispute please read point 4 under the Methods to Create GIS shapefile in Appendix D. Please note that this section clearly states what “landscape context” is and how it was used. This information was supplied to ICWD and LADWP in March of 2004. These data was never withheld.

(11) Second, the vegetation and Habitat Suitability maps and data tables still do not comply with the requirements of the YBC Work Plan Phase 1 Subtasks 1.3, 1.4 and 1.6. The Laymon and Risso memo does not provide the necessary information that we pointed out in our comment 5 is needed to come into compliance with the Work Plan. Our concerns include:

(11A) Information required under Subtask 1.3 that is missing from the Ecosystem Sciences map includes plant community names (only letter and number codes with no key to what they mean or description of the community types or reference to a standardized plant community classification), no species lists attributed to the plant community polygons (either by polygon or for all polygons in that community type), no data for the riparian forest polygons on species composition, forest structure, understory conditions, and the status of recruitment of native and non-native trees and perennial understory vegetation.

This information was presented in the Phase I report, dated November 2004. Please note that the community type names are provided in the table at the end of the YBC micro-habitat suitability document (Appendix D).

(11B) Not all the information required in Subtask 1.4 for the HSI data table has been provided as discussed above. Subtask 1.4 requires “for each forest patch, the index or measurement used for each characteristic and the model result.”

Please see the table at the end of the YBC micro-habitat suitability methodology (Appendix D).

(11C) Subtask 1.6 requires that the maps include “...ArcView shape files showing polygons attributed with vegetation data, including all species observed and their cover values.” This data has not been provided.

This was provided to ICWD and LADWP with the Phase I and Phase II documents. Additionally, the GIS data in question was also provided to ICWD and LADWP in the progress report sent in March of 2004.

(12) Third, the Phase I report failed to provide complete documentation on the Habitat Suitability mapping methods, as required by the YBC Work Plan Phase 1 Subtask 1.6. The Laymon and Risso memo does not provide the necessary information that we pointed out in our comment 5 is needed to come into compliance with the Work Plan. The Habitat Suitability Map provides the baseline for future comparisons and in order to make future comparisons one must know in some detail how the map was produced. The Laymon and Risso memo states, “*The vegetation maps created through a combination of remote sensing and field verification were used as the base for generation of the YBC habitat suitability map.*” What remote sensing and field verification methods were used to prepare the vegetation base map? This information is not in the Laymon and Risso memo and it is not in the Phase I Report.

Please see the YBC Sampling Protocols and YBC micro-habitat methodology Appendices C and D. These two documents address the questions posed above.

(13) The Phase I report and the Laymon and Risso memo do not adequately address how the polygons that were not directly sampled were actually classified. Obviously, the habitat suitability model that uses four habitat parameters could not be used for these polygons because two of the four parameters were not determined. This is very important because it turns out that the polygons that were not directly sampled represent the vast majority of polygons at each site, a fact not mentioned in the reports and only discovered when checking the GIS data tables. Only 60 of 905 polygons (6.7%) at Baker Creek and 42 of 551 (7.6%) at Hogback Creek were directly sampled in the field.

The Baker Creek shapefile contains only 709 polygons, not 905. It is true that 60 of the 709 were directly sampled. Many of the data points used to sample Baker Creek were located in large continuous tracts of habitat. For Example, the Locust forest located in the northwest portion of the site had several data points within it. The data from these points were pooled to determine the habitat characteristics of the stand. The same is true for the Red Willow forest located in the southwest portion of the site. In reality over 100 data points were sampled at Baker Creek. Please see the YBC sampling protocols (Appendix C) and YBC micro-habitat methodology (Appendix D) for more information.

(14) Who actually determined the suitability of the unsampled polygons using the “available information,” prior to the ground-truthing, as described in the Laymon and Risso memo? When was this done? The Phase I Report states that the unsampled polygons were classified based on data for vegetation type and canopy closure “and then subjectively based on landscape context” (p. 21). What other factors besides neighbor scores (which are not defined) and patch size were considered within the landscape context (i.e. what does the etc. refer to in the reference to this factor in the Laymon and Risso memo)? How was landscape context defined and subjectively factored in when classifying these polygons? Neither the discussion on p. 21 of the Phase I Report nor the Laymon and Risso memo give guidelines that would ensure that in the future someone else could repeat this mapping in the same manner. This is important because future adaptive management decisions will be based on this map and the accompanying data tables, which represent base line conditions.

The Following is taken directly from Appendix D (YBC micro-habitat methodology) and is the guidelines used to determine the habitat suitability for unclassified polygons:

“The remaining unclassified polygons were classified based on data for two of the matrix variables (vegetation type and canopy closure), and then subjectively based on landscape context. Each polygon was given a vegetation type during the mapping process. Vegetation type, being the most heavily weighted of the matrix variables, allows subjective decisions to be made concerning habitat classification of any unclassified polygon. For example, in order for a ROPS community at Baker Creek to attain a medium habitat level it must achieve the highest matrix values in all of the other suitable habitat matrix categories. At Baker Creek the only place a ROPS dominated community attained a medium habitat level was in the Northwest portion of the site (Baker Creek Maps). If that ROPS community did not have such a dense (Canopy cover and foliage volume) and high canopy (Canopy height) it would been classified as low. Therefore, ROPS communities, in other parts of Baker Creek, had to have the same attributes as the NW portion or they were classified as low. Very few ROPS communities at Baker Creek are similar to the NW area and are therefore classified as low habitat value for the YBC. On the other hand, SALAE and POFR communities, because of their high habitat value, would have to be very sparse (low foliage volume) with little canopy cover

and low canopy height to be classified lower than medium. This occurred in the burned areas or where SALAE was in shrub form. At each site there are several lone mature SALAEs and POFRs that were classified as medium. Lone mature SALAEs and POFRs were classified as medium because YBCs need large continuous tracts of habitat, often-greater than 100m across (Laymon 1998). A lone SALAE with a dense canopy appears to be great habitat but without other SALAEs to make a continuous tract of habitat it is most likely not used by the YBC. Therefore, these areas were classified as medium.”

(15) Of the 60 polygons that were directly sampled in the field at Baker Creek, the model result, as we pointed out in our comment 5, was incorrectly designated in the data table in 9 polygons, an error rate of 15%. Errors included: 6 labeled low are non-use, 1 labeled low is medium, and 2 labeled medium are low. Were these errors corrected in the Draft Plan?

Although these polygons may appear to be incorrectly designated when viewed outside the context of the complete methodology, in fact, they are correctly designated. There are several reasons that they appear to be in error when viewed in isolation. First, not all polygons were sampled for vegetation volume or canopy height. Second, no score was given for landscape context. To explain this issue, examine an unsampled SALAE (Red Willow or Riparian Forest) polygon with a dense canopy that is part of a larger Riparian Forest. SALAE as the dominant vegetation attains a score of 12. Add to that the SALAE polygons dense canopy cover of $\geq 65\%$ (rank 1), which is 9 points and the polygon achieves a score of 21. Without adding additional points to the polygons score it achieves a medium habitat quality. Yet, in reality the SALAE polygon has some vegetation volume and being a tree community has some canopy height. If the polygon is given the minimal foliage volume score of 1 point and the minimum canopy height score of 2 then 3 points must be added to the overall habitat score. The addition of three points to the SALAE polygons score moves that polygon from the medium habitat level to the high habitat level. Also, since that SALAE polygon is part of a larger continuous forest patch it would also achieve a high suitability level. The reason is that a large continuous tract of habitat $\geq 100\text{m}$ is important for Yellow Billed Cuckoo (Laymon 1998). Please read Appendices C and D for further information regarding this issue.

(16) In addition, Sierra Club raised the following basic questions on the methods in our comment 5, these remain unanswered by the Laymon and Risso memo:

(16A) Who collected the field data for the stand characteristics of dominant canopy species, canopy cover, canopy height, and foliage volume?

Ecosystem Sciences conducted this field work.

(16B) When was this field data collected?

Multiple field visits and verification, Sept. - Nov 2003.

(16C) How were these parameters estimated in the field?

Data collection followed the protocols outlined in the sampling protocols document (Appendix C).

(16D) Where were transects located? (Not a single map or figure appears to be cited in the Phase I Report, Chapter 3, other than the two suitable habitat maps which present the results of the modeling.)

The information has not been withheld, but was supplied to the MOU parties in a progress package sent 3.9.04. However, as a further courtesy, we have provided additional information on the mapping and habitat suitability methodology in Appendices C and D.

(16E) At data collection points on the transects, how was the data collected? What was the plot size or were plot-less methods used?

Data collection followed the protocols outlined in the methodology documents (Appendices C and D).

(16F) Data was reportedly for habitat at the stand scale (p. 17, Phase 1 Report), who defined a stand? How was a stand defined? What map or air photo or satellite imagery was used to identify stands? How many data collection points were taken per stand?

Data collection followed the protocols outlined in the methodology document. Stands were defined by dominant species.

(17) In conclusion, in view of the continuing problems with discrepancies in the numerical figures presented in the text of the reports, the apparently false statement that only unmated cuckoos in some years occupy the Baker Creek area, the apparently false statement that the Draft Plan would return the site to close to 1968 condition, the failure to provide complete documentation on the Habitat Suitability mapping methods, the repeated refusal to provide data that the described Habitat Suitability mapping methods state was collected, and the evident subjective nature of how the determination of habitat suitability ratings were arrived at for the vast majority of the project areas, Sierra Club has lost faith in the validity of the underlying science upon which this study and the resulting enhancement plans were supposedly based.

The draft and final YBC enhancement plans are, in the unanimous view of the scientific team, a well balanced plan of resource use that represents the best opportunity to improve habitat and meet the MOU requirements. The analysis presented by the scientific team has been exhaustive, extremely costly, and is complete. No member of the scientific team believes any additional data is necessary to bolster our conclusions, no other information is missing that would alter the scientific team's recommendations. While the Sierra Club is not assured, the team of experts are sure this is the best plan with the best hope to enhance YBC habitat. Simply because Sierra Club's questions were not answered as they would like does not make the questions valid nor does it lend

credence to the conclusion that the science underlying the plans is wrong. Sierra Club's characterization that statements in the plan are "false" and that the team repeatedly refused to provide data implies a willful intent by the scientists involved to deceive and mislead. The scientific team is made-up of experts selected by the MOU parties. To now libel and insult the very scientists chosen for their expertise because Sierra Club either cannot understand or disagrees with their analysis and conclusions is incomprehensible.

(18) Sierra Club would also like to again mention the matter of water availability for supplemental irrigation of riparian zones and groundwater enhancement under the site that we discussed in our March 15, 2005 comment letter regarding the Preliminary Recommendations. The Consultants Phase I report stated that as much as 5.2 cfs may be available at the Baker Creek site for these purposes. However, LADWP has strongly maintained that all water is allocated and other than in runoff years over 90% of average no water would be available for habitat enhancement purposes. Sierra Club advocated that the Consultants independently address the LADWP claim and reassess the quantity of water that may be available, as required in Phase I of the YBC work plan. This does not appear to have been done. Do the Consultants stand by their Phase I report which states that up to 5.2 cfs is available at Baker Creek, or based on the LADWP comments have they revised their analysis? If so, this information must be provided to the MOU parties. To their credit the Consultants continue to maintain that the modest 1.25 cfs in proposed diversions are necessary for a viable project. If some supplemental irrigation is so important for a successful project the amount of water available, if any, should be verified by the Consultants. Only then can it be determined what water diversions are reasonable and feasible.

There is more than enough water available at Baker Creek. What is needed is an honest admission of how the water is really being used in the Baker Creek area rather than more data and more analysis. The Inyo County Farm has the largest water right in the Baker Creek area. The amount of water being used for irrigation could well supply the 1.25 cfs needed in the enhancement plan without any tangible or measurable effect on the agriculture activity. However, this will require negotiations between ICWD and LADWP to allocate some of the County's water right to Baker Creek.

APPENDIX B: RESOLUTION OF ACREAGE QUESTIONS AND COMMENTS

Several of the questions presented in the Sierra Club April 8, 2005 E-Mail Memorandum concerning the Baker Creek and Hogback Creek Draft Yellow Billed Cuckoo Enhancement Plans can be answered simply by understanding a key point in regard to acreages at Baker Creek. Many of the Sierra Club's comments are centered on "acreage discrepancies" or "errors." A careful reading of Page 2 of the March 21 Draft Enhancement Plans reveals the root of this confusion:

"Outside of the project area in the Warren Bench Pasture there is 22.4 acres of cuckoo habitat including 1.5 acres of high suitability, 12.2 acres of medium suitability, and 8.7 acres of low suitability habitat. This area is dominated primarily by black locust, is not suitable for riparian restoration, and was excluded from the project area, even though it does provide habitat for yellow-billed cuckoos."

Table 1. YBC Habitat at Baker Creek

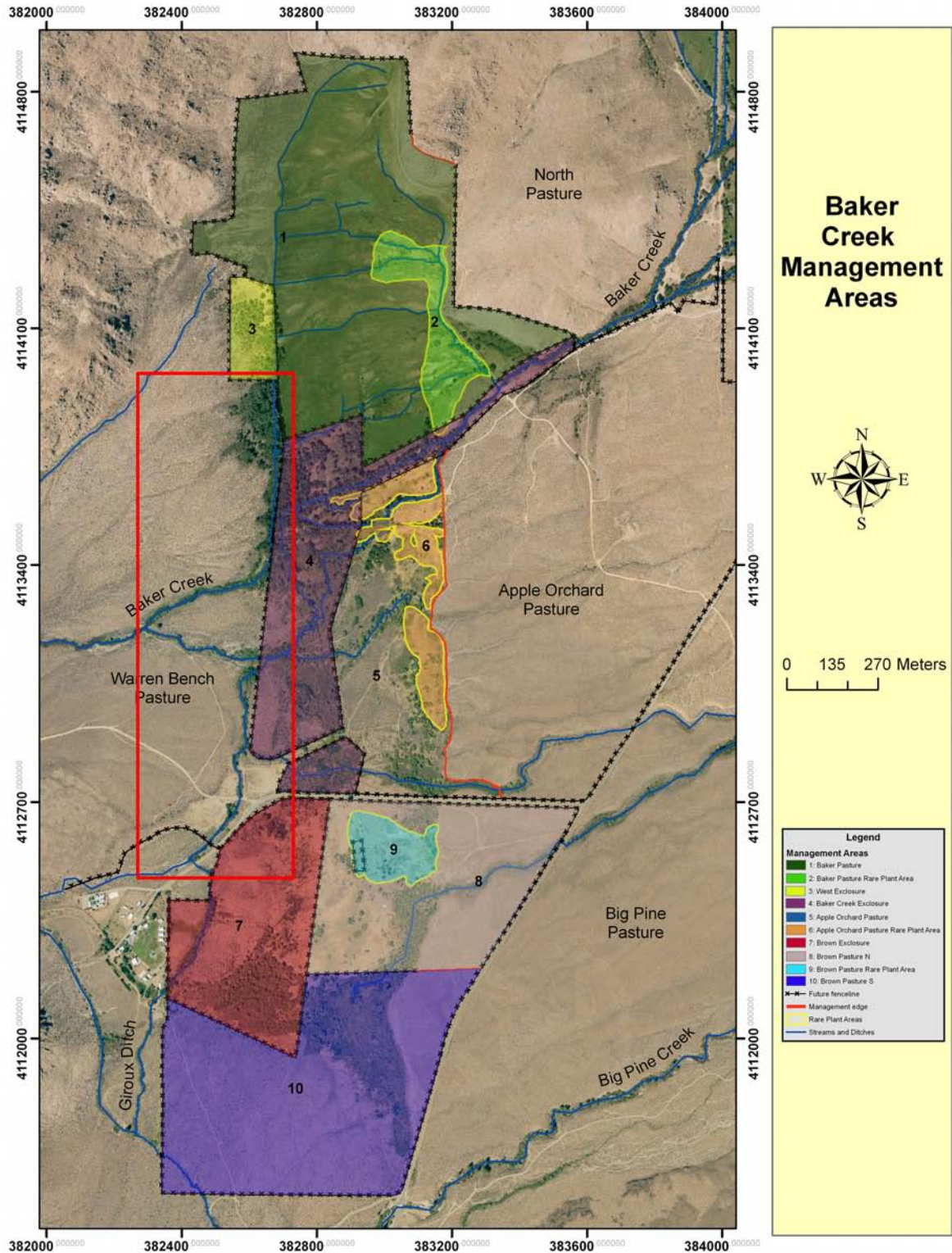
Management Area	YBC habitat acres
1:Baker Pasture	2.57
2:Baker Pasture Rare Plant Area	0.00
3:West Exclosure	5.22
4:Baker Creek Exclosure	53.75
5:Apple Orchard Pasture	23.98
6:Apple Orchard Pasture Rare Plant Areas	6.00
7:Brown Exclosure	41.74
8:Brown Pasture North	13.44
9:Brown Pasture Rare Plant Area	4.59
10:Brown Pasture South	19.31
Management Areas Total YBC Habitat	170.58
Warren Bench Area YBC Habitat	22.37
Total Current YBC Habitat Acres	192.95
YBC Habitat Created by Enhancement	22.90
Total Future YBC Habitat	215.85

When one adds the YBC habitat acres within the project area (170.58) to the 22.4 acres of YBC habitat in the Warren Bench Pasture the YBC habitat at the Baker Creek site totals approximately 193 acres. The location of the Warren Bench Pasture is within the red rectangle on the Baker Creek Management Areas Map (Figure 1) on the following page.

The Sierra Club's confusion around this issue leads them to other acreage problems. For example, they total future YBC habitat by adding the YBC habitat within the management areas (170.58) to the 22.9 acres that will be created, for a total of 192. In fact, when one adds the Warren Bench pasture's 22.4 acres to the 170 within the planning area, the total current YBC habitat at Baker Creek, 193 acres. When 22.9 acres to be created is added to this existing habitat

number the correct future acreage is arrived at: approximately 215 acres. Table 1 summarizes these computations.

Figure 1. Warren Bench Location Map.



**APPENDIX C: SAMPLING PROTOCOLS FOR YELLOW-BILLED CUCKOO
HABITAT EVALUATION AND ENHANCEMENT**

**SAMPLING PROTOCOLS FOR YELLOW-BILLED CUCKOO
HABITAT EVALUATION AND ENHANCEMENT PLANS FOR
BAKER AND HOGBACK CREEKS**

prepared for

**Los Angeles Department of Water and Power
and
Inyo County Water Department**

prepared by

Ecosystem Sciences



August 2003

Introduction

This document outlines the methodologies for collecting data to fulfill Phase I of the Work Plan to Update Yellow-Billed Cuckoo Habitat Evaluation and Enhancement Plans for Baker and Hogback Creek Areas (Ecosystem Sciences, 2003 Draft). The aim of Phase I is to determine the existing habitat conditions of the two areas and evaluate that habitat as it pertains to the Yellow-Billed Cuckoo (YBC).

YBCs' have one of the most restrictive suites of macro-habitat requirements of any bird. Not only are they restricted to a single habitat type, but also the size and configuration of the habitat is extremely important (Laymon 1998). Specifically, YBCs' require riparian jungles of willows of fairly old growth, often mixed with cottonwoods, with a tangled "lower story" (Laymon 1999). Only small portions of the overall area of Baker and Hogback creeks fit this description. For instance, the Baker Creek site encompasses a total of 2300 acres, yet only 168 acres of that contain riparian habitats (Riparian Shrub willow or Riparian Woodland) (Whitehorse and Associates, 2003). Due to the specific habitat requirements of the YBC all data collection methods are aimed at describing the riparian habitats of Baker and Hogback creeks using variables that have been identified as important for YBC nesting and foraging. For a detailed explanation of the nesting and foraging habitat characteristics of the YBC see Laymon and Williams 1994, and Laymon 1980.

The underlying hypothesis to enhance YBC habitat is to reduce the edge to interior ratio and the fragmentation of the riparian communities at Baker and Hogback creeks, thus creating the dense "riparian jungle" habitat so important to the feeding and nesting of the YBC. Consequently, the focus of the enhancement plan is on the expansion and management of the Riparian Woodlands and Riparian Shrub communities of Baker and Hogback creeks. Therefore, sampling data will be collected in and adjacent to these riparian communities. One proposed method of enhancing the YBC habitat at the two sites is the planting of willow and cottonwood. It is believed that the plantings would reduce the fragmentation of the riparian habitats of the two sites. In an effort to assess the feasibility of planting willows and cottonwoods data will also be collected outside of the riparian areas.

Protocols Overview

Data aimed at evaluating the riparian habitats of Baker and Hogback creeks for the YBC will be collected using a multi-scaled landscape approach. The coarsest scale data, which incorporates the total landscape of the two sites, is the vegetation mapping completed by White Horse Associates. This mapping will serve as the basis for sampling, as it identifies suitable habitat patches for the YBC at the two sites. For example, at Baker Creek White Horse Associates identifies 168 acres of possible YBC habitat split evenly between riparian shrub (willow) (86 acres) and riparian woodland (82 acres) (Figure 1). Therefore, the

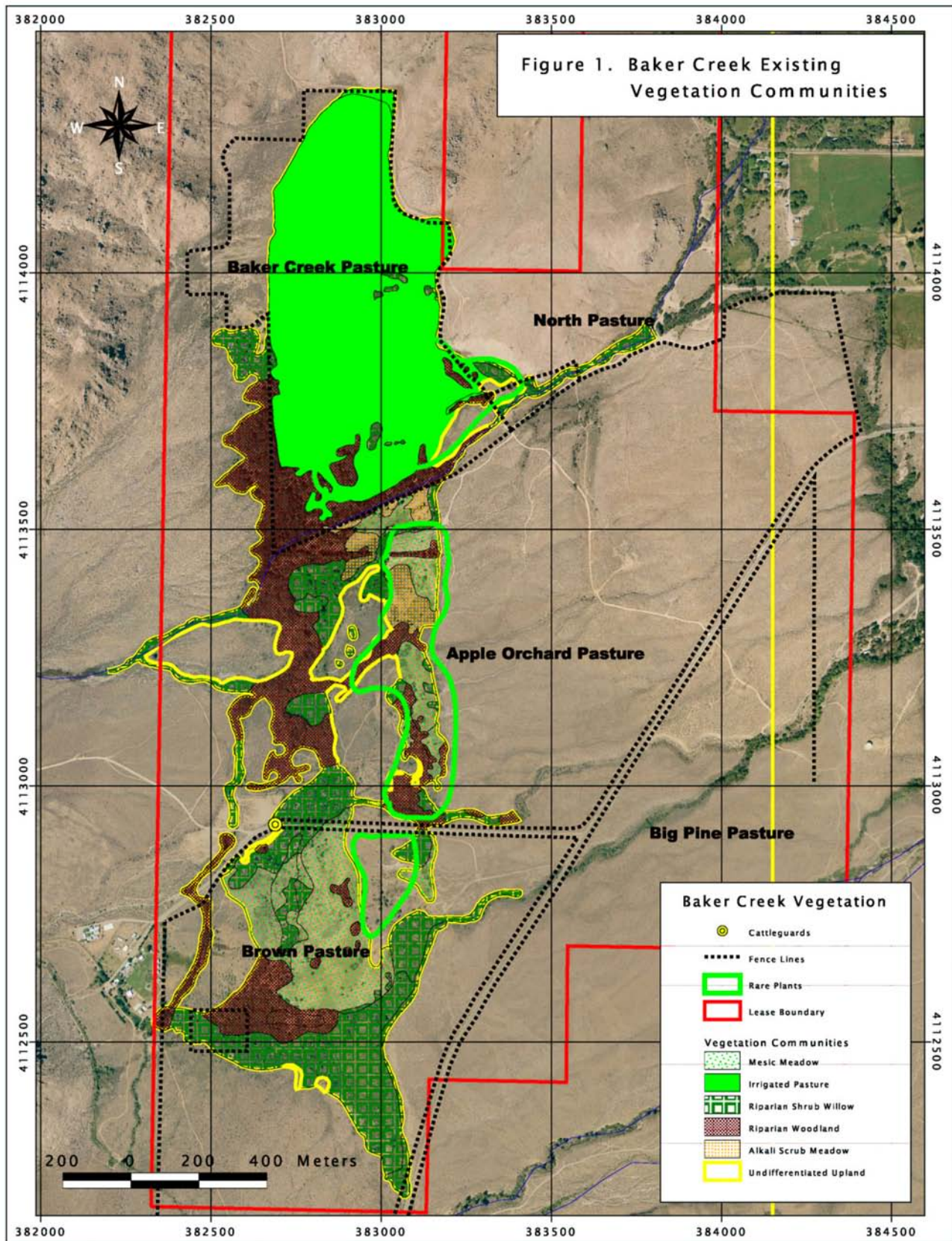
data collection at Baker Creek will be focused in and adjacent to those areas. The Hogback Creek riparian area is smaller than that of Baker Creek, with riparian shrub (willow) accounting for 62 acres and riparian woodland 42 acres. Nevertheless, sampling will also be focused within these riparian communities.

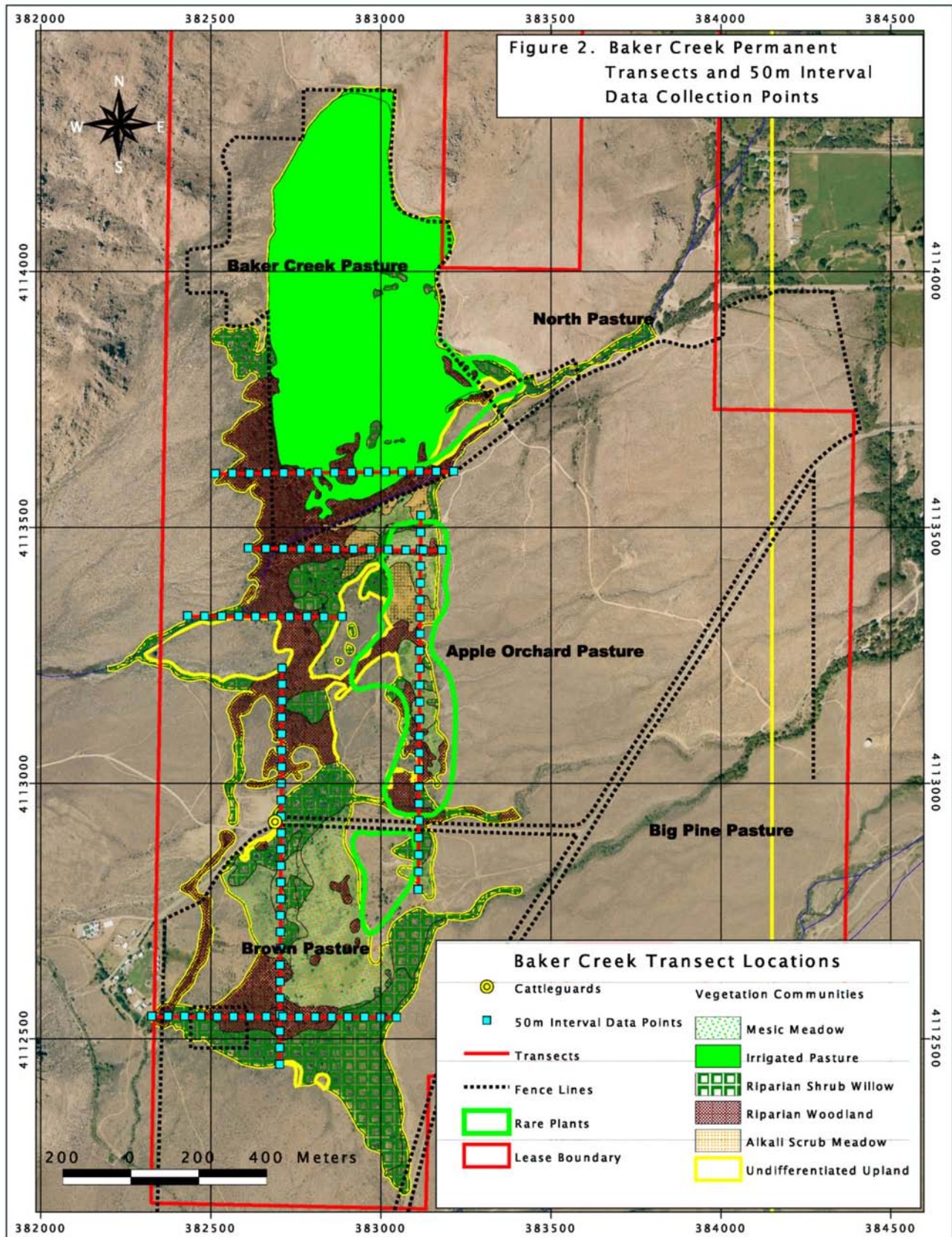
The next step, or finer scale, in the landscape approach is creating Plan Maps of the significant habitat patches at each site. A Plan Map is a detailed map of an area, which for this project consists of the riparian community patches. This finer scale mapping describes the existing habitat in more detail than the White Horse Associates mapping. The reason for the extra detail is because Plan Maps focus solely on the riparian communities. And, the added detail of the Plan Maps describes the habitat as it relates to the YBC by distinguishing between Black Locust and native riparian trees, giving a measure of the habitat fragmentation, and describing the size and configuration of the significant habitat patches.

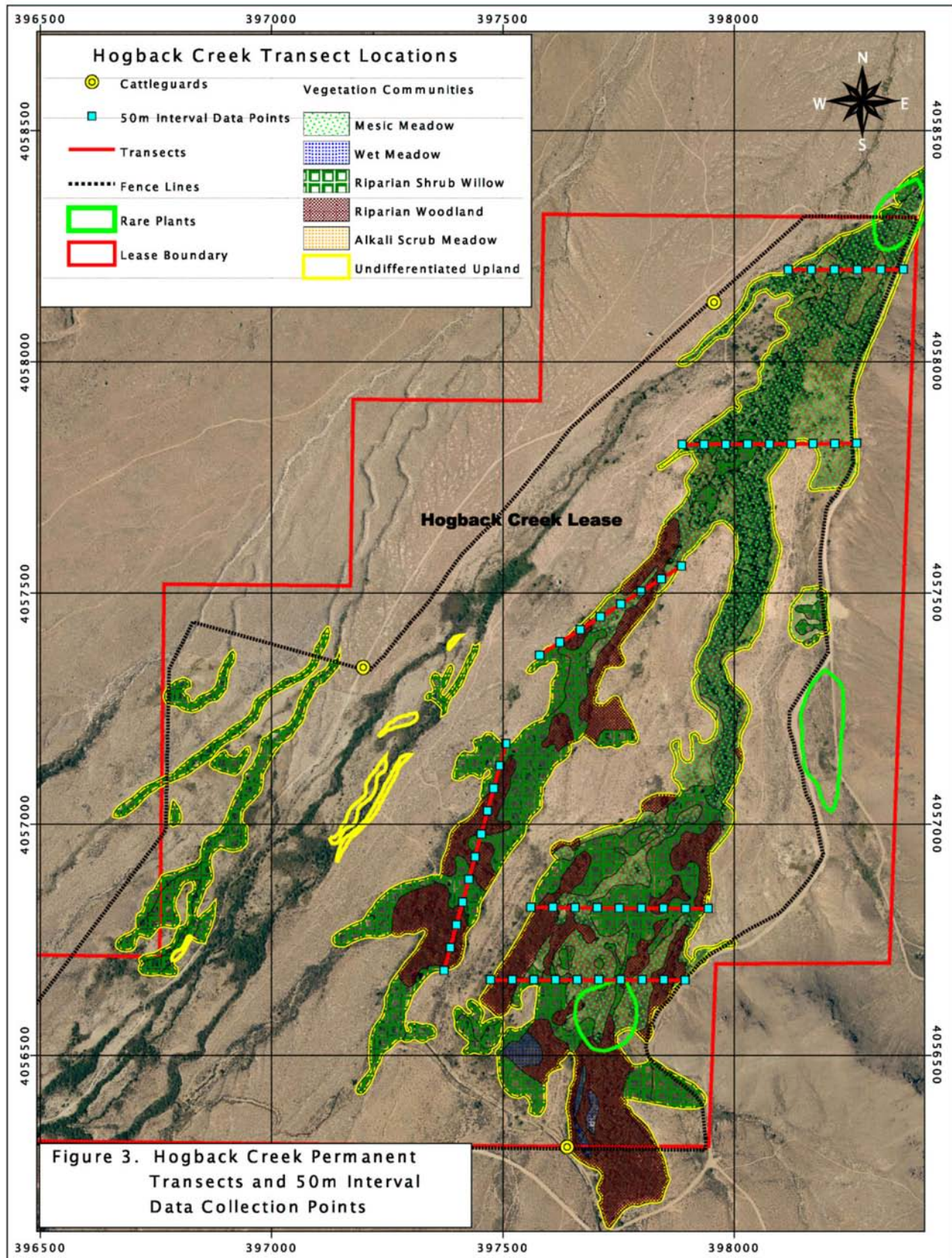
The most detailed, or largest scale, data collection method will be the establishment of permanent transects throughout each site. Transects will vary in length depending on the size of the patch and will have data collection points spaced at 50m intervals (Figure 2). Specific data that relates to the YBC such as, foliage volume, foliage composition, basal area, and canopy closure will be collected at each 50m interval. Several methods will be used at each 50m interval to collect the pertinent data. These methods are described below.

In areas where the planting of riparian trees, willow and cottonwood, would reduce the fragmentation and improve the YBC habitat of each site a soil analysis will be conducted. The aim of the analysis will be to ensure that the correct conditions exist to support willow and cottonwood. Data on depth to ground water and soil EC will be collected with a hand auger.

The final component of the monitoring protocols is to establish permanent photo locations. Photos will be taken using a digital camera and locations will be permanently marked using a GPS receiver.







White Horse Associates Existing Habitat Mapping

Existing information pertinent to the vegetation resources of Baker and Hogback creeks was reviewed prior to mapping. Mapping was conducted from high-resolution (2 foot pixels) digital orthophotos viewed at 1:6000 scales. Map units denote areas of distinctive soil, hydrologic and vegetative character.

Vegetative types were identified based on community physiognomy and overstory species composition. The names of vegetation types were modified from those used by Holland and reported in the Green Book. Major vegetation types include, *wet meadow*, *mesic meadow*, *irrigated agriculture*, *riparian shrub (willow)*, *riparian woodland*, and *undifferentiated upland*.

Plan Mapping

To quantify the spatial extent and distribution of plant communities, all vegetation plant communities 5m x 5m in size or greater will be identified in the field and the boundaries of all stands will be mapped on a Mylar sheet placed over a digitized aerial photograph (1:2000). Methods will follow those of Kauffman et al. (2000). For each patch, the dominant species in the tallest layer will be recorded in the field and ranked by dominance. This level of specificity will enable managers to delineate between important management units like black locust dominated forest, native willow /cottonwood forests, and those areas which are a mixture. Each stand is identified using ocular recognizance, as the researcher will walk the entire site to verify the dominant species in the tallest layer of each patch. All fences and waterways (both natural and anthropogenic) are recorded on the map in addition to the vegetation communities. The field worker is equipped with a GPS unit and enters points at any area that surface water is present to aid in the precision of GIS maps.

These field maps are then digitized in the lab creating a shapefile in Esri's ArcView with associated attribute tables. This data can be considered "raw data" because it will be compiled and then consolidated into the final map products. This "raw" vegetation map is then integrated with other important management information like fencing, surface water information, etc. The polygons will then be merged together following a criteria determined by the important habitat features for the Yellow-billed Cuckoo.

The attributes of these digitized vegetation patches are enhanced through the use of the data collected along transects. Because the transect points have known GPS coordinates, the structural characteristics like canopy height, canopy cover, DBH, foliage volume by layer, etc. (see transect methodology in Yellow Billed Cuckoo Habitat Enhancement Workplan) can be linked to the vegetation patch in which the transect point was located. It is through this method that the more descriptive stand characteristics will be derived.

The data collected above, the GIS vegetation plan map, associated GIS layers, and linked attribute tables provides sufficient information to classify each patch according to the California Native Plant Society Manual of California Vegetation. Further, it provides a highly reliable (each stand is visited in the field) highly resolute (the dominant species in each stand are ranked) map that can be applied to more site-specific management goals. For example, the vegetation patches could be classified by CNPS MCV plant community types as mentioned above, or a more finely tuned vegetation classification system more specific to the Owens Valley. The flexibility and accuracy of these GIS maps will have numerous applications to Yellow Billed Cuckoo conservation like the calculation of habitat area, edge/interior ratio, provide a measure of habitat fragmentation, and other important habitat characteristics.

A basic spatial and landscape analysis will be conducted using GIS. The discrete community shapefiles will be examined in ArcView 8.3 to derive the variables used to describe the YBC habitats of Baker and Hogback creeks. The following is a list of the variables:

- A. **Habitat Area (acres)** – The actual habitat area suitable for the YBC. This variable is important because much of the area is covered with Black Locust, which is considered marginal habitat for the YBC.
- B. **Edge/Interior (E/I) Ratio** – This variable is a measure of fragmentation, as YBCs desire large riparian forest habitats, the larger the E/I ratio the greater the fragmentation.
- C. **Patch Size (m)** - The YBC prefers large patches of riparian vegetation. This variable identifies the size of the riparian communities and evaluates each community's suitability for the YBC.
- D. **Riparian Trees per acre** - An inventory of the number of riparian trees (cottonwood and willow) per hectare. During the plan mapping process the number of riparian trees per patch will be recorded.

Permanent Transects and Point Data Collection

The line transects in Figure 2 (Baker) and Figure 3 (Hogback) will be used to collect data on the vegetation of Baker and Hogback creeks. Transects vary in length and were established to sample the existing riparian communities and interspersed non-riparian communities of the two sites. Transect locations were not randomly assigned. The locations were selected to best sample areas where enhancement measures may be taken (i.e. in areas where the riparian habitats are most likely to be expanded). Transects cross non-riparian areas and data will be collected in such areas to assess the feasibility of planting cottonwood and willow there. The terminus of each transect was determined by examination of aerial photographs, and were placed at the edge of the riparian vegetation. A fencepost will be placed at the terminus of all transects and labeled for

permanency. Also, a hand-held GPS unit will record the location of each transect endpoint. GPS locations will be marked using UTM coordinates based on the NAD27 datum Zone 11.

Each transect establishes a permanent route through the site. Along each transect at 50m intervals is a data collection point. A data collection point is an area where data describing the habitat conditions will be recorded. Habitat data will be evaluated in the riparian woodland and riparian shrub communities and their adjacent communities in burned and non-burned areas. For example, at Baker Creek 101 data collection points have been established (Figure 2). Of the 101 points 46 occur in the riparian woodland, 17 in the riparian shrub (willow) community, 16 in the undifferentiated uplands, 13 in the mesic meadow, 5 in the alkali scrub meadow, and 4 in the irrigated pasture. All habitats are sampled, but the majority of data will be focused on describing the riparian communities.

Laymon (1999), in developing the HSI model for the YBC found that foliage volume, average canopy height, canopy closure, and basal area were important habitat characteristics to examine when evaluating an area for the YBC. The habitat characteristics identified by Laymon (1999), as well as other variables will be examined in and adjacent to the riparian habitats of Baker and Hogback Creeks. The following is a discussion of the techniques used to collect data and the variables that will result from those techniques.

The Pole Method

The “pole method” will be used to measure total foliage volume, foliage composition, and the mean height of canopy (Mills et al. 1991) (Figure 4). This method is a variation of the vertical–line intercept technique developed by MacArthur and Horn (1969), and employs a 6m pole marked in decimeter and meter sections to measure vegetation height. The “pole method” will be used to measure total foliage volume, foliage composition, and the mean height of canopy (Mills et al. 1991) (Figure 4). This method is a variation of the vertical–line intercept technique developed by MacArthur and Horn (1969), and employs a 6m pole marked in decimeter and meter sections to measure vegetation height. Therefore, a series of cylinders .1dm tall and .1dm in radius were sampled. Each decimeter cylinder that contained vegetation was termed a “hit.” The number of hits in each meter layer above the ground ranged from 0-10. The species of plant responsible for each hit within each cylinder was recorded. If two or more plant species are present in the same meter layer, the total number of hits in that layer was allocated between the plant species, according to the relative dominance of each plant within the layer (Mills et al. 1991).

By holding the pole overhead, the number of hits in layers up to 8m above the ground are counted and recorded (Mills et al. 1991). The number of hits in layers >8m are estimated by sight. Foliage volume will be estimated at eight layers, 0 to 1m, >1m to 2m, >2m to 3m, >3m to 4m, >4m to 5m, >5m to 6m, >6 to 7m, >7m to 8m. The following habitat values are derived from the “Pole Method.”

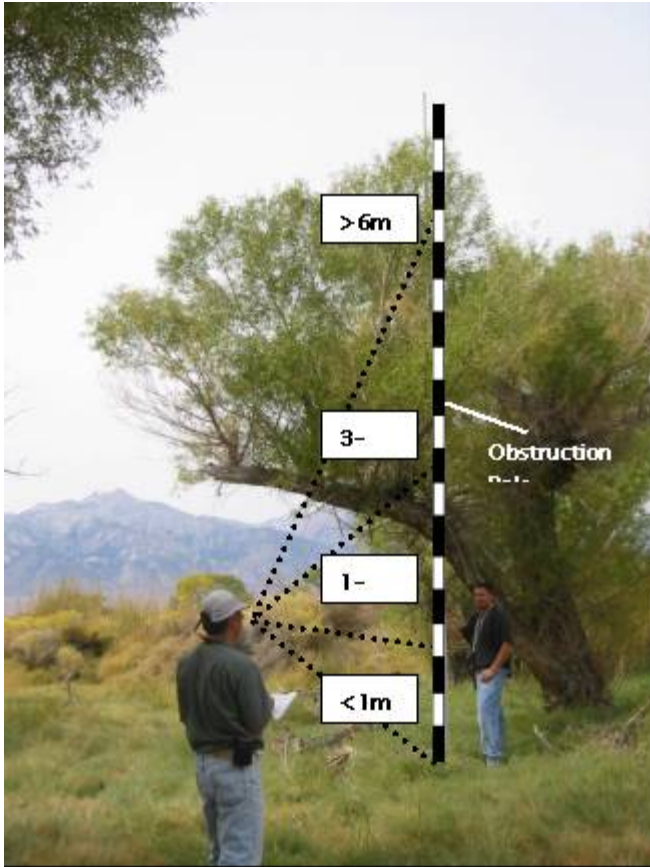


Figure 4. Using the “Pole Method” to determine Foliage volume, foliage composition, and mean canopy height.

- A. **Foliage Volume (m^3/m^2)** - is calculated from the collected data as:

$$\text{Foliage Volume} = h/10p$$

where h = the total number of hits summed over all meter layers at all points measured, and p = the number of points at which vegetation volume were measured. Foliage Volume is measured as cubic meters of vegetation per square meter (m^3/m^2) (Mills et al. 1991).

- B. **Foliage Composition** – Recording the species of plant responsible for each hit during the “pole method” process identifies the foliage

composition of each site. This also allows for the volume of each vegetation type or species to be derived.

- C. **Mean Height of Canopy (m)** - Mean height of Canopy is measured using the pole method. The pole method identifies the height of the canopy up to 10m. These measurements can be averaged to determine the mean height.

Spherical Densiometer

A spherical densiometer is an instrument used to estimate the forest overstory density. The densiometer optically identifies a series of points on the canopy above the sampling location, which is usually a point on the forest floor. A grid is used to estimate the percentage of the area covered with forest canopy. Adequate sampling gives the average canopy of a forest area. The data collector should make four readings per location – facing north, east, south, and west – and average the results (Lemmon 1957).

- A. **Canopy Closure (%)** - An estimation of canopy cover. The percentage of the ground obscured by vegetation.

Basal Area Determination

Basal area is an estimation of the portion of a patch that is covered by the base or trunk of a tree. Basal area is estimated using two variables, Diameter at Breast Height (DBH) and area (Cooperrider et al. 1986). DBH will be recorded for all trees within a 10m² (area) patch at each data collection point. Basal area per data collection point will be derived from this data.

- A. **Basal Area (m²/ha)** - The percentage of the ground covered by the base or trunk of plants

Soil Evaluation for Planting of Willow and Cottonwood

To be performed by Whitehorse Associates.

Digital Photo Documentation

Photos will be taken using a digital camera. Each photo is identified by transect and data collection point interval or location within the site. Permanent photo locations will be established using a GPS receiver. The GPS locations will be marked using UTM coordinates based on the NAD27 datum Zone 11.

CAMERA SETTINGS

- high resolution
- wide angle (don't use zoom)
- check date/time stamp

Photo documentation at each sample site (waypoint) will include:

- A. transect photos: photos will be taken at the beginning and end of each transect and at selected data collection points on each transect, preferably at the mid-point of the transect.
- B. 2 or more landscape photos that show characteristic diversity and ecological setting of the sample area. Can be taken from any point. Record the cardinal direction (N, NE, NW, S, SE SW, etc.) of each landscape photo and a general description of the location.

Following each field day, the digital photos will be downloaded and the named accordingly.

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APPENDIX D: YBC MICRO-HABITAT SUITABILITY METHODOLOGY

YELLOW-BILLED CUCKOO ENHANCEMENT

**METHODOLOGY FOR YELLOW-BILLED CUCKOO
MICRO-HABITAT SUITABILITY**

Los Angeles Department of Water and Power

Inyo County Water Department

prepared by

Ecosystem Sciences

Dr. Steve Laymon



March 2004

Overview

The Yellow-billed Cuckoo (YBC), having one of the most restrictive suites of habitat requirements of any bird species, occupies a single habitat type: the cottonwood-willow riparian woodland (Laymon 1998). Therefore, identifying potentially suitable habitat for the YBC at the macro-habitat level is relatively easy; one simply must look for riparian areas comprised of cottonwoods and tree willow (Hanna 1937, Gaines and Laymon 1984). Baker Creek and the associated springs and seeps in close proximity possess the characteristics YBC's require. However, management and restoration of this important site requires knowledge of on-site YBC habitat quality on a finer scale.

This document describes the protocol for designating micro-habitat (habitat at the stand scale) suitability for the YBC at Baker Creek in Inyo County, CA. The goal of this protocol is to categorize all stands at the Baker Creek site into one of four broad categories: high quality, medium quality, low quality, and non-suitable YBC micro-habitat. The suitability of habitat is determined by four vegetation-based criteria found to be important to YBC in prior studies in the region (Laymon et al. 1997): dominant canopy species, canopy cover, canopy height, and foliage volume. Each criterion is weighted according to its importance to the nesting and foraging of the YBC (note the YBC habitat score values in tables 1-4). Final determination of each stand's YBC habitat quality is a result of the sum of the weighted scores for that stand's habitat characteristics.

The result of this habitat suitability protocol will be a map depicting the spatial distribution of high, medium, low and non-use YBC habitat at Baker Creek. The resulting map will aid in the development of an enhancement plan for YBC habitat at the Baker Creek site.

Criterion 1 – Dominant Canopy Species

To determine suitable micro-habitat for the YBC at Baker Creek we identified the dominant canopy tree species for each stand. At Baker Creek, three species dominated the riparian canopy: *Salix laevigata*, *Robinia psuedoacacia*, and *Populus trichocarpa*. Based on prior YBC work in this region (Laymon 1998) species were assigned ranks based on their importance to the YBC (Table 1). Each dominant canopy species was then assigned a score between 0 and 12. Because it is the most significant contributor to suitable habitat for the YBC, scores for this criterion have the greatest magnitude. Riparian shrubs (*Salix lasiolepis* and *Salix exigua*) are included in this analysis as well. Although shrubs do not offer the same habitat value that riparian trees do, they are important to the foraging of the YBC. Therefore, riparian shrubs are part of the analysis, simply rated considerably lower than riparian trees.

Table 1. YBC micro-habitat ranks and scores for dominant canopy species at Baker Creek, Inyo County, CA.

Rank	Species Association	Dominant Species	ID	YBC Habitat Score
1	Tree Willow Species	<i>Salix laevigata</i>	SALAE	12
		<i>Salix goodingii</i>	SAGO	12
2	Cottonwood Species	<i>Populus fremontii</i>	POFR	10
		<i>Populus trichocarpa</i>	POTR	10
3	Shrub Willows	<i>Salix exigua</i>	SAEX	4
		<i>Salix lasiolepis</i>	SALAS	4
4	Black Locust	<i>Robinia pseudoacacia</i>	ROPS	2
5	All Other Species			0

Criterion 2 – Canopy Cover

Canopy cover is a micro-habitat requirement that is very important to the YBC (Laymon et al. 1997). Canopy cover is an estimate of forest overstory density. The YBC selects sites with a dense canopy. Laymon et al. 1997 writes that for the YBC, “sites with less than 40% canopy closure are unsuitable, those with 40%-65% are marginal to suitable and those with greater than 65% are optimal.” Canopy cover estimates were used to group each stand into three broad categories and assign those stands an appropriate score (Table 2).

Table 2. YBC micro-habitat ranks and scores for stands grouped by canopy cover estimates at Baker Creek, Inyo County, CA.

Rank	Estimated Canopy Cover	YBC Habitat Score
1	Canopy Cover $\geq 65\%$	9
2	Canopy Cover 40%-65%	6
3	Canopy Cover $\geq 5\% \leq 40\%$	3
4	Canopy Cover $< 5\%$	1

Criterion 3 – Canopy Height (m)

Another micro-habitat requirement important to the YBC is canopy height. Cuckoos tend to choose nest sites with a mean canopy height of 7 – 10m. Sites with a mean canopy height from 4 – 7m are chosen less frequently but appear to be suitable, as are sites with a mean canopy height of 10 – 15m. Sites with a mean canopy height of less than 4m are unsuitable (Laymon et al. 1997). Each stand was assigned a rank and a habitat score according to these parameters (Table 3).

Table 3. YBC micro-habitat ranks and scores for stands grouped by canopy height estimates at Baker Creek, Inyo County, CA.

Rank	Estimated Canopy Height (m)	YBC Habitat Score
1	Canopy Height 7-10 m	6
2	Canopy Height 4-7 m	4
2	Canopy Height 10-15 m	4
3	Canopy Height < 4 m	2

Criterion 4 – Foliage Volume

The final criterion used in this study to derive suitable micro-habitat for the YBC is foliage volume. Foliage volume is a measure of the volume of vegetation within a defined area, which for this study is a square meter. Cuckoos seldom use sites that have a foliage volume of less than $2\text{m}^3/\text{m}^2$; these sites are considered unsuitable. Most nest sites have a foliage volume of $3\text{m}^3/\text{m}^2$ to $9\text{m}^3/\text{m}^2$; these sites are considered optimal. Sites with $2\text{m}^3/\text{m}^2$ to $3\text{m}^3/\text{m}^2$ and over $9\text{m}^3/\text{m}^2$ appear to be suitable (Laymon et al. 1997). Each stand was assigned a YBC habitat score for foliage volume according to these parameters (Table 4).

Table 4. YBC micro-habitat ranks and scores for stands grouped by canopy volume estimates at Baker Creek, Inyo County, CA.

Rank	Estimated Foliage Volume (m^3/m^2)	YBC Habitat Score
1	Canopy Volume $3\text{ m}^3/\text{m}^2$ - $9\text{ m}^3/\text{m}^2$	3
2	Canopy Volume $2\text{ m}^3/\text{m}^2$ - $3\text{ m}^3/\text{m}^2$	2
2	Canopy Volume $> 9\text{ m}^3/\text{m}^2$	2
3	Canopy Volume $< 2\text{ m}^3/\text{m}^2$	1

The Suitable Habitat Matrix

The existing habitat of Baker Creek offers a range of conditions for the YBC. To differentiate between habitat stands a matrix was created. The results of the matrix were based on the sum of the four criteria scores, as shown below.

$$\text{Dominant Canopy Species score} + \text{Canopy Cover score} + \text{Canopy Height score} + \text{Foliage Volume score} = \text{Suitable Habitat score}$$

The outcome of the matrix determined whether habitat patches were of high quality, medium quality, low quality or of non-use.

Table 5. YBC micro-habitat ranks and scores for stands grouped by habitat quality at Baker Creek, Inyo County, CA.

Rank	Habitat Quality	YBC Habitat Score (Total)
1	High	24 to 30
2	Medium	17 to 23
3	Low	6 to 16
4	Non-use	0 to 5

Methods to create GIS Shapefile

The results of the YBC suitable habitat matrix were added to the vegetation shapefile of each site. Based on the results of the suitable habitat matrix each polygon of the vegetation shapefile was labeled as High, Medium, Low or Non-use YBC habitat. The following is the methods used to derive each polygon's YBC suitable habitat level label.

1. Add field data to GIS Shapefiles. Transects were run through the significant habitat patches (i.e. riparian communities) at the Baker and Hogback creek sites. Along each transect at 50m intervals (GPS location) the following data was taken: canopy cover (percent), canopy height (m) and foliage volume (cubic meters/square meters). The transect lines and GPS locations (data collection point) were laid on top of the vegetation shapefile. The habitat data was then added to the corresponding polygon in the vegetation shapefile. Then, using the suitable habitat matrix each polygon was labeled with a habitat rating (High, Medium, Low, and non-use).

2. Mask all known "non-use" areas. All undifferentiated upland, rabbitbrush scrub, irrigated pasture and mesic meadow communities within the vegetation shapefile were given a non-use label. Essentially, communities dominated by ARTR, CHNA, LETR, and JUBA were assigned to the non-use class. Once completed the amount of area that was not assigned a rating was significantly reduced. Plus, masking the non-use areas put a boundary around the areas yet unclassified.

3. Lump unclassified polygons to adjacent classified polygons. Unclassified polygons were lumped to adjacent already classified polygons containing similar vegetation types (communities). During the digitizing process many polygons are split for ease of digitizing or for small differences in vegetation type, yet the community is the same. For example, a SALAE community was classified as high and an adjacent polygon contained a vegetation community of SALAE/ROWO. The SALAE is still the dominant vegetation and in this case the most important vegetation type for the YBC. Therefore, the adjacent SALAE/ROWO community was classified as high as well.

4. Classify remaining polygons based on vegetation composition and landscape context. The remaining unclassified polygons were classified based on data for two of the matrix variables (vegetation type and canopy closure), and then subjectively based on landscape context. Each polygon was given a vegetation type during the mapping process. Vegetation type, being the most heavily weighted of the matrix variables, allows subjective decisions to be made concerning habitat classification of any unclassified polygon. For example, in order for a ROPS community at Baker Creek to attain a medium habitat level it must achieve the highest matrix values in all of the other suitable habitat matrix categories. At Baker Creek the only place a ROPS dominated community attained a medium habitat level was in the Northwest portion of the site (Baker Creek Maps). If that ROPS community did not have such a dense (Canopy cover and foliage volume) and high canopy (Canopy height) it would be classified as low. Therefore, ROPS communities, in other parts of Baker Creek, had to have the same attributes as the NW portion or they were classified as low. Very few ROPS communities at Baker Creek are similar to the NW area and are therefore classified as low habitat value for the YBC. On the other hand, SALAE and POFR communities, because of their high habitat value, would have to be very sparse (low foliage volume) with little canopy cover and low canopy height to be classified lower than medium. This occurred in the burned areas or where SALAE was in shrub form. At each site there are several lone mature SALAE's and POFR's that were classified as medium. Lone mature SALAE's and POFR's were classified as medium because YBC's need large continuous tracts of habitat, often-greater than 100m across (Laymon 1998). A lone SALAE with a dense canopy appears to be great habitat but without other SALAE's to make a continuous tract of habitat it is most likely not used by the YBC. Therefore, these areas were classified as medium.

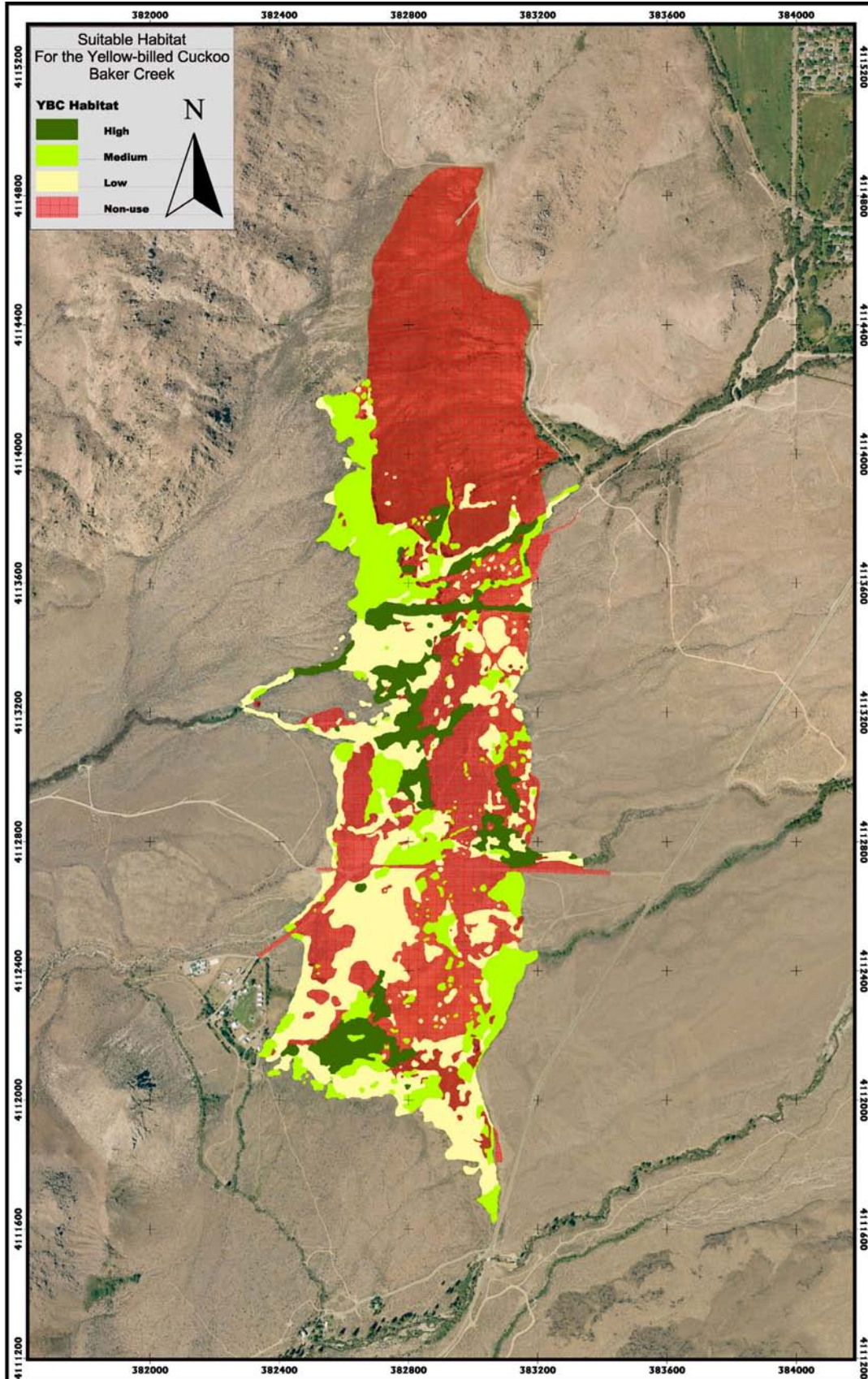
Area per Suitable Habitat Level per Site

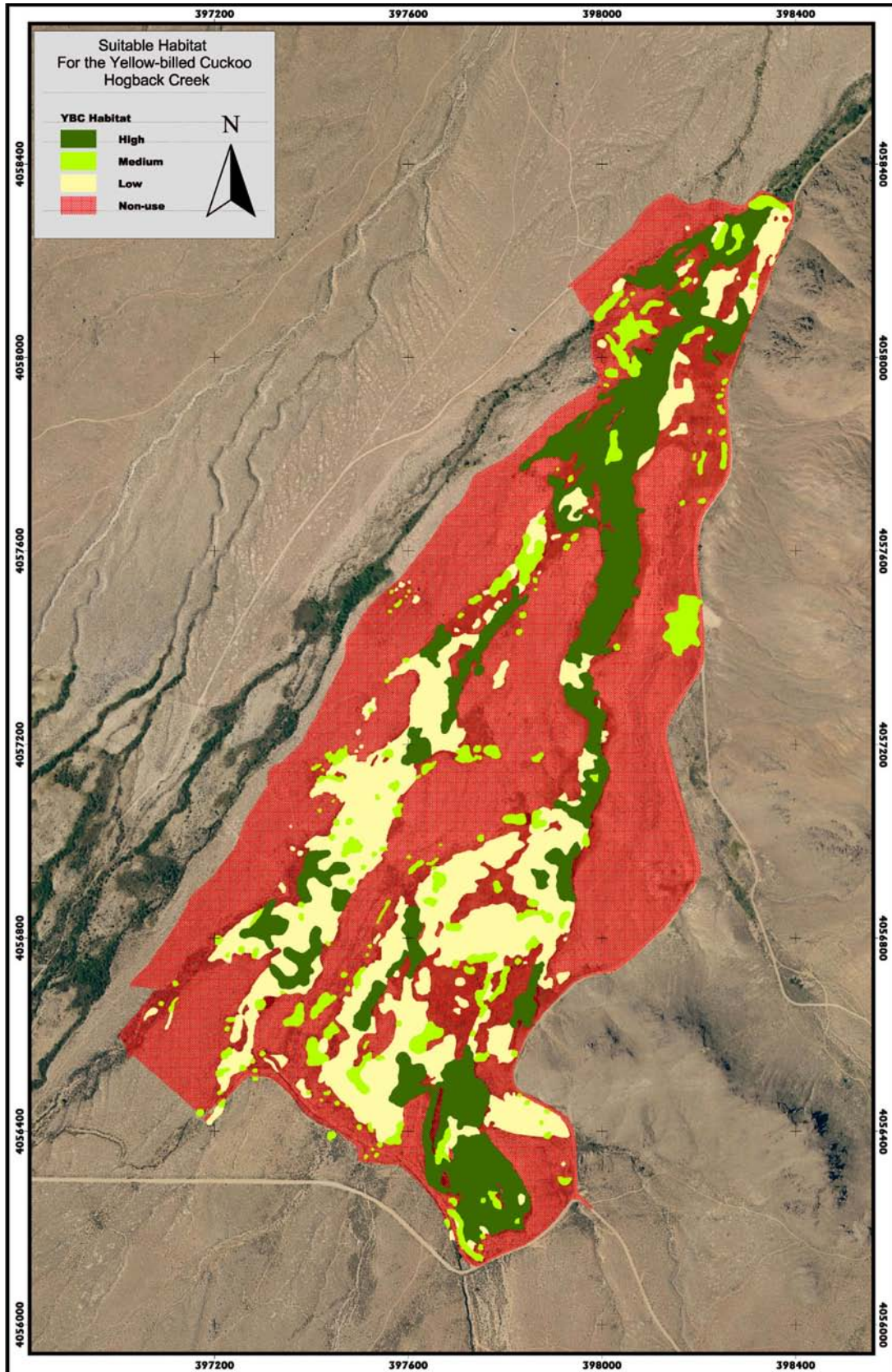
Habitat Level	m ²	Acres	Hectares	% of Site
High	139761.95	34.53	13.98	8.41
Medium	256216.29	63.32	25.63	15.41
Low	384878.12	95.10	38.49	23.15
Non-use	881735.96	217.88	88.17	53.03
Totals	1662592.32	410.83	166.26	100

Table 6. Baker Creek Area per YBC Suitable habitat Level

Table 7. Hogback Creek Area per YBC Suitable Habitat Level.

Habitat Level	m ²	Acres	Hectares	% of Site
High	209607.29	51.80	20.96	15.67
Medium	78829.54	19.48	7.89	5.90
Low	232024.14	57.34	23.20	17.34
Non-use	817177.01	201.93	81.72	61.09
Totals	1337637.97	330.54	133.77	100





Literature Cited

Gaines, D.A. and S.A. Laymon. 1984. Decline, status and preservation of the Yellow-billed Cuckoo in California. Western Birds 15:49-80.

Gaines, D.A. and S.A. Laymon. 1984. Decline, status and preservation of the Yellow-billed Cuckoo in California. Western Birds 15:49-80.

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Laymon, S.A. 1998. California Partner's in Flight Riparian Habitat Joint Venture Bird Conservation Plan for the Yellow-billed Cuckoo. Administrative Report to California Partner's in Flight, Riparian Habitat Joint Venture, Sacramento, California.

Table D-1. Baker Creek Area YBC Habitat Scores per Polygon

ID	DOM_VEG	DOM_SCORE	COMMUNITY	COM_CODE	Com_Name	ACRES	CAN_HEIGHT	Height_score	CAN_CLOS	C_Clos_Scor	VEG_VOL	VEG_score	HAB_SCORE	HAB_QUAL
1	SAEX	4	SAEX	11	Riparian Shrubland	0.060	NA	0.0	3	3.00	NA	0.00	7.00	Low
2	SALAE	12	SALAE	14	Riparian Woodland	0.125	NA	0.0	2	6.00	NA	0.00	18.00	Medium
3	SALAE	12	SALAE	14	Riparian Woodland	0.079	NA	0.0	2	6.00	NA	0.00	18.00	Medium
4	SALAE	12	SALAE	14	Riparian Woodland	0.034	NA	0.0	2	6.00	NA	0.00	18.00	Medium
5	ROWO	2	ROWO	11	Riparian Shrubland	0.040	NA	0.0	0	0.00	NA	0.00	2.00	Low
6	SALAE	12	SALAE	14	Riparian Woodland	0.088	NA	0.0	2	6.00	NA	0.00	18.00	Medium
7	ROPS	2	ROPS/ROWO	20	Riparian Woodland	0.162	NA	0.0	2	6.00	NA	0.00	8.00	Low
8	SAEX	4	SAEX-ROWO	11	Riparian Shrubland	0.132	NA	0.0	2	6.00	NA	0.00	10.00	Low
9	CHNA	0	CHNA	18	Undesignated Upland	0.042	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
10	MASY	0	MASY-FOPU	8	Riparian Woodland	0.052	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
11	LETR	0	LETR	6	Pasture Grassland	0.473	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
12	SALAS	4	SALAS	11	Riparian Shrubland	0.378	NA	0.0	3	3.00	NA	0.00	7.00	Low
13	SALAS	4	SALAS-SAEX	11	Riparian Shrubland	0.210	NA	0.0	1	9.00	NA	0.00	13.00	Medium
14	ROPS	2	ROPS	20	Riparian Woodland	0.088	NA	0.0	3	3.00	NA	0.00	5.00	Low
15	SALAE	12	SALAE/SALAS	13	Riparian Woodland	4.733	NA	0.0	3	3.00	NA	0.00	15.00	High
16	SALAE	12	SALAE	14	Riparian Woodland	0.055	NA	0.0	3	3.00	NA	0.00	15.00	Low
17	ROWO	2	ROWO	11	Riparian Shrubland	0.021	NA	0.0	3	1.00	NA	0.00	3.00	Low
18	ROWO	2	ROWO	11	Riparian Shrubland	0.020	NA	0.0	0	0.00	NA	0.00	2.00	Low
19	ROWO	2	ROWO	11	Riparian Shrubland	0.049	NA	0.0	0	0.00	NA	0.00	2.00	Low
20	SALAE	12	SALAE	14	Riparian Woodland	0.081	NA	0.0	2	6.00	NA	0.00	18.00	Medium
21	ROPS	2	ROPS	20	Riparian Woodland	2.950	NA	0.0	2	6.00	NA	0.00	8.00	Medium
22	ROPS	2	ROPS/ARTR	20	Riparian Woodland	0.243	NA	0.0	3	3.00	NA	0.00	5.00	Low
23	ARTR	0	ARTR	19	Undesignated Upland	0.057	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
24	ARTR	0	ARTR	19	Undesignated Upland	0.058	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
25	SAEX	4	SAEX	11	Riparian Shrubland	0.086	NA	0.0	4	1.00	NA	0.00	5.00	Low
26	ROWO	2	ROWO	11	Riparian Shrubland	0.182	0.5	2.0	0.00	0.00	0.50	1.00	5.00	Low
27	SALAE	12	SALAE-ROPS/ROWO	13	Riparian Woodland	0.821	11.5	4.0	31.88	3.00	2.10	2.00	21.00	Medium
28	MASY	0	MASY-ROWO	8	Riparian Woodland	0.084	NA	0.0	4	1.00	NA	0.00	1.00	Low
29	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.177	NA	0.0	1	9.00	NA	0.00	21.00	High
30	SALAE	12	SALAE	14	Riparian Woodland	0.029	NA	0.0	2	6.00	NA	0.00	18.00	Medium
31	SALAE	12	SALAE	14	Riparian Woodland	0.026	NA	0.0	2	6.00	NA	0.00	18.00	Medium
33	ROWO	2	ROWO	11	Riparian Shrubland	0.049	NA	0.0	0	0.00	NA	0.00	2.00	Low
34	SALAE	12	SALAE	14	Riparian Woodland	0.061	NA	0.0	2	6.00	NA	0.00	18.00	Medium
35	ROPS	2	ROPS	20	Riparian Woodland	8.087	9.8	6.0	58.33	6.00	3.02	3.00	17.00	Medium

Baker Creek YBC Enhancement Plan

36	SALAE	12	SALAE	14	Riparian Woodland	0.031	NA	0.0	3	3.00	NA	0.00	15.00	Low
37	SALAE	12	SALAE	14	Riparian Woodland	0.242	NA	0.0	1	9.00	NA	0.00	21.00	High
38	ROPS	2	ROPS/ROWO	20	Riparian Woodland	0.281	NA	0.0	3	3.00	NA	0.00	5.00	Low
39	LETR	0	LETR/PASTURE	7	Pasture Grassland	0.945	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
40	CHNA	0	CHNA	18	Undesignated Upland	0.081	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
41	ROPS	2	ROPS	20	Riparian Woodland	0.340	NA	0.0	3	3.00	NA	0.00	5.00	Low
42	SALAE	12	SALAE	14	Riparian Woodland	0.040	NA	0.0	3	3.00	NA	0.00	15.00	Medium
43	ROWO	2	ROWO	11	Riparian Shrubland	0.025	NA	0.0	0	0.00	NA	0.00	2.00	Low
44	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.261	NA	0.0	2	6.00	NA	0.00	18.00	Medium
45	BARE	0	BARE	35	Bare/Other	0.088	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
46	BARE	0	BARE	35	Bare/Other	0.190	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
47	ROPS	2	ROPS	20	Riparian Woodland	0.063	NA	0.0	3	3.00	NA	0.00	5.00	Low
48	SALAE	12	SALAE/ROWO	13	Riparian Woodland	1.196	9.5	6.0	43.58	6.00	1.30	1.00	25.00	High
49	ROPS	2	ROPS	20	Riparian Woodland	4.014	11.5	4.0	67.22	9.00	5.15	3.00	18.00	Medium
50	SAEX	4	SAEX	11	Riparian Shrubland	0.251	NA	0.0	4	1.00	NA	0.00	5.00	Low
51	LETR	0	LETR	6	Pasture Grassland	0.090	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
52	CHNA	0	CHNA	18	Undesignated Upland	0.436	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
54	SALAE	12	SALAE/ROWO	13	Riparian Woodland	2.305	NA	0.0	3	3.00	NA	0.00	15.00	Medium
55	ROWO	2	ROWO	11	Riparian Shrubland	0.207	NA	0.0	0	0.00	NA	0.00	2.00	Low
57	ROWO	2	ROWO	11	Riparian Shrubland	0.000	NA	0.0	0	0.00	NA	0.00	2.00	Low
58	CHNA	0	CHNA	18	Undesignated Upland	0.741	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
61	SALAE	12	SALAE/BEOC	13	Riparian Woodland	0.558	NA	0.0	2	6.00	NA	0.00	18.00	High
62	ROPS	2	ROPS	20	Riparian Woodland	0.615	NA	0.0	2	6.00	NA	0.00	8.00	Low
63	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.130	NA	0.0	2	6.00	NA	0.00	18.00	Medium
64	ROPS	2	ROPS/URDI	20	Riparian Woodland	0.620	8.5	6.0	56.06	6.00	4.00	3.00	17.00	Medium
65	ROWO	2	ROWO	11	Riparian Shrubland	0.046	NA	0.0	0	0.00	NA	0.00	2.00	Low
66	SALAE	12	SALAE	14	Riparian Woodland	0.023	NA	0.0	3	3.00	NA	0.00	15.00	Medium
67	MASY	0	MASY	8	Riparian Woodland	0.009	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
68	ROWO	2	ROWO/LETR	11	Riparian Shrubland	0.181	0.5	2.0	0.00	0.00	0.50	1.00	5.00	Low
69	SAEX	4	SAEX	11	Riparian Shrubland	0.215	NA	0.0	3	3.00	NA	0.00	7.00	Low
70	LETR	0	LETR	6	Pasture Grassland	0.128	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
71	SAEX	4	SAEX-ROWO	11	Riparian Shrubland	0.358	NA	0.0	3	3.00	NA	0.00	7.00	Low
72	SAEX	4	SAEX	11	Riparian Shrubland	0.090	NA	0.0	3	3.00	NA	0.00	7.00	Low
73	SAEX	4	SAEX	11	Riparian Shrubland	0.066	NA	0.0	3	3.00	NA	0.00	7.00	Low
74	SAEX	4	SAEX	11	Riparian Shrubland	0.120	NA	0.0	3	3.00	NA	0.00	7.00	Low
75	SALAE	12	SALAE	14	Riparian Woodland	0.039	NA	0.0	2	6.00	NA	0.00	18.00	Medium
76	SALAS	4	SALAS	11	Riparian Shrubland	0.174	NA	0.0	3	3.00	NA	0.00	7.00	Low
77	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.250	NA	0.0	4	3.00	NA	0.00	7.00	Low
78	SALAE	12	SALAE-CHNA	14	Riparian Woodland	0.217	NA	0.0	3	3.00	NA	0.00	15.00	Medium
79	SALAS	4	SALAS	11	Riparian Shrubland	0.526	NA	0.0	3	3.00	NA	0.00	7.00	Low
80	SAEX	4	SAEX	11	Riparian Shrubland	0.330	NA	0.0	3	3.00	NA	0.00	7.00	Low
81	SAEX	4	SAEX-ROWO-PHAU	11	Riparian Shrubland	0.726	NA	0.0	3	3.00	NA	0.00	7.00	Low
82	LETR	0	LETR	6	Pasture Grassland	0.042	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
83	ROWO	2	ROWO	11	Riparian Shrubland	0.137	NA	0.0	0	0.00	NA	0.00	2.00	Low
84	CHNA	0	CHNA	18	Undesignated Upland	0.036	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
85	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.061	NA	0.0	4	1.00	NA	0.00	5.00	Low
86	ROWO	2	ROWO	11	Riparian Shrubland	0.083	NA	0.0	0	0.00	NA	0.00	2.00	Low
87	SAEX	4	SAEX	11	Riparian Shrubland	0.132	NA	0.0	3	3.00	NA	0.00	7.00	Low
88	SALAS	4	SALAS-ROWO	11	Riparian Shrubland	0.675	2.5	2.0	27.90	3.00	2.10	2.00	11.00	Low
89	SALAE	12	SALAE/ARTR	14	Riparian Woodland	0.113	NA	0.0	4	1.00	NA	0.00	13.00	Low
90	ROPS	2	ROPS	20	Riparian Woodland	3.174	9.0	6.0	61.00	6.00	1.70	1.00	15.00	Low
91	ROPS	2	ROPS	20	Riparian Woodland	0.010	NA	0.0	2	6.00	NA	0.00	8.00	Low
92	POTR	10	POTR	14	Riparian Woodland	0.050	8.0	6.0	2.00	6.00	4.00	3.00	25.00	High
93	POTR	10	POTR	14	Riparian Woodland	0.034	NA	0.0	3	3.00	NA	0.00	13.00	Medium
94	SALAE	12	SALAE/SALAS	13	Riparian Woodland	1.124	7.3	6.0	56.56	6.00	2.65	2.00	26.00	High
95	SALAE	12	SALAE?	14	Riparian Woodland	0.053	NA	0.0	4	1.00	NA	0.00	13.00	Low
96	SALAE	12	SALAE?	14	Riparian Woodland	0.024	NA	0.0	4	1.00	NA	0.00	13.00	Low
97	SALAE	12	SALAE?	14	Riparian Woodland	0.010	NA	0.0	4	1.00	NA	0.00	13.00	Low
98	ROPS	2	ROPS/SALAS	20	Riparian Woodland	0.170	NA	0.0	2	6.00	NA	0.00	8.00	Low
99	ROPS	2	ROPS	20	Riparian Woodland	0.027	NA	0.0	2	6.00	NA	0.00	8.00	Low
100	ROPS	2	ROPS	20	Riparian Woodland	0.042	NA	0.0	2	6.00	NA	0.00	8.00	Low
101	POTR	10	POTR	14	Riparian Woodland	0.221	NA	0.0	3	3.00	NA	0.00	13.00	Medium
102	PIJE	0	PIJE	14	Riparian Woodland	0.081	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
103	SALAS	4	SALAS	11	Riparian Shrubland	0.105	NA	0.0	3	3.00	NA	0.00	7.00	Low
104	SALAS	4	SALAS	11	Riparian Shrubland	0.246	NA	0.0	3	3.00	NA	0.00	7.00	Low
105	SALAS	4	SALAS	11	Riparian Shrubland	0.085	NA	0.0	2	6.00	NA	0.00	10.00	Low
106	ROPS	2	ROPS	20	Riparian Woodland	0.085	NA	0.0	1	9.00	NA	0.00	11.00	Low

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107	SALAS	4	SALAS	11	Riparian Shrubland	0.102	NA	0.0	2	6.00	NA	0.00	10.00	Low
108	BEOC	0	BEOC-SALAS	11	Riparian Shrubland	0.171	NA	0.0	3	3.00	NA	0.00	3.00	Low
109	ROPS	2	ROPS/SALAS	20	Riparian Woodland	0.112	NA	0.0	2	6.00	NA	0.00	8.00	Low
110	ROPS	2	ROPS	20	Riparian Woodland	0.017	NA	0.0	3	3.00	NA	0.00	5.00	Low
111	ROPS	2	ROPS	20	Riparian Woodland	0.023	NA	0.0	1	6.00	NA	0.00	8.00	Low
112	POFR	10	POFR-ROPS/SALAS	13	Riparian Woodland	0.084	NA	0.0	2	6.00	NA	0.00	16.00	Medium
113	POFR	10	POFR/ARTR	14	Riparian Woodland	0.074	NA	0.0	3	3.00	NA	0.00	13.00	Low
114	BEOC	0	BEOC-SALAS	11	Riparian Shrubland	0.226	NA	0.0	2	6.00	NA	0.00	6.00	Low
115	SALAS	4	SALAS	11	Riparian Shrubland	0.064	NA	0.0	2	6.00	NA	0.00	10.00	Low
116	SALAS	4	SALAS	11	Riparian Shrubland	0.072	NA	0.0	3	3.00	NA	0.00	7.00	Low
117	SALAE	12	SALAE	14	Riparian Woodland	0.059	NA	0.0	1	9.00	NA	0.00	21.00	High
118	SALAE	12	SALAE/CHNA	14	Riparian Woodland	0.027	NA	0.0	3	3.00	NA	0.00	15.00	Low
119	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.031	NA	0.0	3	3.00	NA	0.00	7.00	Low
120	ROPS	2	ROPS/SALAS-BEOC	20	Riparian Woodland	0.678	NA	0.0	2	6.00	NA	0.00	8.00	Low
121	SALAS	4	SALAS	11	Riparian Shrubland	0.391	NA	0.0	3	3.00	NA	0.00	7.00	Low
122	CHNA	0	CHNA	18	Undesignated Upland	1.462	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
123	SALAS	4	SALAS	11	Riparian Shrubland	0.185	NA	0.0	3	3.00	NA	0.00	7.00	Low
124	BEOC	0	BEOC	11	Riparian Shrubland	0.031	NA	0.0	3	3.00	NA	0.00	3.00	Low
125	SALAS	4	SALAS	11	Riparian Shrubland	0.062	NA	0.0	3	3.00	NA	0.00	7.00	Low
126	SALAS	4	SALAS	11	Riparian Shrubland	0.029	NA	0.0	4	1.00	NA	0.00	5.00	Low
127	SALAE	12	SALAE	14	Riparian Woodland	0.059	NA	0.0	3	3.00	NA	0.00	15.00	Medium
128	SALAE	12	SALAE	14	Riparian Woodland	0.029	NA	0.0	2	6.00	NA	0.00	18.00	Medium
129	ROWO	2	ROWO-ARTR	11	Riparian Shrubland	0.065	1.4	2.0	0.00	0.00	1.40	1.00	5.00	Low
130	BEOC	0	BEOC-SALAS-ROWO	11	Riparian Shrubland	0.217	NA	0.0	2	6.00	NA	0.00	6.00	Low
131	SALAS	4	SALAS	11	Riparian Shrubland	0.103	NA	0.0	3	3.00	NA	0.00	7.00	Low
132	ROPS	2	ROPS	20	Riparian Woodland	1.523	14.0	4.0	63.08	6.00	4.50	3.00	15.00	Low
133	SALAE	12	SALAE	14	Riparian Woodland	0.017	NA	0.0	3	3.00	NA	0.00	15.00	Low
134	SALAS	4	SALAS-SAEX-ROWO	11	Riparian Shrubland	0.101	NA	0.0	3	3.00	NA	0.00	7.00	Low
135	LETR	0	LETR	6	Pasture Grassland	0.027	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
136	CANE	0	CANE	3	Wet Meadow	0.056	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
137	SALAE	12	SALAE	14	Riparian Woodland	2.447	NA	0.0	1	9.00	NA	0.00	21.00	High
138	SALAS	4	SALAS	11	Riparian Shrubland	0.069	NA	0.0	3	3.00	NA	0.00	7.00	Low
139	SAEX	4	SAEX	11	Riparian Shrubland	0.051	NA	0.0	4	1.00	NA	0.00	5.00	Low
140	SALAE	12	SALAE/ROWO	13	Riparian Woodland	2.497	6.0	4.0	40.90	6.00	2.83	2.00	24.00	High
141	SALAE	12	SALAE	14	Riparian Woodland	1.179	9.5	6.0	57.70	6.00	4.70	3.00	27.00	High
142	ROPS	2	ROPS/ROWO	20	Riparian Woodland	0.721	NA	0.0	1	9.00	NA	0.00	11.00	Medium
143	BEOC	0	BEOC-SALAS-ROWO	11	Riparian Shrubland	0.028	NA	0.0	3	3.00	NA	0.00	3.00	Low
144	SAEX	4	SAEX-ROWO	11	Riparian Shrubland	0.134	NA	0.0	4	1.00	NA	0.00	5.00	Low
145	ROPS	2	ROPS	20	Riparian Woodland	0.524	NA	0.0	2	6.00	NA	0.00	8.00	Low
146	SALAE	12	SALAE	14	Riparian Woodland	0.072	NA	0.0	1	9.00	NA	0.00	21.00	High
147	SALAS	4	SALAS-SAEX	11	Riparian Shrubland	0.363	NA	0.0	3	3.00	NA	0.00	7.00	Low
148	CHNA	0	CHNA-ARTR	18	Undesignated Upland	0.125	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
149	ROPS	2	ROPS	20	Riparian Woodland	1.497	4.3	4.0	65.60	9.00	2.40	2.00	17.00	Medium
150	SALAE	12	SALAE	14	Riparian Woodland	0.031	NA	0.0	3	3.00	NA	0.00	15.00	Medium
151	OLAN	0	OLAN	11	Riparian Shrubland	0.027	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
152	CHNA	0	CHNA-SAEX	18	Undesignated Upland	0.194	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
153	LETR	0	LETR	6	Pasture Grassland	0.049	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
154	SALAE	12	SALAE/ARTR	14	Riparian Woodland	0.356	NA	0.0	3	3.00	NA	0.00	15.00	Low
155	ARTR	0	ARTR-SAEX	19	Undesignated Upland	0.088	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
156	ARTR	0	ARTR	19	Undesignated Upland	0.365	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
157	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.077	NA	0.0	4	1.00	NA	0.00	5.00	Low
158	SALAS	4	SALAS	11	Riparian Shrubland	0.157	NA	0.0	3	3.00	NA	0.00	7.00	Low
159	SALAE	12	SALAE	14	Riparian Woodland	0.067	NA	0.0	2	6.00	NA	0.00	18.00	Medium
160	ROPS	2	ROPS/ARTR	20	Riparian Woodland	1.804	10.0	6.0	42.20	6.00	3.75	3.00	17.00	Medium
161	SALAS	4	SALAS	11	Riparian Shrubland	0.291	NA	0.0	4	1.00	NA	0.00	5.00	Low
162	ROPS	2	ROPS	20	Riparian Woodland	0.974	NA	0.0	3	3.00	NA	0.00	5.00	Low
163	ARTR	0	ARTR	19	Undesignated Upland	0.170	0.7	2.0	0.00	0.00	0.70	1.00	3.00	Non-use
164	ROPS	2	ROPS/SAEX	20	Riparian Woodland	0.474	NA	0.0	3	3.00	NA	0.00	5.00	Low
165	CHNA	0	CHNA	18	Undesignated Upland	0.020	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
166	GLLE	0	GLLE	6	Pasture Grassland	0.029	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
167	road	0	road	35	Bare/Other	0.167	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
168	ARTR	0	ARTR	19	Undesignated Upland	0.061	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
169	road	0	road	35	Bare/Other	0.029	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
170	SALAE	12	SALAE	14	Riparian Woodland	0.025	NA	0.0	2	6.00	NA	0.00	18.00	Medium
171	SALAE	12	SALAE-SALAS	11	Riparian Shrubland	0.273	NA	0.0	2	6.00	NA	0.00	18.00	Medium
172	ROPS	2	ROPS	20	Riparian Woodland	0.411	NA	0.0	1	9.00	NA	0.00	11.00	Medium
173	SALAS	4	SALAS-SAEX	11	Riparian Shrubland	0.443	NA	0.0	4	1.00	NA	0.00	5.00	Low
174	PRAN	0	PRAN-CHNA	18	Undesignated Upland	0.077	NA	0.0	0	0.00	NA	0.00	0.00	Non-use
175	MASY	0	MASY	8	Riparian Woodland	0.036	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
176	SALAE	12	SALAE/SALAS	13	Riparian Woodland	2.181	NA	0.0	2	6.00	NA	0.00	18.00	High
177	SALAE	12	SALAE-ROPS	14	Riparian Woodland	0.176	NA	0.0	1	9.00	NA	0.00	21.00	High
178	SALAS	4	SALAS-SAEX	11	Riparian Shrubland	1.713	NA	0.0	3	3.00	NA	0.00	7.00	Low
179	SALAE	12	SALAE	14	Riparian Woodland	0.744	NA	0.0	1	9.00	NA	0.00	21.00	High
180	ARTR	0	ARTR	19	Undesignated Upland	0.379	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
181	SALAE	12	SALAE	14	Riparian Woodland	0.016	NA	0.0	3	3.00	NA	0.00	15.00	Medium
182	SALAE	12	SALAE	14	Riparian Woodland	0.018	NA	0.0	2	6.00	NA	0.00	18.00	Medium
183	SALAS	4	SALAS	11	Riparian Shrubland	0.046	NA	0.0	4	1.00	NA	0.00	5.00	Low
184	ROWO	2	ROWO	11	Riparian Shrubland	0.166	NA	0.0	0	0.00	NA	0.00	2.00	Low
185	ARTR	0	ARTR	19	Undesignated Upland	2.142	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
186	ARTR	0	ARTR	19	Undesignated Upland	0.353	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
187	ARTR	0	ARTR	19	Undesignated Upland	0.367	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use

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188	ARTR	0	ARTR	19	Undesignated Upland	1.058	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
189	SALAS	4	SALAS	11	Riparian Shrubland	0.020	NA	0.0	4	1.00	NA	0.00	5.00	Low
190	SALAE	12	SALAE	14	Riparian Woodland	0.024	NA	0.0	1	9.00	NA	0.00	21.00	Medium
191	SALAE	12	SALAE	14	Riparian Woodland	0.033	NA	0.0	2	6.00	NA	0.00	18.00	Medium
192	MASY	0	MASY	8	Riparian Woodland	0.022	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
193	SAEX	4	SAEX	11	Riparian Shrubland	0.341	NA	0.0	3	3.00	NA	0.00	7.00	Low
194	SALAE	12	SALAE	14	Riparian Woodland	0.043	NA	0.0	3	3.00	NA	0.00	15.00	Medium
195	MASY	0	MASY	8	Riparian Woodland	0.024	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
196	MASY	0	MASY	8	Riparian Woodland	0.028	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
197	SALAE	12	SALAE/SALAS-SAEX	13	Riparian Woodland	0.119	NA	0.0	2	6.00	NA	0.00	18.00	Medium
198	SALAS	4	SALAS-SAEX	11	Riparian Shrubland	0.394	NA	0.0	3	3.00	NA	0.00	7.00	Low
199	SAEX	4	SAEX	11	Riparian Shrubland	0.343	NA	0.0	3	3.00	NA	0.00	7.00	Low
199	SALAE	12	SALAE	14	Riparian Woodland	0.020	NA	0.0	2	6.00	NA	0.00	18.00	Medium
200	LETR	0	LETR	6	Pasture Grassland	0.036	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
201	LETR	0	LETR	6	Pasture Grassland	0.072	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
202	SALAE	12	SALAE	14	Riparian Woodland	0.054	NA	0.0	3	3.00	NA	0.00	15.00	Medium
203	SALAS	4	SALAS	11	Riparian Shrubland	0.027	NA	0.0	4	1.00	NA	0.00	5.00	Low
204	SAEX	4	SAEX	11	Riparian Shrubland	0.096	NA	0.0	4	1.00	NA	0.00	5.00	Low
205	POFR	10	POFR	14	Riparian Woodland	0.136	NA	0.0	2	6.00	NA	0.00	16.00	Medium
206	SALAE	12	SALAE-ROPS	14	Riparian Woodland	2.334	NA	0.0	3	3.00	NA	0.00	15.00	Medium
207	ROPS	2	ROPS	20	Riparian Woodland	0.734	NA	0.0	1	9.00	NA	0.00	11.00	Medium
208	ROPS	2	ROPS	20	Riparian Woodland	0.101	NA	0.0	2	6.00	NA	0.00	8.00	Low
209	CHNA	0	CHNA	18	Undesignated Upland	0.090	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
210	road	0	road	35	Bare/Other	0.113	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
211	ARTR	0	ARTR	19	Undesignated Upland	0.564	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
212	ROPS	2	ROPS	20	Riparian Woodland	2.081	5.0	4.0	50.99	6.00	2.10	2.00	14.00	Low
213	BARE	0	BARE	35	Bare/Other	0.901	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
214	ROPS	2	ROPS/ARTR	20	Riparian Woodland	0.045	NA	0.0	3	3.00	NA	0.00	5.00	Low
215	SALAE	12	SALAE	14	Riparian Woodland	0.049	NA	0.0	1	9.00	NA	0.00	21.00	Medium
216	ROPS	2	ROPS/ARTR	20	Riparian Woodland	0.088	NA	0.0	3	3.00	NA	0.00	5.00	Low
217	ARTR	0	ARTR-CHNA	19	Undesignated Upland	4.818	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
218	road	0	road	35	Bare/Other	0.073	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
219	ARTR	0	ARTR	19	Undesignated Upland	0.557	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
220	ARTR	0	ARTR	19	Undesignated Upland	1.235	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
221	ARTR	0	ARTR	19	Undesignated Upland	0.060	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
222	SAEX	4	SAEX	11	Riparian Shrubland	0.120	NA	0.0	4	1.00	NA	0.00	5.00	Low
223	SALAE	12	SALAE	14	Riparian Woodland	0.063	NA	0.0	3	3.00	NA	0.00	15.00	Medium
224	ROPS	2	ROPS	20	Riparian Woodland	0.125	NA	0.0	1	9.00	NA	0.00	11.00	Low
225	ARTR	0	ARTR	19	Undesignated Upland	0.046	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
226	road	0	road	35	Bare/Other	0.289	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
227	ROPS	2	ROPS	20	Riparian Woodland	0.007	NA	0.0	4	1.00	NA	0.00	3.00	Low
228	road	0	road	35	Bare/Other	0.241	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
229	SAEX	4	SAEX	11	Riparian Shrubland	0.032	NA	0.0	4	1.00	NA	0.00	5.00	Low
230	SALAS	4	SALAS	11	Riparian Shrubland	0.013	NA	0.0	3	3.00	NA	0.00	7.00	Low
231	SALAS	4	SALAS	11	Riparian Shrubland	0.008	NA	0.0	4	1.00	NA	0.00	5.00	Low
232	SALAS	4	SALAS	11	Riparian Shrubland	0.009	NA	0.0	4	1.00	NA	0.00	5.00	Low
233	ROPS	2	ROPS/SALAS	20	Riparian Woodland	0.022	NA	0.0	3	3.00	NA	0.00	5.00	Low
234	SAEX	4	SAEX	11	Riparian Shrubland	0.012	NA	0.0	4	1.00	NA	0.00	5.00	Low
235	ROPS	2	ROPS	20	Riparian Woodland	0.028	NA	0.0	1	9.00	NA	0.00	11.00	Medium
236	SALAE	12	SALAE	14	Riparian Woodland	0.062	NA	0.0	3	3.00	NA	0.00	15.00	Medium
237	ROPS	2	ROPS	20	Riparian Woodland	0.015	NA	0.0	2	6.00	NA	0.00	8.00	Low
238	SALAE	12	SALAE/ARTR	14	Riparian Woodland	0.051	NA	0.0	3	3.00	NA	0.00	15.00	Low
239	SAEX	4	SAEX	11	Riparian Shrubland	0.382	NA	0.0	3	3.00	NA	0.00	7.00	Low
240	SAEX	4	SAEX	11	Riparian Shrubland	0.013	NA	0.0	4	1.00	NA	0.00	5.00	Low
241	CHNA	0	CHNA	18	Undesignated Upland	1.134	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
242	SALAE	12	SALAE	14	Riparian Woodland	0.018	NA	0.0	1	9.00	NA	0.00	21.00	Medium
243	SALAS	4	SALAS	11	Riparian Shrubland	0.017	NA	0.0	3	3.00	NA	0.00	7.00	Low
244	CHNA	0	CHNA	18	Undesignated Upland	0.122	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
245	ARTR	0	ARTR	19	Undesignated Upland	2.476	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
246	ROPS	2	ROPS/ARTR	20	Riparian Woodland	0.355	NA	0.0	2	6.00	NA	0.00	8.00	Low
247	ROPS	2	ROPS	20	Riparian Woodland	0.111	NA	0.0	3	3.00	NA	0.00	5.00	Low
248	SALAS	4	SALAS	11	Riparian Shrubland	0.015	NA	0.0	3	3.00	NA	0.00	7.00	Low
249	POFR	10	POFR	14	Riparian Woodland	0.025	NA	0.0	1	9.00	NA	0.00	19.00	Medium
250	SALAE	12	SALAE	14	Riparian Woodland	0.077	NA	0.0	3	3.00	NA	0.00	15.00	Medium
251	SALAE	12	SALAE	14	Riparian Woodland	0.036	NA	0.0	1	9.00	NA	0.00	21.00	Medium
252	SALAE	12	SALAE	14	Riparian Woodland	0.011	NA	0.0	3	3.00	NA	0.00	15.00	Medium
253	SALAE	12	SALAE	14	Riparian Woodland	0.071	8.2	6.0	24.86	3.00	0.30	1.00	22.00	Medium
254	SALAE	12	SALAE	14	Riparian Woodland	0.064	NA	0.0	3	3.00	NA	0.00	15.00	Medium
255	SALAE	12	SALAE	14	Riparian Woodland	0.053	NA	0.0	2	6.00	NA	0.00	18.00	Medium
256	HEAN	0	HEAN	6	Pasture Grassland	0.086	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
257	OLAN	0	OLAN	11	Riparian Shrubland	0.034	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
258	ROWO	2	ROWO-CHNA	11	Riparian Shrubland	0.119	NA	0.0	0	0.00	NA	0.00	2.00	Low
259	HEAN	0	HEAN-GLLE	6	Pasture Grassland	0.179	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
260	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	0.075	NA	0.0	3	3.00	NA	0.00	15.00	Medium
261	LETR	0	LETR/DISP	6	Pasture Grassland	0.164	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
262	ROWO	2	ROWO	11	Riparian Shrubland	0.124	NA	0.0	0	0.00	NA	0.00	2.00	Low
263	SALAS	4	SALAS	11	Riparian Shrubland	0.015	NA	0.0	4	1.00	NA	0.00	5.00	Low
264	SALAS	4	SALAS	11	Riparian Shrubland	0.029	NA	0.0	4	1.00	NA	0.00	5.00	Low
265	SALAS	4	SALAS	11	Riparian Shrubland	0.068	NA	0.0	4	1.00	NA	0.00	5.00	Low
266	CHNA	0	CHNA-ROWO	18	Undesignated Upland	0.155	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
267	ROWO	2	ROWO	11	Riparian Shrubland	0.106	NA	0.0	0	0.00	NA	0.00	2.00	Low
268	CHNA	0	CHNA/LETR	18	Undesignated Upland	0.174	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use

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268	CHNA	0	CHNA/LETR	18	Undesignated Upland	0.174	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
269	ROWO	2	ROWO	11	Riparian Shrubland	0.027	NA	0.0	0	0.00	NA	0.00	2.00	Low
270	SALAE	12	SALAE/CHNA-ROWO	13	Riparian Woodland	0.121	NA	0.0	4	1.00	NA	0.00	13.00	Low
271	LETR	0	LETR	6	Pasture Grassland	0.092	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
272	SALAE	12	SALAE	14	Riparian Woodland	0.076	NA	0.0	2	6.00	NA	0.00	18.00	Medium
273	SALAS	4	SALAS	11	Riparian Shrubland	0.015	NA	0.0	3	3.00	NA	0.00	7.00	Low
274	ROWO	2	ROWO	11	Riparian Shrubland	0.030	NA	0.0	0	0.00	NA	0.00	2.00	Low
275	GLLE	0	GLLE	6	Pasture Grassland	0.452	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
276	LETR	0	LETR	6	Pasture Grassland	0.120	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
277	SALAE	12	SALAE/SALAS-SAEX	13	Riparian Woodland	1.508	9.8	6.0	42.54	6.00	2.70	2.00	26.00	High
278	SALAS	4	SALAS	11	Riparian Shrubland	0.033	NA	0.0	4	1.00	NA	0.00	5.00	Low
279	SALAS	4	SALAS-OLAN	11	Riparian Shrubland	0.324	NA	0.0	4	1.00	NA	0.00	5.00	Low
280	SALAE	12	SALAE	14	Riparian Woodland	0.183	NA	0.0	3	3.00	NA	0.00	15.00	Low
281	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.025	NA	0.0	2	6.00	NA	0.00	18.00	Medium
282	SALAS	4	SALAS	11	Riparian Shrubland	0.026	NA	0.0	3	3.00	NA	0.00	7.00	Low
283	SALAE	12	SALAE	14	Riparian Woodland	0.098	NA	0.0	2	6.00	NA	0.00	18.00	Medium
284	SALAE	12	SALAE	14	Riparian Woodland	0.050	NA	0.0	1	9.00	NA	0.00	21.00	High
285	ROPS	2	ROPS	20	Riparian Woodland	0.264	NA	0.0	1	9.00	NA	0.00	11.00	Medium
286	SALAS	4	SALAS	11	Riparian Shrubland	0.079	1.9	2.0	9.14	3.00	1.60	1.00	10.00	Low
287	SAEX	4	SAEX	11	Riparian Shrubland	0.081	NA	0.0	3	3.00	NA	0.00	7.00	Low
288	CHNA	0	CHNA	18	Undesignated Upland	0.101	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
289	CHNA	0	CHNA-ROWO	18	Undesignated Upland	0.126	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
290	SAEX	4	SAEX-ROWO	11	Riparian Shrubland	0.550	NA	0.0	2	6.00	NA	0.00	10.00	Low
291	CHNA	0	CHNA	18	Undesignated Upland	1.186	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
292	SAEX	4	SAEX	11	Riparian Shrubland	0.509	NA	0.0	3	3.00	NA	0.00	7.00	Low
293	SALAE	12	SALAE/SALAS-ARTR	13	Riparian Woodland	0.131	NA	0.0	1	9.00	NA	0.00	21.00	High
294	SCAM	0	SCAM	3	Wet Meadow	0.082	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
295	ARTR	0	ARTR-CHNA	19	Undesignated Upland	1.094	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
296	SALAE	12	SALAE	14	Riparian Woodland	3.141	4.3	4.0	48.08	6.00	4.27	3.00	25.00	High
297	ROPS	2	ROPS	20	Riparian Woodland	0.157	NA	0.0	3	3.00	NA	0.00	5.00	Low
298	SALAE	12	SALAE	14	Riparian Woodland	0.084	NA	0.0	1	9.00	NA	0.00	21.00	High
299	SALAS	4	SALAS	11	Riparian Shrubland	0.659	NA	0.0	4	1.00	NA	0.00	5.00	Low
300	ARTR	0	ARTR	19	Undesignated Upland	0.187	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
301	CORA	0	CORA	19	Undesignated Upland	0.732	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
302	ARTR	0	ARTR	19	Undesignated Upland	0.282	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
303	ARTR	0	ARTR	19	Undesignated Upland	4.019	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
303	SAEX	4	SAEX	11	Riparian Shrubland	0.830	NA	0.0	3	3.00	NA	0.00	7.00	Low
304	GLLE	0	GLLE-PLLA	6	Pasture Grassland	0.106	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
304	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.473	NA	0.0	3	3.00	NA	0.00	15.00	Medium
305	LETR	0	LETR	6	Pasture Grassland	0.372	0.5	2.0	0.00	0.00	0.50	1.00	3.00	Non-use
305	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.476	NA	0.0	3	3.00	NA	0.00	15.00	Medium
306	CHNA	0	CHNA/LETR	18	Undesignated Upland	0.717	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
306	SALAE	12	SALAE	14	Riparian Woodland	0.127	NA	0.0	3	3.00	NA	0.00	15.00	Medium
307	GLLE	0	GLLE	6	Pasture Grassland	0.445	0.3	2.0	0.00	0.00	0.30	1.00	3.00	Non-use
307	SALAS	4	SALAS	11	Riparian Shrubland	0.063	NA	0.0	4	1.00	NA	0.00	5.00	Low
308	ARTR	0	ARTR	19	Undesignated Upland	0.357	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
308	ROWO	2	ROWO	11	Riparian Shrubland	0.179	NA	0.0	0	0.00	NA	0.00	2.00	Low
309	road	0	road	35	Bare/Other	0.104	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
309	SAEX	4	SAEX	11	Riparian Shrubland	0.179	NA	0.0	3	3.00	NA	0.00	7.00	Low
310	ARTR	0	ARTR	19	Undesignated Upland	0.307	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
310	ROWO	2	ROWO	11	Riparian Shrubland	0.063	1.0	2.0	0.00	0.00	0.60	1.00	5.00	Low
311	SAEX	4	SAEX	11	Riparian Shrubland	0.197	NA	0.0	3	3.00	NA	0.00	7.00	Low
312	CHNA	0	CHNA	18	Undesignated Upland	0.080	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
313	SAEX	4	SAEX	11	Riparian Shrubland	0.076	NA	0.0	3	3.00	NA	0.00	7.00	Low
314	HEAN	0	HEAN	6	Pasture Grassland	1.002	1.0	2.0	0.00	0.00	1.00	1.00	3.00	Non-use
315	GLLE	0	GLLE-XAST	6	Pasture Grassland	0.174	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
316	ARTR	0	ARTR	19	Undesignated Upland	0.454	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
317	ARTR	0	ARTR	19	Undesignated Upland	1.782	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
318	road	0	road	35	Bare/Other	0.336	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
319	SALAE	12	SALAS/SOCO	11	Riparian Shrubland	0.749	NA	0.0	3	3.00	NA	0.00	15.00	Low
320	SALAE	12	SALAE	14	Riparian Woodland	0.917	NA	0.0	1	9.00	NA	0.00	21.00	High
321	ROPS	2	ROPS	20	Riparian Woodland	0.252	NA	0.0	3	3.00	NA	0.00	5.00	Low
322	ROPS	2	ROPS/CHNA	20	Riparian Woodland	0.866	NA	0.0	2	6.00	NA	0.00	8.00	Low
323	ROPS	2	ROPS	20	Riparian Woodland	0.089	7.0	4.0	66.20	9.00	3.30	3.00	18.00	Medium
324	SAEX	4	SAEX	11	Riparian Shrubland	0.269	NA	0.0	3	3.00	NA	0.00	7.00	Low
325	MASY	0	MASY	8	Riparian Woodland	0.010	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
326	CHNA	0	CHNA	18	Undesignated Upland	0.096	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
327	POTR	10	POTR-ROPS-SALAE/	14	Riparian Woodland	0.709	NA	0.0	2	6.00	NA	0.00	16.00	Medium
328	SALAE	12	SALAE	14	Riparian Woodland	0.020	NA	0.0	1	9.00	NA	0.00	21.00	Medium
329	MASY	0	MASY	8	Riparian Woodland	0.026	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
330	MASY	0	MASY	8	Riparian Woodland	0.042	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
331	FOPU	0	FOPU	11	Riparian Shrubland	0.051	NA	0.0	4	1.00	NA	0.00	1.00	Non-use
332	SALAS	4	SALAS	11	Riparian Shrubland	0.098	NA	0.0	3	3.00	NA	0.00	7.00	Low
333	GLLE	0	GLLE	6	Pasture Grassland	0.038	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
334	SAEX	4	SAEX	11	Riparian Shrubland	0.163	NA	0.0	3	3.00	NA	0.00	7.00	Low
335	SAEX	4	SAEX-CHNA-ROWO	11	Riparian Shrubland	1.015	2.0	2.0	13.47	3.00	1.95	1.00	10.00	Low
336	MASY	0	MASY	8	Riparian Woodland	0.039	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
337	SAEX	4	SAEX	11	Riparian Shrubland	0.079	NA	0.0	3	3.00	NA	0.00	7.00	Low
338	SAEX	4	SAEX	11	Riparian Shrubland	0.368	NA	0.0	3	3.00	NA	0.00	7.00	Low
339	SALAE	12	SALAE	14	Riparian Woodland	0.123	NA	0.0	2	6.00	NA	0.00	18.00	Medium
340	SALAE	12	SALAE	14	Riparian Woodland	0.038	NA	0.0	2	6.00	NA	0.00	18.00	Medium

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341	SALAE	12	SALAE	14	Riparian Woodland	0.485	NA	0.0	1	9.00	NA	0.00	21.00	High
341	SALAE	12	SALAE	14	Riparian Woodland	0.040	NA	0.0	1	9.00	NA	0.00	21.00	Medium
342	ROPS	2	ROPS	20	Riparian Woodland	0.038	NA	0.0	2	6.00	NA	0.00	8.00	Low
343	ROPS	2	ROPS	20	Riparian Woodland	0.110	NA	0.0	2	6.00	NA	0.00	8.00	Low
344	ROPS	2	ROPS	20	Riparian Woodland	0.155	NA	0.0	2	6.00	NA	0.00	8.00	Low
345	ROPS	2	ROPS	20	Riparian Woodland	0.060	NA	0.0	3	3.00	NA	0.00	5.00	Low
346	ROPS	2	ROPS	20	Riparian Woodland	0.037	6.0	4.0	50.30	6.00	3.80	3.00	15.00	Low
347	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.778	NA	0.0	1	9.00	NA	0.00	21.00	High
348	SAEX	4	SAEX-PHAU	11	Riparian Shrubland	0.843	NA	0.0	3	3.00	NA	0.00	7.00	Low
349	ROPS	2	ROPS/SALAS	20	Riparian Woodland	0.209	NA	0.0	2	6.00	NA	0.00	8.00	Low
350	ARTR	0	ARTR	19	Undesignated Upland	0.047	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
351	ARTR	0	ARTR	19	Undesignated Upland	0.846	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
352	road	0	road	35	Bare/Other	0.229	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
353	MASY	0	MASY	8	Riparian Woodland	0.014	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
354	SAEX	4	SAEX	11	Riparian Shrubland	0.020	NA	0.0	4	1.00	NA	0.00	5.00	Low
355	POTR	10	POTR	14	Riparian Woodland	0.125	NA	0.0	2	6.00	NA	0.00	16.00	Medium
356	SALAS	4	SALAS	11	Riparian Shrubland	0.014	NA	0.0	4	1.00	NA	0.00	5.00	Low
357	SAEX	4	SAEX	11	Riparian Shrubland	0.423	NA	0.0	3	3.00	NA	0.00	7.00	Low
358	SALAS	4	SALAS	11	Riparian Shrubland	0.813	NA	0.0	3	3.00	NA	0.00	7.00	Low
359	MASY	0	MASY	8	Riparian Woodland	0.021	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
360	DACA	0	DACA	6	Pasture Grassland	0.054	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
361	ARTR	0	ARTR	19	Undesignated Upland	4.999	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
362	CHNA	0	CHNA	18	Undesignated Upland	0.388	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
363	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	0.407	NA	0.0	1	9.00	NA	0.00	21.00	High
364	CHNA	0	CHNA-ROWO	18	Undesignated Upland	0.361	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
365	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.071	NA	0.0	1	9.00	NA	0.00	21.00	High
366	SALAE	12	SALAE	14	Riparian Woodland	1.037	8.0	6.0	55.32	6.00	4.35	3.00	27.00	High
367	SALAE	12	SALAE	14	Riparian Woodland	0.021	NA	0.0	3	3.00	NA	0.00	15.00	Medium
368	JUBA	0	JUBA	7	Pasture Grassland	0.061	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
369	SAEX	4	SAEX	11	Riparian Shrubland	0.344	NA	0.0	3	3.00	NA	0.00	7.00	Low
370	ROPS	2	ROPS	20	Riparian Woodland	0.739	NA	0.0	1	9.00	NA	0.00	11.00	Low
371	ROPS	2	ROPS	20	Riparian Woodland	0.062	NA	0.0	1	9.00	NA	0.00	11.00	Low
372	H20	0	H20	1	Wet Meadow	0.026	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
373	PHAU	0	PHAU	18	Undesignated Upland	0.059	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
374	SAEX	4	SAEX	11	Riparian Shrubland	0.057	NA	0.0	3	3.00	NA	0.00	7.00	Low
375	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.103	NA	0.0	1	9.00	NA	0.00	21.00	High
376	SALAS	4	SALAS	11	Riparian Shrubland	0.107	NA	0.0	3	3.00	NA	0.00	7.00	Low
377	SALAS	4	SALAS-SA	11	Riparian Shrubland	0.119	NA	0.0	3	3.00	NA	0.00	7.00	Low
378	SAEX	4	SAEX-SALAS	11	Riparian Shrubland	0.193	NA	0.0	3	3.00	NA	0.00	7.00	Low
379	SALAS	4	SALAS	11	Riparian Shrubland	1.089	NA	0.0	3	3.00	NA	0.00	7.00	Low
380	SALAE	12	SALAE-ROPS/SALAS	13	Riparian Woodland	1.055	NA	0.0	1	9.00	NA	0.00	21.00	High
381	SAEX	4	SAEX	11	Riparian Shrubland	0.054	NA	0.0	4	1.00	NA	0.00	5.00	Low
382	ROWO	2	ROWO	11	Riparian Shrubland	0.022	NA	0.0	0	0.00	NA	0.00	2.00	Low
383	ROWO	2	ROWO	11	Riparian Shrubland	0.063	NA	0.0	0	0.00	NA	0.00	2.00	Low
384	ROWO	2	ROWO	11	Riparian Shrubland	0.029	NA	0.0	0	0.00	NA	0.00	2.00	Low
385	SALAS	4	SALAS	11	Riparian Shrubland	0.011	NA	0.0	3	3.00	NA	0.00	7.00	Low
386	SCAM	0	SCAM-SOCO	3	Wet Meadow	0.040	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
387	HEAN	0	HEAN-GLLE	6	Pasture Grassland	0.331	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
388	LETR	0	LETR-GLLE	6	Pasture Grassland	0.213	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
389	LETR	0	LETR	6	Pasture Grassland	0.159	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
390	CHNA	0	CHNA-GLLE	18	Undesignated Upland	0.236	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
391	CHNA	0	CHNA	18	Undesignated Upland	0.082	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
392	CHNA	0	CHNA	18	Undesignated Upland	0.000	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
393	SAEX	4	SAEX-CHNA-ROWO	11	Riparian Shrubland	1.618	NA	0.0	4	1.00	NA	0.00	5.00	Low
394	DACA	0	DACA	6	Pasture Grassland	0.157	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
395	SAEX	4	SAEX-CHNA-ROWO	11	Riparian Shrubland	0.025	NA	0.0	4	1.00	NA	0.00	5.00	Low
396	SPAR	0	SPAR-LETR	6	Pasture Grassland	0.968	0.9	2.0	0.00	0.00	0.70	1.00	3.00	Non-use
397	road	0	road	35	Bare/Other	0.370	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
398	SPAR	0	SPAR-LETR	6	Pasture Grassland	0.322	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
399	SALAE	12	SALAE	14	Riparian Woodland	0.649	7.5	6.0	35.52	3.00	4.50	3.00	24.00	High
400	SAEX	4	SAEX-ROWO	11	Riparian Shrubland	0.105	NA	0.0	2	6.00	NA	0.00	10.00	Low
401	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.205	NA	0.0	4	1.00	NA	0.00	5.00	Low
402	SAEX	4	SAEX/SPAR	11	Riparian Shrubland	0.110	NA	0.0	4	1.00	NA	0.00	5.00	Low
403	LECI	0	LECI-CHNA/LETR	6	Pasture Grassland	0.290	0.9	2.0	0.00	0.00	0.90	1.00	3.00	Non-use
404	SALAS	4	SALAS	11	Riparian Shrubland	0.008	NA	0.0	4	1.00	NA	0.00	5.00	Low
405	LETR	0	LETR	6	Pasture Grassland	0.123	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
406	CHNA	0	CHNA/LETR	18	Undesignated Upland	0.544	0.9	2.0	0.00	0.00	0.90	1.00	3.00	Non-use
407	SALAE	12	SALAE/BEOC-SALAS	13	Riparian Woodland	0.581	7.5	6.0	62.04	6.00	2.50	2.00	26.00	High
408	H20	0	H20	1	Wet Meadow	0.039	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
409	CHNA	0	CHNA-GLLE	18	Undesignated Upland	0.017	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
410	SALAE	12	SALAE	14	Riparian Woodland	0.120	NA	0.0	2	6.00	NA	0.00	18.00	Medium
411	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.101	NA	0.0	4	1.00	NA	0.00	5.00	Low
412	MASY	0	MASY	8	Riparian Woodland	0.037	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
413	CHNA	0	CHNA	18	Undesignated Upland	0.102	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
414	LETR	0	LETR	6	Pasture Grassland	0.024	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
415	POTR	10	POTR/SALAE-BEOC	13	Riparian Woodland	0.267	NA	0.0	2	6.00	NA	0.00	16.00	Medium

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416	CHNA	0	CHNA/LETR	18	Undesignated Upland	0.333	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
417	SAEX	4	SAEX	11	Riparian Shrubland	0.098	NA	0.0	3	3.00	NA	0.00	7.00	Low
418	road	0	road	35	Bare/Other	0.431	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
419	CHNA	0	CHNA	18	Undesignated Upland	0.789	0.5	2.0	0.00	0.00	0.50	1.00	3.00	Non-use
420	ROPS	2	ROPS	20	Riparian Woodland	0.014	NA	0.0	2	6.00	NA	0.00	8.00	Low
421	SALAS	4	SALAS	11	Riparian Shrubland	0.027	NA	0.0	4	1.00	NA	0.00	5.00	Low
422	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.027	NA	0.0	4	1.00	NA	0.00	5.00	Low
423	ROPS	2	ROPS-SALAE	20	Riparian Woodland	0.239	NA	0.0	1	9.00	NA	0.00	11.00	Medium
424	SALAE	12	SALAE	14	Riparian Woodland	0.033	NA	0.0	4	1.00	NA	0.00	13.00	Low
425	SALAE	12	SALAE	14	Riparian Woodland	0.036	NA	0.0	3	3.00	NA	0.00	15.00	Medium
426	CHNA	0	CHNA	18	Undesignated Upland	0.050	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
427	SALAE	12	SALAE/SALAS-BEOC	13	Riparian Woodland	0.856	NA	0.0	1	9.00	NA	0.00	21.00	High
428	ROWO	2	ROWO	11	Riparian Shrubland	0.035	NA	0.0	0	0.00	NA	0.00	2.00	Low
429	ROWO	2	ROWO	11	Riparian Shrubland	0.028	0.2	2.0	0.00	0.00	0.20	1.00	5.00	Low
430	ROWO	2	ROWO	11	Riparian Shrubland	0.061	NA	0.0	0	0.00	NA	0.00	2.00	Low
431	ROWO	2	ROWO	11	Riparian Shrubland	0.020	NA	0.0	0	0.00	NA	0.00	2.00	Low
432	ROWO	2	ROWO	11	Riparian Shrubland	0.037	NA	0.0	0	0.00	NA	0.00	2.00	Low
433	ROWO	2	ROWO	11	Riparian Shrubland	0.039	NA	0.0	0	0.00	NA	0.00	2.00	Low
434	ROWO	2	ROWO	11	Riparian Shrubland	0.015	NA	0.0	0	0.00	NA	0.00	2.00	Low
435	ROWO	2	ROWO	11	Riparian Shrubland	0.038	NA	0.0	0	0.00	NA	0.00	2.00	Low
436	SALAE	12	SALAE	14	Riparian Woodland	0.040	NA	0.0	3	3.00	NA	0.00	15.00	Low
437	SALAE	12	SALAE	14	Riparian Woodland	0.072	NA	0.0	2	6.00	NA	0.00	18.00	Medium
438	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.115	NA	0.0	1	9.00	NA	0.00	21.00	High
439	SALAE	12	SALAE	14	Riparian Woodland	0.103	NA	0.0	1	9.00	NA	0.00	21.00	High
440	SALAE	12	SALAE	14	Riparian Woodland	0.100	NA	0.0	3	3.00	NA	0.00	15.00	Medium
441	SALAE	12	SALAE	14	Riparian Woodland	0.045	NA	0.0	4	1.00	NA	0.00	13.00	Low
442	MASY	0	MASY	8	Riparian Woodland	0.024	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
443	MASY	0	MASY	8	Riparian Woodland	0.032	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
444	ROWO	2	ROWO	11	Riparian Shrubland	0.022	NA	0.0	0	0.00	NA	0.00	2.00	Low
445	POTR	10	POTR	14	Riparian Woodland	0.018	NA	0.0	2	6.00	NA	0.00	16.00	Medium
446	POTR	10	POTR/ROWO	13	Riparian Woodland	0.034	NA	0.0	1	9.00	NA	0.00	19.00	High
447	ROPS	2	ROPS/ROWO	20	Riparian Woodland	0.063	NA	0.0	1	9.00	NA	0.00	11.00	Low
448	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	0.503	NA	0.0	2	6.00	NA	0.00	18.00	Medium
449	ROPS	2	ROPS/ROWO	20	Riparian Woodland	0.136	NA	0.0	2	6.00	NA	0.00	8.00	Medium
450	CHNA	0	CHNA	18	Undesignated Upland	0.073	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
451	ROWO	2	ROWO	11	Riparian Shrubland	0.086	NA	0.0	0	0.00	NA	0.00	2.00	Low
452	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.044	NA	0.0	1	9.00	NA	0.00	21.00	High
453	SALAE	12	SALAE	14	Riparian Woodland	0.032	NA	0.0	1	9.00	NA	0.00	21.00	High
454	road	0	road	35	Bare/Other	0.064	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
455	JUBA	0	JUBA-pasture	7	Pasture Grassland	0.377	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
456	ROPS	2	ROPS	20	Riparian Woodland	1.007	NA	0.0	1	9.00	NA	0.00	11.00	Medium
457	ARTR	0	ARTR	19	Undesignated Upland	0.111	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
458	CORA	0	CORA	19	Undesignated Upland	0.188	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
459	road	0	road	35	Bare/Other	1.042	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
460	SALAE	12	SALAE/SALAS-BEOC	13	Riparian Woodland	0.595	11.5	4.0	52.68	6.00	4.50	3.00	25.00	High
461	CHNA	0	CHNA	18	Undesignated Upland	1.412	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
462	ROPS	2	ROPS/ROWO	20	Riparian Woodland	0.734	13.5	4.0	63.34	6.00	7.50	3.00	15.00	Low
464	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.089	NA	0.0	3	3.00	NA	0.00	15.00	Medium
465	ROPS	2	ROPS	20	Riparian Woodland	0.073	NA	0.0	2	6.00	NA	0.00	8.00	Low
466	ARTR	0	ARTR-CHNA	19	Undesignated Upland	0.972	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
467	MASY	0	MASY/ROWO	8	Riparian Woodland	0.029	NA	0.0	3	3.00	NA	0.00	3.00	Low
468	MASY	0	MASY	8	Riparian Woodland	0.015	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
469	ROWO	2	ROWO	11	Riparian Shrubland	0.044	NA	0.0	0	0.00	NA	0.00	2.00	Low
470	ROWO	2	ROWO	11	Riparian Shrubland	0.590	NA	0.0	0	0.00	NA	0.00	2.00	Low
471	ROPS	2	ROPS	20	Riparian Woodland	0.032	NA	0.0	4	1.00	NA	0.00	3.00	Low
472	SALAS	4	SALAS-BEOC	11	Riparian Shrubland	0.036	NA	0.0	3	3.00	NA	0.00	7.00	Low
473	ROPS	2	ROPS	20	Riparian Woodland	0.107	NA	0.0	2	6.00	NA	0.00	8.00	Low
474	SALAS	4	SALAS-BEOC	11	Riparian Shrubland	0.202	NA	0.0	4	1.00	NA	0.00	5.00	Low
475	ROPS	2	ROPS	20	Riparian Woodland	0.239	NA	0.0	1	9.00	NA	0.00	11.00	Medium
476	JUBA	0	JUBA-pasture	7	Pasture Grassland	1.914	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
477	ARTR	0	ARTR	19	Undesignated Upland	0.432	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
478	ROPS	2	ROPS	20	Riparian Woodland	0.312	12.0	4.0	77.90	9.00	2.40	2.00	17.00	Medium
479	POTR	10	POTR-SALAE	14	Riparian Woodland	0.217	NA	0.0	1	9.00	NA	0.00	19.00	High
480	ROPS	2	ROPS-SALAE	20	Riparian Woodland	0.011	NA	0.0	3	3.00	NA	0.00	5.00	Low
481	SAEX	4	SAEX-ARTR	11	Riparian Shrubland	0.635	NA	0.0	4	1.00	NA	0.00	5.00	Low
482	LETR	0	LETR	6	Pasture Grassland	0.049	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
483	LETR	0	LETR	6	Pasture Grassland	0.069	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
484	ROPS	2	ROPS/SALAS	20	Riparian Woodland	0.467	NA	0.0	3	3.00	NA	0.00	5.00	Low
485	SAEX	4	SAEX	11	Riparian Shrubland	0.132	NA	0.0	4	1.00	NA	0.00	5.00	Low
486	ROPS	2	ROPS	20	Riparian Woodland	0.056	NA	0.0	3	3.00	NA	0.00	5.00	Low

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487	SALAE	12	SALAE	14	Riparian Woodland	0.052	NA	0.0	2	6.00	NA	0.00	18.00
488	CHNA	0	CHNA-ARTR	18	Undesignated Upland	0.463	NA	0.0	NA	0.00	NA	0.00	0.00
489	SALAE	12	SALAE-ROPS/CHNA	14	Riparian Woodland	2.491	NA	0.0	4	1.00	NA	0.00	13.00
490	SALAE	12	SALAE-ROPS/CHNA	14	Riparian Woodland	0.106	NA	0.0	4	1.00	NA	0.00	13.00
491	ROPS	2	ROPS	20	Riparian Woodland	4.291	5.2	4.0	31.75	3.00	2.48	2.00	11.00
492	ROPS	2	ROPS	20	Riparian Woodland	0.610	NA	0.0	3	3.00	NA	0.00	5.00
493	SALAE	12	SALAE-ROPS	14	Riparian Woodland	0.288	7.0	4.0	72.18	9.00	5.05	3.00	28.00
494	SALAE	12	SALAE/CHNA-SALAS	13	Riparian Woodland	2.019	NA	0.0	4	1.00	NA	0.00	13.00
495	CHNA	0	CHNA-ARTR	18	Undesignated Upland	1.231	NA	0.0	NA	0.00	NA	0.00	0.00
496	ARTR	0	ARTR-CHNA	19	Undesignated Upland	1.359	NA	0.0	NA	0.00	NA	0.00	0.00
497	road	0	road	35	Bare/Other	0.214	NA	0.0	NA	0.00	NA	0.00	0.00
498	CHNA	0	CHNA-ARTR	18	Undesignated Upland	0.742	NA	0.0	NA	0.00	NA	0.00	0.00
499	ARTR	0	ARTR	19	Undesignated Upland	0.588	NA	0.0	NA	0.00	NA	0.00	0.00
500	SALAE	12	SALAE	14	Riparian Woodland	0.019	NA	0.0	1	9.00	NA	0.00	21.00
501	ROPS	2	ROPS	20	Riparian Woodland	0.126	NA	0.0	4	1.00	NA	0.00	3.00
502	SAEX	4	SAEX-SALAS	11	Riparian Shrubland	0.175	NA	0.0	4	1.00	NA	0.00	5.00
503	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.159	NA	0.0	2	6.00	NA	0.00	18.00
504	CHNA	0	CHNA-ARTR	18	Undesignated Upland	0.399	NA	0.0	NA	0.00	NA	0.00	0.00
505	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.141	NA	0.0	2	6.00	NA	0.00	18.00
506	ROPS	2	ROPS	20	Riparian Woodland	0.190	NA	0.0	4	1.00	NA	0.00	3.00
507	SAEX	4	SAEX-ROWO	11	Riparian Shrubland	0.134	NA	0.0	4	1.00	NA	0.00	5.00
508	SALAE	12	SALAE	14	Riparian Woodland	0.042	NA	0.0	1	9.00	NA	0.00	21.00
509	SALAE	12	SALAE	14	Riparian Woodland	0.019	NA	0.0	1	9.00	NA	0.00	21.00
510	JUBA	0	JUBA-pasture	7	Pasture Grassland	0.879	NA	0.0	NA	0.00	NA	0.00	0.00
511	MASY	0	MASY	8	Riparian Woodland	0.057	NA	0.0	NA	0.00	NA	0.00	0.00
512	ROPS	2	ROPS	20	Riparian Woodland	1.061	NA	0.0	4	1.00	NA	0.00	3.00
513	CHNA	0	CHNA	18	Undesignated Upland	0.601	NA	0.0	NA	0.00	NA	0.00	0.00
514	CHNA	0	CHNA	18	Undesignated Upland	0.200	NA	0.0	NA	0.00	NA	0.00	0.00
515	CHNA	0	CHNA	18	Undesignated Upland	0.068	NA	0.0	NA	0.00	NA	0.00	0.00
516	CHNA	0	CHNA	18	Undesignated Upland	1.467	NA	0.0	NA	0.00	NA	0.00	0.00
517	SALAE	12	SALAE-CHNA-FOPU	11	Riparian Shrubland	5.053	NA	0.0	4	1.00	NA	0.00	13.00
518	SALAS	4	SALAS	11	Riparian Shrubland	0.026	NA	0.0	4	1.00	NA	0.00	5.00
519	SALAS	4	SALAS	11	Riparian Shrubland	0.074	NA	0.0	4	1.00	NA	0.00	5.00
520	SALAS	4	SALAS	11	Riparian Shrubland	0.018	NA	0.0	4	1.00	NA	0.00	5.00
521	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.176	NA	0.0	2	6.00	NA	0.00	18.00
522	ROPS	2	ROPS/MASY	20	Riparian Woodland	0.033	NA	0.0	3	3.00	NA	0.00	5.00
523	SAEX	4	SAEX	11	Riparian Shrubland	0.048	NA	0.0	4	1.00	NA	0.00	5.00
524	ROPS	2	ROPS	20	Riparian Woodland	0.027	NA	0.0	4	1.00	NA	0.00	3.00
525	SALAE	12	SALAE/SALAS	13	Riparian Woodland	1.168	11.5	4.0	61.67	6.00	4.60	3.00	25.00
526	CHNA	0	CHNA	18	Undesignated Upland	0.351	NA	0.0	NA	0.00	NA	0.00	0.00
527	ROPS	2	ROPS-SALAE/SALAS	20	Riparian Woodland	4.098	5.0	4.0	35.00	3.00	4.10	3.00	12.00
528	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.299	NA	0.0	3	3.00	NA	0.00	15.00
529	POFR	10	POFR	14	Riparian Woodland	0.028	NA	0.0	2	6.00	NA	0.00	16.00
530	SALAE	12	SALAE	14	Riparian Woodland	0.017	NA	0.0	1	9.00	NA	0.00	21.00
531	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.016	NA	0.0	2	6.00	NA	0.00	18.00
532	SALAE	12	SALAE	14	Riparian Woodland	0.018	NA	0.0	2	6.00	NA	0.00	18.00
533	SALAS	4	SALAS	11	Riparian Shrubland	0.013	NA	0.0	4	1.00	NA	0.00	5.00
534	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.133	NA	0.0	3	3.00	NA	0.00	15.00
535	QULO	0	QULO	14	Riparian Woodland	0.055	NA	0.0	NA	0.00	NA	0.00	0.00
536	SALAE	12	SALAE	14	Riparian Woodland	0.029	NA	0.0	2	6.00	NA	0.00	18.00
537	SALAE	12	SALAE	14	Riparian Woodland	0.112	NA	0.0	3	3.00	NA	0.00	15.00
538	SALAE	12	SALAE	14	Riparian Woodland	0.026	NA	0.0	2	6.00	NA	0.00	18.00
539	SALAE	12	SALAE	14	Riparian Woodland	0.015	NA	0.0	3	3.00	NA	0.00	15.00
540	ROWO	2	ROWO	11	Riparian Shrubland	0.078	NA	0.0	0	0.00	NA	0.00	2.00
541	FOPU	0	FOPU-ROWO	11	Riparian Shrubland	0.143	NA	0.0	4	1.00	NA	0.00	1.00
542	FOPU	0	FOPU	11	Riparian Shrubland	0.012	NA	0.0	4	1.00	NA	0.00	1.00
543	ROPS	2	ROPS/CHNA	20	Riparian Woodland	0.228	NA	0.0	4	1.00	NA	0.00	3.00
544	ROWO	2	ROWO/LETR	11	Riparian Shrubland	0.136	NA	0.0	0	0.00	NA	0.00	2.00
545	FOPU	0	FOPU	11	Riparian Shrubland	0.058	NA	0.0	4	1.00	NA	0.00	1.00
546	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	1.470	NA	0.0	3	3.00	NA	0.00	15.00
547	ROPS	2	ROPS	20	Riparian Woodland	0.041	NA	0.0	4	1.00	NA	0.00	3.00
548	MASY	0	MASY	8	Riparian Woodland	0.030	NA	0.0	NA	0.00	NA	0.00	0.00
549	ROPS	2	ROPS	20	Riparian Woodland	0.438	NA	0.0	4	1.00	NA	0.00	3.00
550	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.045	NA	0.0	3	3.00	NA	0.00	15.00
551	SALAE	12	SALAE/CHNA/LETR	14	Riparian Woodland	0.527	NA	0.0	4	1.00	NA	0.00	13.00
552	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.162	NA	0.0	1	9.00	NA	0.00	21.00
553	LETR	0	LETR-pasture	7	Pasture Grassland	4.298	NA	0.0	NA	0.00	NA	0.00	0.00
554	SALAE	12	SALAE	14	Riparian Woodland	0.078	NA	0.0	2	6.00	NA	0.00	18.00
555	SALAE	12	SALAE	14	Riparian Woodland	0.137	NA	0.0	1	9.00	NA	0.00	21.00
556	SALAE	12	SALAE	14	Riparian Woodland	0.030	NA	0.0	1	9.00	NA	0.00	21.00
557	SALAE	12	SALAE	14	Riparian Woodland	0.007	NA	0.0	1	9.00	NA	0.00	21.00

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558	ROWO	2	ROWO	11	Riparian Shrubland	0.039	NA	0.0	0	0.00	NA	0.00	2.00	Low
559	ROWO	2	ROWO	11	Riparian Shrubland	0.206	NA	0.0	0	0.00	NA	0.00	2.00	Low
560	SAEX	4	SAEX	11	Riparian Shrubland	0.040	NA	0.0	4	1.00	NA	0.00	5.00	Low
561	SALAE	12	SALAE	14	Riparian Woodland	0.009	NA	0.0	1	9.00	NA	0.00	21.00	Medium
562	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.080	NA	0.0	2	6.00	NA	0.00	18.00	Medium
563	ROPS	2	ROPS	20	Riparian Woodland	0.125	NA	0.0	3	3.00	NA	0.00	5.00	Low
563	ROWO	2	ROWO	11	Riparian Shrubland	0.125	NA	0.0	0	0.00	NA	0.00	2.00	Low
564	SALAE	12	SALAE	14	Riparian Woodland	0.021	NA	0.0	1	9.00	NA	0.00	21.00	Medium
565	POFR	10	POFR	14	Riparian Woodland	0.096	NA	0.0	1	9.00	NA	0.00	19.00	Medium
566	POFR	10	POFR	14	Riparian Woodland	0.065	NA	0.0	2	6.00	NA	0.00	16.00	Medium
567	SALAS	4	SALAS-ROWO	11	Riparian Shrubland	0.027	NA	0.0	4	1.00	NA	0.00	5.00	Low
568	SALAE	12	SALAE/CHNA	14	Riparian Woodland	0.229	NA	0.0	4	1.00	NA	0.00	13.00	Low
569	SAEX	4	SAEX-CHNA	11	Riparian Shrubland	0.515	NA	0.0	4	1.00	NA	0.00	5.00	Low
570	SALAE	12	SALAE	14	Riparian Woodland	0.014	NA	0.0	2	6.00	NA	0.00	18.00	Medium
571	SALAE	12	SALAE/SAEX-CHNA	13	Riparian Woodland	0.726	NA	0.0	4	1.00	NA	0.00	13.00	Low
572	ROWO	2	ROWO	11	Riparian Shrubland	0.105	NA	0.0	0	0.00	NA	0.00	2.00	Low
573	CHNA	0	CHNA-ROWO-SALAE	18	Undesignated Upland	0.427	1.0	2.0	0.00	0.00	1.00	1.00	3.00	Low
574	MASY	0	MASY-FOPU/CHNA	8	Riparian Woodland	0.214	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
575	ROWO	2	ROWO-CHNA	11	Riparian Shrubland	0.203	0.7	2.0	1.86	1.00	0.70	1.00	6.00	Low
576	SALAE	12	SALAE/SALAS-FOPU	13	Riparian Woodland	2.291	3.6	2.0	18.43	3.00	2.15	2.00	19.00	Medium
577	SALAS	4	SALAS	11	Riparian Shrubland	0.165	NA	0.0	4	1.00	NA	0.00	5.00	Low
578	ROPS	2	ROPS/CHNA	20	Riparian Woodland	0.460	NA	0.0	4	1.00	NA	0.00	3.00	Low
579	CHNA	0	CHNA-ARTR	18	Undesignated Upland	8.127	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
580	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.069	NA	0.0	3	3.00	NA	0.00	15.00	Medium
581	SALAE	12	SALAE	14	Riparian Woodland	0.028	NA	0.0	3	3.00	NA	0.00	15.00	Medium
582	FOPU	0	FOPU	11	Riparian Shrubland	0.044	NA	0.0	4	1.00	NA	0.00	1.00	Non-use
583	ROWO	2	ROWO	11	Riparian Shrubland	0.085	NA	0.0	0	0.00	NA	0.00	2.00	Low
584	ROWO	2	ROWO	11	Riparian Shrubland	0.399	NA	0.0	0	0.00	NA	0.00	2.00	Low
586	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.011	NA	0.0	2	6.00	NA	0.00	18.00	Medium
587	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.008	NA	0.0	2	6.00	NA	0.00	18.00	Medium
588	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.040	NA	0.0	3	3.00	NA	0.00	15.00	Medium
589	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.016	NA	0.0	3	3.00	NA	0.00	15.00	Medium
590	ROWO	2	ROWO	11	Riparian Shrubland	0.069	NA	0.0	0	0.00	NA	0.00	2.00	Low
591	ROWO	2	ROWO-CHNA	11	Riparian Shrubland	0.019	NA	0.0	0	0.00	NA	0.00	2.00	Low
592	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.030	NA	0.0	2	6.00	NA	0.00	18.00	Medium
593	ROWO	2	ROWO	11	Riparian Shrubland	0.053	NA	0.0	0	0.00	NA	0.00	2.00	Low
594	ROWO	2	ROWO	11	Riparian Shrubland	0.043	NA	0.0	0	0.00	NA	0.00	2.00	Low
595	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.281	NA	0.0	3	3.00	NA	0.00	15.00	Medium
596	SALAE	12	SALAE/ROWO	13	Riparian Woodland	0.169	NA	0.0	3	3.00	NA	0.00	15.00	Medium
597	CANE	0	CANE/H20	3	Wet Meadow	0.087	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
598	SCAM	0	SCAM	3	Wet Meadow	0.035	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
599	TYLA	0	TYLA/H20	3	Wet Meadow	0.168	1.0	2.0	0.00	0.00	1.00	1.00	3.00	Non-use
600	ROWO	2	ROWO	11	Riparian Shrubland	0.223	NA	0.0	0	0.00	NA	0.00	2.00	Low
601	SALAE	12	SALAE/SALAS	13	Riparian Woodland	5.693	NA	0.0	3	3.00	NA	0.00	15.00	Medium
602	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.450	NA	0.0	3	3.00	NA	0.00	15.00	Medium
603	dam	0	beaver dam	35	Bare/Other	0.055	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
604	H20	0	H20	1	Wet Meadow	0.150	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
605	TYLA	0	TYLA/H20	3	Wet Meadow	0.157	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
606	SALAE	12	SALAE/SALAS/SCAM	13	Riparian Woodland	0.578	NA	0.0	3	3.00	NA	0.00	15.00	Medium
607	SALAS	4	SALAS	11	Riparian Shrubland	0.394	NA	0.0	4	1.00	NA	0.00	5.00	Low
608	SOCO	0	SOCO-CANE	3	Wet Meadow	0.171	0.5	2.0	0.00	0.00	0.50	1.00	3.00	Non-use
609	SALAS	4	SALAS/CANE	11	Riparian Shrubland	0.675	NA	0.0	4	1.00	NA	0.00	5.00	Low
610	willowwe	0	UNKNOWN	3	Wet Meadow	0.218	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
611	CANE	0	CANE-JUBA	3	Wet Meadow	0.079	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
612	SALAS	4	SALAS	11	Riparian Shrubland	0.217	NA	0.0	4	1.00	NA	0.00	5.00	Low
613	SALAE	12	SALAS-SAEX-ROWO	11	Riparian Shrubland	0.664	NA	0.0	3	3.00	NA	0.00	15.00	Medium
614	SALAS	4	SALAS-SAEX-ROWO	11	Riparian Shrubland	1.150	5.5	4.0	32.64	3.00	3.35	3.00	14.00	Low
615	LETR	0	LETR	6	Pasture Grassland	0.068	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
616	SALAS	4	SALAS	11	Riparian Shrubland	0.026	NA	0.0	4	1.00	NA	0.00	5.00	Low
617	CANE	0	CANE	3	Wet Meadow	0.051	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
618	CANE	0	CANE	3	Wet Meadow	0.050	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
619	CANE	0	CANE	3	Wet Meadow	0.018	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
620	SALAS	4	SALAS	11	Riparian Shrubland	0.095	NA	0.0	4	1.00	NA	0.00	5.00	Low
621	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.066	NA	0.0	1	9.00	NA	0.00	21.00	High
622	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.088	NA	0.0	3	3.00	NA	0.00	15.00	Medium
623	SALAE	12	SALAE	14	Riparian Woodland	0.067	NA	0.0	3	3.00	NA	0.00	15.00	Medium
624	GLLE	0	GLLE	6	Pasture Grassland	0.070	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
625	ROWO	2	ROWO	11	Riparian Shrubland	0.034	NA	0.0	0	0.00	NA	0.00	2.00	Low
626	ROWO	2	ROWO	11	Riparian Shrubland	0.037	NA	0.0	0	0.00	NA	0.00	2.00	Low
627	SAEX	4	SAEX	11	Riparian Shrubland	0.134	NA	0.0	4	1.00	NA	0.00	5.00	Low
628	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.181	NA	0.0	3	3.00	NA	0.00	15.00	Medium

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629	SAEX	4	SAEX	11	Riparian Shrubland	0.088	NA	0.0	4	1.00	NA	0.00	5.00	Low
630	ROWO	2	ROWO-SOCO	11	Riparian Shrubland	0.157	NA	0.0	0	0.00	NA	0.00	2.00	Low
631	SOCO	0	SOCO-SCAM-CANE	3	Wet Meadow	1.475	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
632	SOCO	0	SOCO-SCAM-CANE	3	Wet Meadow	0.414	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
633	SCAM	0	SCAM-CANE	3	Wet Meadow	0.556	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
634	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.191	NA	0.0	3	3.00	NA	0.00	15.00	Medium
635	ROWO	2	ROWO	11	Riparian Shrubland	0.057	NA	0.0	0	0.00	NA	0.00	2.00	Low
636	SALAS	4	SALAS/CANE	11	Riparian Shrubland	1.078	NA	0.0	4	1.00	NA	0.00	5.00	Low
637	SCAM	0	SCAM-CANE/H20	3	Wet Meadow	0.339	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
638	SALAS	4	SALAS	11	Riparian Shrubland	0.011	NA	0.0	4	1.00	NA	0.00	5.00	Low
639	CANE	0	CANE-JUBA	3	Wet Meadow	0.193	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
640	ROWO	2	ROWO	11	Riparian Shrubland	0.033	NA	0.0	0	0.00	NA	0.00	2.00	Low
641	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.084	NA	0.0	3	3.00	NA	0.00	15.00	Medium
642	SALAE	4	SALAS/ROWO	11	Riparian Shrubland	0.109	NA	0.0	4	1.00	NA	0.00	5.00	Low
643	SALAE	12	SALAE/LETR	14	Riparian Woodland	0.068	NA	0.0	3	3.00	NA	0.00	15.00	Medium
644	SALAS	4	SALAS	11	Riparian Shrubland	0.046	NA	0.0	3	3.00	NA	0.00	7.00	Low
645	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	0.001	NA	0.0	1	9.00	NA	0.00	21.00	High
646	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	1.275	9.5	6.0	1.00	9.00	4.75	3.00	30.00	High
647	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	1.706	NA	0.0	3	3.00	NA	0.00	15.00	Medium
648	ROPS	2	ROPS/ROWO-SALAS	20	Riparian Woodland	0.504	NA	0.0	2	6.00	NA	0.00	8.00	Low
649	SALAS	4	SALAS-SALAE	11	Riparian Shrubland	4.333	NA	0.0	4	1.00	NA	0.00	5.00	Low
650	SALAE	12	SALAE/SALAS/CANE	13	Riparian Woodland	0.153	NA	0.0	2	6.00	NA	0.00	18.00	Medium
651	CHNA	0	CHNA	18	Undesignated Upland	0.369	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
852	ROPS	2	ROPS/SALAS	20	Riparian Woodland	0.245	NA	0.0	3	3.00	NA	0.00	5.00	Low
853	ROPS	2	ROPS	20	Riparian Woodland	0.222	NA	0.0	3	3.00	NA	0.00	5.00	Low
854	SALAE	12	SALAE/SALAS-SAEX	13	Riparian Woodland	0.970	NA	0.0	3	3.00	NA	0.00	15.00	Medium
855	SALAS	4	SALAS-SALAE-SAEX	11	Riparian Shrubland	0.864	NA	0.0	4	1.00	NA	0.00	5.00	Low
856	SCAM	0	SCAM-CANE	3	Wet Meadow	0.596	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
857	SALAS	4	SALAS-SALAE-SAEX	11	Riparian Shrubland	0.017	NA	0.0	4	1.00	NA	0.00	5.00	Low
858	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.356	NA	0.0	3	3.00	NA	0.00	15.00	Medium
859	SALAS	4	SALAS-SALAE	11	Riparian Shrubland	1.647	NA	0.0	4	1.00	NA	0.00	5.00	Low
860	SALAS	4	SALAS-SALAE-SAEX	11	Riparian Shrubland	1.255	NA	0.0	4	1.00	NA	0.00	5.00	Low
861	SALAE	12	SALAE	14	Riparian Woodland	0.093	NA	0.0	3	3.00	NA	0.00	15.00	Medium
862	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.096	NA	0.0	3	3.00	NA	0.00	15.00	Medium
863	SALAE	12	SALAE	14	Riparian Woodland	0.062	NA	0.0	3	3.00	NA	0.00	15.00	Medium
864	SALAS	4	SALAS-SALAE/CANE	11	Riparian Shrubland	1.600	6.0	4.0	39.16	3.00	6.00	3.00	14.00	Low
865	SALAE	12	SALAE/ARTR	14	Riparian Woodland	0.096	NA	0.0	3	3.00	NA	0.00	15.00	Medium
866	SALAE	12	SALAE/CHNA-ROWO	13	Riparian Woodland	0.246	NA	0.0	3	3.00	NA	0.00	15.00	Medium
867	SALAE	12	SALAE/CHNA-ARTR	14	Riparian Woodland	0.303	NA	0.0	3	3.00	NA	0.00	15.00	Medium
868	SALAE	12	SALAE/SALAS	13	Riparian Woodland	0.238	NA	0.0	3	3.00	NA	0.00	15.00	Medium
869	SALAS	4	SALAS-SALAE	11	Riparian Shrubland	1.009	5.5	4.0	84.40	9.00	4.50	3.00	20.00	Medium
870	ROWO	2	ROWO	11	Riparian Shrubland	0.037	NA	0.0	0	0.00	NA	0.00	2.00	Low
871	GLLE	0	GLLE-LETR	6	Pasture Grassland	0.224	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
872	SALAS	4	SALAS-SALAE	11	Riparian Shrubland	0.207	NA	0.0	2	6.00	NA	0.00	10.00	Medium
873	SALAE	12	SALAE	14	Riparian Woodland	0.030	NA	0.0	3	3.00	NA	0.00	15.00	Medium
874	SALAE	12	SALAE	14	Riparian Woodland	0.022	NA	0.0	3	3.00	NA	0.00	15.00	Medium
875	SALAE	12	SALAE	14	Riparian Woodland	0.016	NA	0.0	3	3.00	NA	0.00	15.00	Medium
876	SALAE	12	SALAE	14	Riparian Woodland	0.015	NA	0.0	3	3.00	NA	0.00	15.00	Medium
877	ROPS	2	ROPS-SALAE	20	Riparian Woodland	0.067	NA	0.0	3	3.00	NA	0.00	5.00	Low
878	SALAS	4	SALAS-SAEX	11	Riparian Shrubland	0.160	NA	0.0	4	1.00	NA	0.00	5.00	Low
879	ARTR	0	ARTR	19	Undesignated Upland	0.057	0.5	2.0	7.10	3.00	0.50	1.00	6.00	Non-use
880	SALAE	12	SALAE/ROWO-CHNA	13	Riparian Woodland	0.181	NA	0.0	4	1.00	NA	0.00	13.00	Low
881	SALAE	12	SALAE/ARTR	14	Riparian Woodland	0.157	NA	0.0	3	3.00	NA	0.00	15.00	Medium
882	SALAE	12	SALAE/SALAS-SAEX	13	Riparian Woodland	0.379	5.6	4.0	69.06	9.00	3.30	3.00	28.00	High
883	ROPS	2	ROPS	20	Riparian Woodland	0.107	NA	0.0	3	3.00	NA	0.00	5.00	Low
884	SALAE	12	SALAE/CHNA-ARTR	14	Riparian Woodland	0.543	NA	0.0	3	3.00	NA	0.00	15.00	Medium
885	LETR	0	LETR	6	Pasture Grassland	0.113	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
886	LETR	0	LETR-pasture	7	Pasture Grassland	15.301	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
887	SALAE	12	SALAE/CHNA	14	Riparian Woodland	1.246	NA	0.0	3	3.00	NA	0.00	15.00	Medium
888	SALAE	12	SALAE/SALAS-ROWC	13	Riparian Woodland	5.662	11.0	4.0	72.69	9.00	4.53	3.00	28.00	High
889	CHNA	0	CHNA	18	Undesignated Upland	0.166	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
890	SALAS	4	salas?	11	Riparian Shrubland	0.017	NA	0.0	4	1.00	NA	0.00	5.00	Low
891	ROPS	2	ROPS	20	Riparian Woodland	0.478	NA	0.0	1	9.00	NA	0.00	11.00	Medium
892	CHNA	0	CHNA-ARTR	18	Undesignated Upland	0.774	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
893	SALAE	12	SALAE-CHNA-SALAS	11	Riparian Shrubland	2.700	NA	0.0	4	1.00	NA	0.00	13.00	Low
894	SALAE	12	SALAE-SAEX	11	Riparian Shrubland	0.149	NA	0.0	4	1.00	NA	0.00	13.00	Low
895	SALAS	4	SALAS	11	Riparian Shrubland	0.163	NA	0.0	3	3.00	NA	0.00	7.00	Low
896	ROPS	2	ROPS	20	Riparian Woodland	0.476	14.0	4.0	79.72	9.00	3.70	3.00	18.00	Medium
897	SALAS	4	SALAS-SALAE	11	Riparian Shrubland	0.249	NA	0.0	4	1.00	NA	0.00	5.00	Low
898	SALAS	4	SALAS-SALAE-SAEX	11	Riparian Shrubland	2.345	3.1	2.0	47.22	6.00	2.40	2.00	14.00	Low
899	paved ro	0	paved road	35	Bare/Other	3.372	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
900	paved ro	0	paved road	35	Bare/Other	0.003	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
901	road	0	road	35	Bare/Other	0.000	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
902	road	0	road	35	Bare/Other	0.200	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use
903	ROPS	2	ROPS	20	Riparian Woodland	0.060	NA	0.0	1	9.00	NA	0.00	11.00	Low
904	irrigate	0	irrigated pastur	7	Pasture Grassland	93.571	0.3	2.0	0.00	0.00	0.33	1.00	3.00	Non-use
905	irrigate	0	irrigated pastur	7	Pasture Grassland	18.502	NA	0.0	NA	0.00	NA	0.00	0.00	Non-use

**Please note that Canopy Closure data for non-sampled polygons is categorical. Categories correspond to the canopy closure ranks in Table 2.

Appendix C

Hogback Creek Enhancement Plan

HOGBACK CREEK

FINAL
YELLOW-BILLED CUCKOO ENHANCEMENT PLAN

Prepared by:



Ecosystem Sciences

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Otis Bay Consulting

April 22, 2005

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1.0 INTRODUCTION

The MOU (1997) and the Stipulation and Order require the Consultants and their subcontractors to conduct an evaluation of the condition of Yellow-billed Cuckoo (YBC) habitat in the riparian woodland areas of Hogback and Baker creeks. Based on that evaluation, Consultants will develop, as they deem warranted, YBC Habitat Enhancement Plans for these areas. The habitat enhancement plan will identify reasonable and feasible actions or projects to maintain and/or improve the habitat of the YBC. In developing the plan, the Consultants and the subcontractors will consider the recommendations for this area that were identified in the *Distribution of Breeding Riparian Birds in Owens Valley, Inyo County, California* (Laymon and Williams 1994) and will confer with DWP, the lessee and the Parties.

The MOU (1997) also emphasizes the continuation of sustainable uses including livestock grazing. Land management plans (i.e., grazing management plans) will consider multiple resource values, and will provide for management based upon holistic management principles. Management plans will provide for the continuation of sustainable livestock grazing (MOU 1997). This plan fulfills part of the requirement outlined in the MOU by promoting reasonable and feasible grazing management strategies that will maintain and/or improve YBC habitat. This plan will integrate with other plans, such as the Owens Valley Land Management Plan, to fulfill the requirements of the MOU.

2.0 PROJECT DESCRIPTION

Overview

Implementing the Hogback Creek YBC Enhancement Plan will improve habitat for yellow-billed cuckoos. The enhancement will be done by: (1) planting cottonwoods and tree form willows; (2) reducing the numbers of livestock; (3) altering the season of use of grazing; (4) fencing the area to keep out trespass grazing; and (5) removing black locust. A small riparian area (7.5 acres) south of the southern boundary of the Hogback Creek Pasture will be fenced and will be permanently excluded from grazing.

The Hogback Creek YBC Enhancement Plan is similar to Alternative 2 in the Phase II plan. The major changes are that no areas within the Hogback Pasture will be permanently excluded from grazing and only the small 7.5 acre area south of the pasture will be excluded from grazing. Any other grazing exclosures will be on an as needed basis and will encompass single trees or small groups of up to 10 trees that have been planted on the site. Since no grazing will be done on the site during the growing season for cottonwoods and willows, even these temporary exclosures may not be necessary.

Restoration Activities

The 330 acre Hogback Creek area currently has 128.6 acres (39%) of YBC habitat, of which 51.8 acres is high (40.3%), 19.5 acres is medium (15.2%) and 57.3 acres is low (44.6%) suitability cuckoo habitat. Restoration activities will primarily be done in the three priority enhancement areas as defined in the draft alternatives.

There would be little change in the total acreage of cuckoo habitat at Hogback Creek. Planting of cottonwoods, especially at the edge of the habitat patches, will have the effect of widening the corridors and enlarging the patches. Additional cottonwood and tree form willow trees will be planted within the habitat patches to create more tree species diversity, overstory, and foliage volume, and hence, better cuckoo habitat.

Trees will be planted using poles if the site is within 4 feet to ground water or rooted cutting if the site is four to six feet to ground water. If poles can be used the area will not need to be irrigated. If groundwater is deeper and rooted cuttings are used, irrigation will be needed for 1 to 2 years. If needed, these trees and clumps will be protected by small exclosures or individual tree cages.

The primary enhancement would come from changing low suitability habitat to medium and medium suitability habitat to high. Some of the habitat enhancement will come from natural recovery of the habitat from the recent fire and some will come from planting willows and cottonwoods. A goal for the restoration project, as the habitat recovers from the recent fire, is that 15 acres could become highly suitable. In addition, 15 acres would be enhanced by planted willows and cottonwoods and could also become highly suitable. Along with the net increase of 5.5 acres of habitat, this would yield a total of 87.8 acres (65.2%) of highly suitable cuckoo habitat. The remaining 46.8 acres would be divided between medium and low suitability.

Hogback Riparian Exclosure

A 7.5 acre area adjacent to the Hogback Pasture will be fenced on the south side and will become a permanent grazing exclosure. This area contains approximately 5.5 acres of cuckoo habitat, most of which is currently highly suitable for cuckoos. Restoration of this area will include pole plantings of willows and cottonwoods. If needed rooted cuttings will be planted and irrigated by a drip system for a year or two.

Grazing Changes

To manage the riparian vegetation at this site grazing will be altered in several ways. Most importantly, the fence around the site will be rebuilt and most gates will be removed. This will keep cattle that are grazing on adjacent LADWP and BLM lands from grazing the Hogback Creek area. This unauthorized grazing has added 50% or more to the grazing pressure on the site. In addition, the number of horses and/or mules will be reduced from 40-55 head to 35 head. The season

of use will also be adjusted. The 4 month grazing period will be changed from the current 1 January - 30 April to 1 December – 31 March. This removes grazing during the period when willows and cottonwoods are leafed out. The new herbaceous forage utilization will allow 40% for the riparian zone and 65% on the upland areas. These grazing changes will make a substantial change in the management of the area in favor of riparian vegetation condition and recruitment.

Black Locust Removal

There are currently only a few black locust trees on the Hogback Creek site. All black locust will be removed from the site.

3.0 EFFECTS ON YELLOW-BILLED CUCKOOS

The Hogback Creek Enhancement Plan will have a positive effect on yellow-billed cuckoo habitat and potentially a positive effect on the cuckoo population. The positive effects will come from an increase in total acreage of cuckoo habitat, a decrease in habitat fragmentation, and most importantly a substantial increase in habitat suitability. The overall cuckoo habitat will increase from 128.6 acres to 134.6 acres, an increase of 5.5 acres. This represents an overall increase of 4.7%. This increase will have a small positive effect on the suitability of the area for cuckoos.

The increase in highly suitable habitat from 51.8 acres to 87.8 acres is an increase of 36.0 acres and an increase of 69.5%. This increase in highly suitable habitat at Hogback Creek Area will affect the potential for cuckoos in the area in a very positive manner.

Grazing will be reduced in the area and there will be no overlap between grazing season and the time in which trees are leafed out. The reduction in forage utilization to 40% in the existing riparian zone and 65% in the upland zone will encourage additional establishment of riparian habitat.

Implementation of this restoration plan will have a positive effect on yellow-billed cuckoos. Currently the area is occupied only by an unmated cuckoo in some years. The plan will provide habitat for one to two nesting pairs of cuckoos.

In summary, the restoration plan would provide more riparian habitat, an increase from 128.6 to 134.6 acres with the percent of highly suitable habitat raising from 40.3% to 69.5%. Implementing this plan would return the site to slightly better than the 1981 condition.

How the Hogback Creek YBC Enhancement Plan Addresses the Concerns and Recommendations Raised in Previous Reports and Comments

This section presents the concerns and recommendations that were raised in Laymon and Williams (1994 and 1999) reports and any additional concerns that were raised in the Phase I report. There were no recommendations listed in the Laymon and Williams 1994 report that were not repeated in the Laymon and Williams 1999 report, so we deal only with the 1999 report and the Phase I report. Each concern and recommendation is listed and then a determination is made whether or not the restoration plan meets that concern or recommendation.

The following concerns and recommendations are from the Laymon and Williams 1999 report and are highlighted in bold type:

1) Grazing should be excluded from the riparian area during the cuckoo breeding season (1 June to 1 September).

The Hogback Creek YBC Enhancement Plan meets this concern and recommendation.

2) Grazing during the other portions of the season should be monitored and managed to prevent highlining, trampling of understory vegetation, and damage to tree seedlings.

Under the Hogback Creek YBC Enhancement Plan, the reduction in forage use, reduction in livestock numbers, change in season of use and an introduction of a grazing monitoring plan meets this concern and recommendation.

3) Sites should be sampled to determine suitability for planting of willows and cottonwoods.

This has already been carried out under Phase I.

4) Short-term use as a holding area between 1 September and 1 June does not appear to be a problem, but, it should be done for a short period of time and with few enough cattle that willows are not highlined or trampled. Highlining and seedling survival should be monitored and grazing intensity should be kept at a level where damage does not occur.

The Hogback Creek YBC Enhancement Plan meets this concern and recommendation as cattle will no longer be grazing on the area. Grazing will be monitored to ensure that the new grazing prescriptions are not damaging the riparian habitat.

5) Controlled burns should be kept away from the riparian zone, either by precluding burns in the area or by creating firebreaks between the fires and the riparian zone.

The Hogback Creek YBC Enhancement Plan meets this concern and recommendation by requiring the construction fire breaks between uplands and riparian areas prior to allowing controlled burns on the adjacent uplands.

6) Cottonwoods should be planted at the edge of the riparian zone to broaden the zone and provide more diversity of tree species.

The Hogback Creek YBC Enhancement Plan meets this concern and recommendation by planting cottonwood trees along forest edges, within select pockets of the priority enhancement areas, and within the narrow drainages between these areas.

7) Area should be closed to salvage firewood collection.

The Hogback Creek YBC Enhancement Plan meets this concern and recommendation by permanently closing the area to salvage firewood collection.

Summary of Hogback Creek Enhancement to Meet Concerns and Recommendations

The Hogback Creek YBC Enhancement Plan would fully meet 6 of the 6 specific concerns and recommendations from Laymon and Williams 1999 and from the Scope of Work that have not already been carried out under Phase I.

This Hogback Creek YBC Enhancement Plan would add 6 acres of riparian habitat. The plan goes beyond simple rehabilitation or revegetation of the area, providing long-term suitable habitat, providing measures to promote natural recruitment, and controlling black locust invasion. Most importantly, the plan would greatly increase the highly suitable habitat at the site from 51.8 acres to 87.8 acres. The carrying capacity for cuckoos would be increased from the current habitat which supports one unmated male in some years to a habitat area that could regularly support one to two pairs of cuckoos.

4.0 PLANTING REQUIREMENTS

Yellow-billed Cuckoo Habitat Goals

The Hogback Creek YBC Enhancement Plan includes creating highly suitable habitat for cuckoos. The short term outlook for cuckoos would be for an unmated male or a pair of nesting cuckoos and the long term outlook would be for two pairs of nesting cuckoos (S. Laymon). Enhancement would include measures to actively control and eradicate black locust, include a supplemental cottonwood planting program, and permanently manage livestock grazing and recreational use within the priority enhancement areas and within the narrow drainages between these areas (Figure 1). Campfires and woodcutting would be restricted and a fire break would be constructed between the upland and riparian areas prior to conducting any controlled burns in the area. Cottonwoods would be planted into select pockets within the priority enhancement areas and along the narrow drainages between priority enhancement areas to improve existing habitat for the yellow-billed cuckoo. Planting areas will be identified where the

natural hydrologic conditions are sufficient to support new plant establishment and long-term recruitment possibilities. According to Dr. Steve Laymon, the addition of 400 mature cottonwood trees within the entire Hogback Creek project area would aid in converting much of the area into high suitability habitat for the yellow-billed cuckoo.

Hydrologic alterations to stimulate new riparian growth and forest recruitment will not occur. Stream diversion and ditch management would occur according to the natural stream flow regime. It is important, however, that current hydrologic conditions such as springs, seeps, and channel flow not be reduced or eliminated. These current hydrologic conditions provide the foundation for the riparian ecosystem.

Long term habitat goals, which could be accomplished with successful plantings, include (1) attaining approximately one acre of cottonwood forest in each of the priority enhancement areas within existing riparian shrublands and along the edges of wet meadow areas, and (2) attaining 2 acres along the drainages between the priority enhancement areas and along the southwest portion of the project area. Natural recruitment within existing wet meadow areas near springs with intermittent and perennial flow could possibly result in the establishment of 0.25 acre of cottonwoods (Otis Bay, Phase II Report, 2004).

It will be imperative to retain the current spring flow regimes throughout the Hogback Creek project area into perpetuity to ensure the existing complex mosaic of riparian, wetland, and upland habitat does not become further degraded and to maintain the hydrologic conditions which are more favorable to cottonwood and willow recruitment. Habitat goals for Hogback Creek are summarized in Table 1.

Desired Future Conditions

Vegetation data indicated that existing riparian tree willow, shrub willow, and understory composition within the Hogback Creek area is adequate for suitable yellow-billed cuckoo habitat. An assumption is made that the successful establishment of additional cottonwood plants (overstory) will improve existing habitat such that highly suitable yellow-billed cuckoo habitat will be created.

Under the enhancement plan approximately 5.5 acres of additional cottonwoods could be attained through plantings and natural recruitment. The addition of 5.5 acres of cottonwoods throughout the Hogback Creek project area would convert much of the existing riparian forest and riparian shrublands (128.6 acres) into mostly highly suitable yellow-billed cuckoo habitat. Establishment of fire breaks would help keep controlled burns from spreading into the area. Livestock grazing and recreational use would be managed in the area. The short term outlook for cuckoos would be for an unmated male or a pair of nesting cuckoos and the long term outlook would be for two and possibly three pairs of nesting cuckoos.

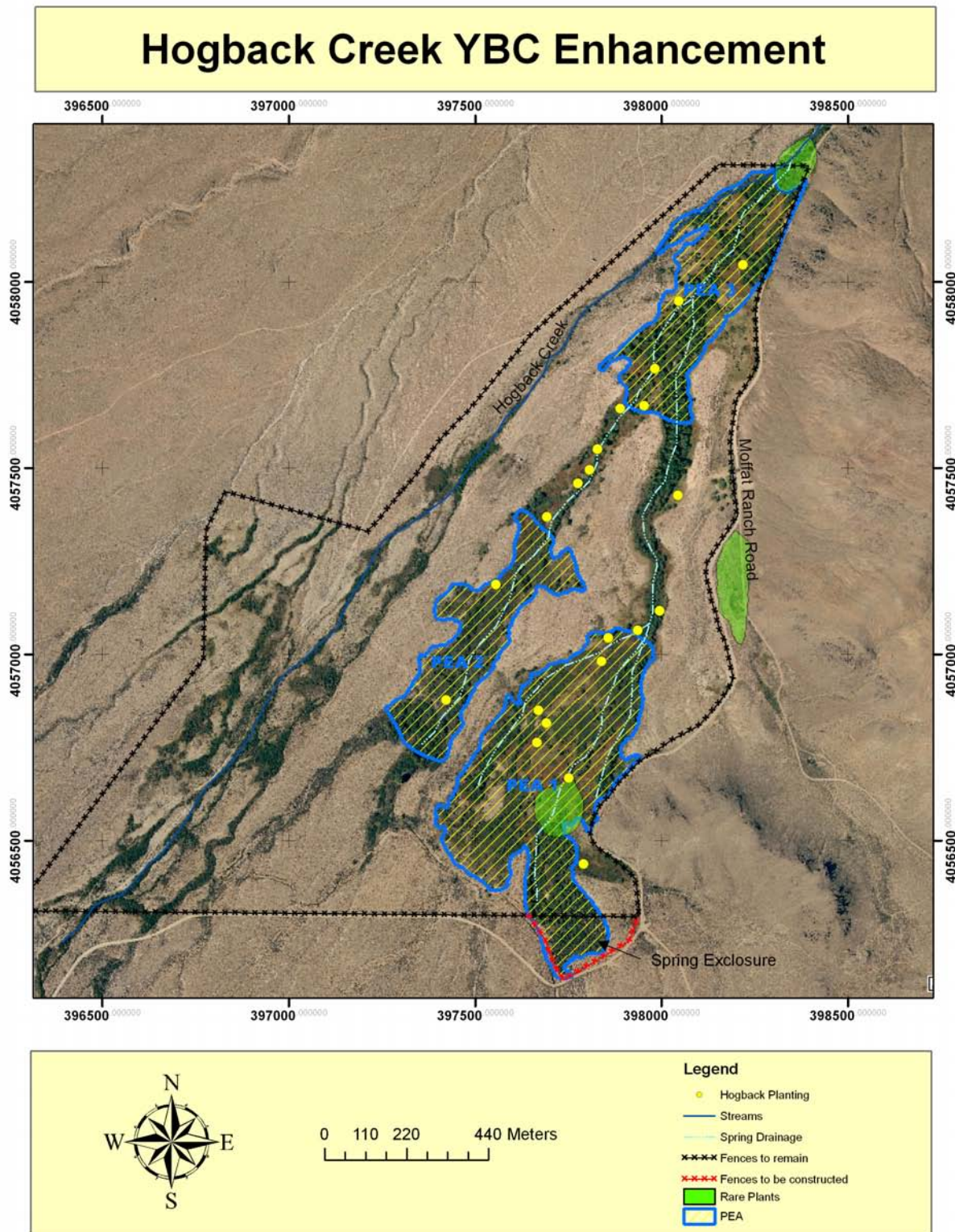


Figure 1. Hogback Creek YBC Enhancement Plan

Table 1. Desired Future Conditions

Total Habitat	Acres
Riparian Forest	+75.2 (+3.5)
Black Locust Riparian Forest	0 (-0.2)
Riparian Shrubland	40.9 (-1.75)
Emergent Marsh/Bog	0.9 (NC)
Wet Meadow	8 (-1.75)
Upland	2.6 (NC)
Developed	0 (NC)
Yellow-Billed Cuckoo Habitat Created (Ac)	+5.5²
Total Suitable Yellow- Billed Cuckoo Habitat within the 331-Acre Hogback Creek Site (Ac) (128.6 Acres Existing)	134.1³ (41%)
Black Locust Riparian Forest Remaining within 331-Acre Hogback Creek Site (Ac)	0
Rare Plant Habitat (Ac)	3.6

1. NC = No change.

2. Includes 2 acres of cottonwoods planted along drainages between priority enhancement areas.

3. The existing 128.6 acres of riparian forest and riparian shrublands will be converted to highly suitable yellow-billed cuckoo habitat.

Management Options and Additional Actions to Improve and Enhance Yellow-billed Cuckoo Habitat

Management options will emphasize enhancing the quality of yellow-billed cuckoo habitat within the Hogback Creek project area by improving riparian forest/riparian shrubland species composition and by creating larger, contiguous expanses of habitat. The proposed management alternative was developed to reduce continued disturbances mainly associated with livestock grazing, recreational use, human caused fires, and black locust expansion. Recreational wood cutting will no longer be allowed under any of the alternatives.

In order to enhance the existing habitat within the Hogback Creek project area, Fremont cottonwoods will be planted into select locations of each priority enhancement area, along the drainages between the priority enhancement areas, and within the southwest drainages. These plantings will improve plant species composition. An aggressive black locust eradication and control program will be implemented. The program will also include monitoring to locate new black locust plants and applying herbicides to kill existing plants before they spread. The boundaries of the priority enhancement areas were specifically

selected to satisfy the minimal size and habitat configurations yellow-billed cuckoos require for successful nesting and foraging.

5.0 GRAZING

Lease Description

The Hogback Creek Lease (675 acres) is part of the Reds Meadow Pack Station Grazing Lease (RLI-429). The Lease is used to help support a horse and mule packer operation in the Sierras. The Lease is northwest of the Alabama Hills, west of Highway 395, and south of Manzanar between the towns of Independence and Lone Pine (Figure 2). The Lease lies north of the Moffet Ranch Road and is 1.5 miles long and 0.5 miles wide (Figure 3).

Hogback Creek flows through the northwest side of the lease. Riparian/wetland habitat (270 acres) is associated with Hogback Creek and spring drainages. Spring drainage associated riparian habitat occupies two main corridors running from southwest to northeast with dry uplands between.

Most of the Lease vegetation burned in 1987 when a controlled fire intended to improve range condition (as related to grazing) grew out of control. A 1999 field evaluation (Ecosystem Sciences No Date) found riparian trees and shrubs recovering well from fire effects, largely from root sprouting.

Riparian/Wetland Lands

Riparian/wetland vegetation is associated with Hogback Creek and a large spring (DWP 6) complex (Figure 3). The spring complex, with several scattered sources, drains towards Hogback Creek. The complex mainly supports riparian shrub vegetation (128 acres) and mesic saltgrass meadow (22 acres). Scattered trees and a couple small wet meadows are also present. Hogback Creek and surrounding springs were flowing from the Lease and reaching the LADWP aqueduct on June 30, 2000.

Rare Plants

The Owens Valley checkerbloom (*Sidalcea covillei*), a California endangered plant occurs on the Hogback Creek Lease (Figure 3). Checkerbloom typically occurs on alkali meadows. Checkerbloom areas (4 acres) have been identified on the Lease (Figure 3). Other plant and animal species of concern may be present on the Lease. The grazing management changes will enhance riparian and upland habitats and, in turn, improve the status of these species should they exist.

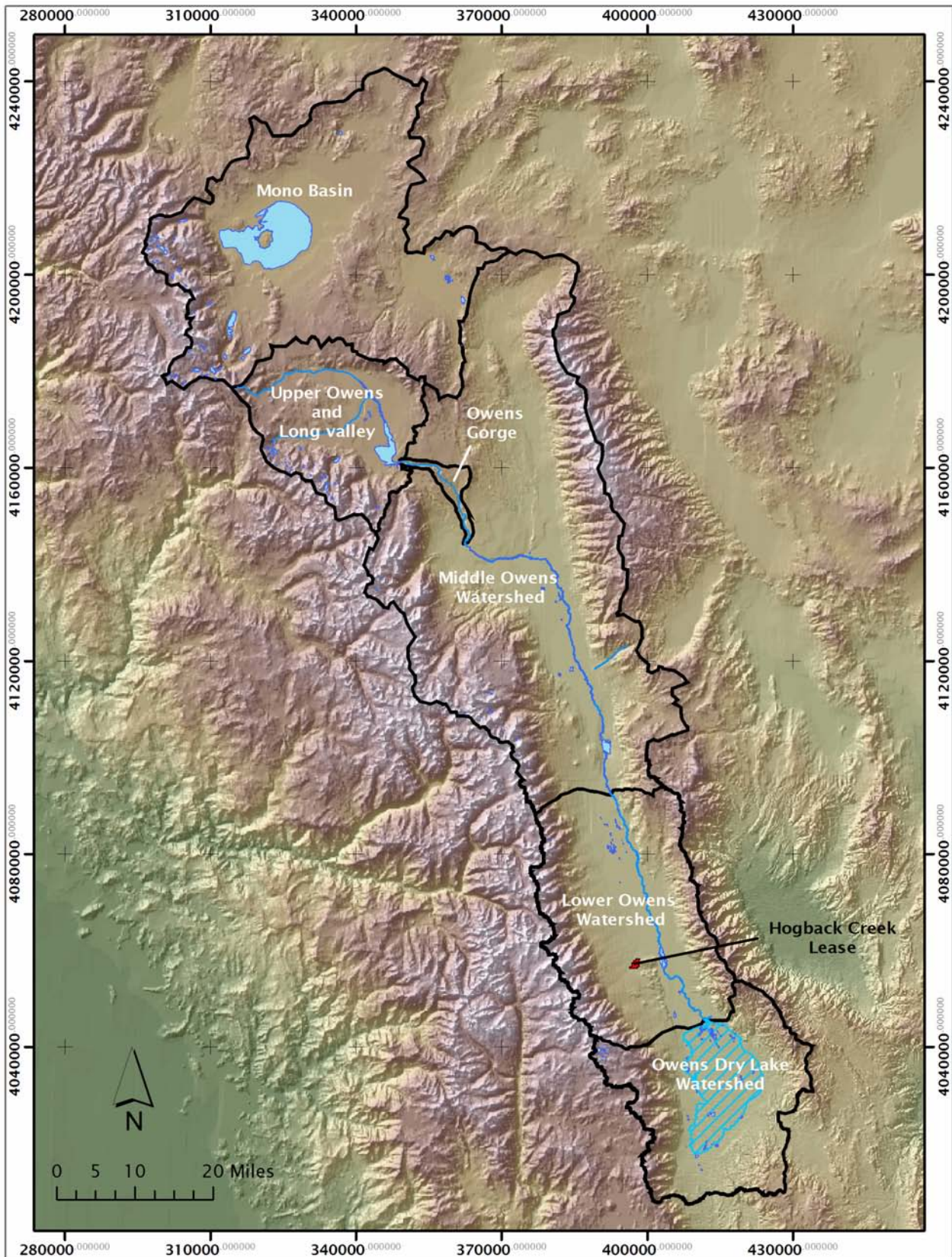


Figure 2. Owens River Watershed

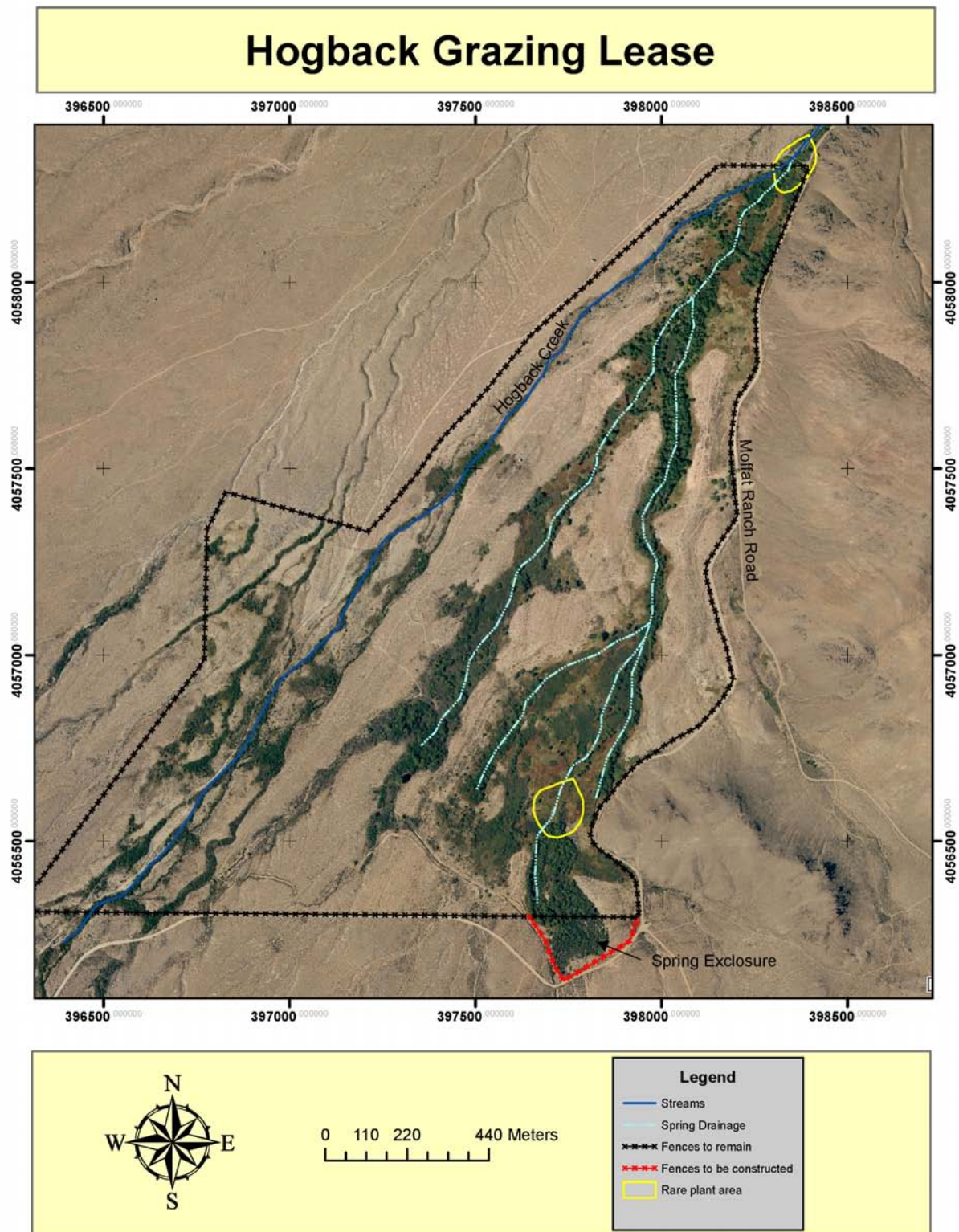


Figure 3. Hogback Creek Lease

Present Grazing Management

The lessee grazes the Lease with pack stock (40 to 55 horses and mules). Stock numbers grazing the Lease are reduced or increased each year depending on the summer recreational demand for pack stock. The lessee does not supplement feed any stock during the period they are grazing the Lease. Livestock numbers presently grazing the Lease usually do not exceed 50 animals. During drought years, the lessee reduces livestock numbers to match forage conditions.

The Lease was intentionally not grazed from 1997 through 1999. During this period, however, approximately 35 unauthorized cows from the Georges Creek Lease grazed the Hogback Creek Lease. They grazed the parcel in conjunction with grazing the surrounding BLM lands. From January 1, 2000 to the end of April 2000, 50 horses and mules grazed the Lease (Table 2).

In April 2000, a LADWP range inspection determined herbaceous vegetation was heavily utilized. Consequently, all horses and mules were removed from the Lease the first part of May. By the end of June, good herbaceous vegetation regrowth had occurred. Because of abundant wet spring influenced soils and sub-water on the east riparian corridor, grasses respond rapidly during the non-grazing period.

Gates to the Lease are in poor condition and often left open, allowing cattle from other leases and adjacent BLM lands to graze the Lease. The lessee recently improved fences on the north end of the Lease and eliminated some problem gates. The fence around the northeast and west sides of the Lease is in good condition. The border fence on the south end of the Lease is absent in some areas and in poor condition in other areas. There are no internal fences on the Lease.

Future Grazing Management

Livestock Numbers and Grazing Duration

Under normal and above normal precipitation years, the lessee can graze up to 35 mules and/or horses for four months from December 1 through March 31 each year (Table 2). The programmed time and duration of grazing (mainly winter grazing) will allow for the maintenance and improvement of wildlife habitat. Laymon and Williams (1999) recommended that spring and summer grazing be reduced or eliminated on the Hogback Creek Lease. The future grazing criteria meets this recommendation.

Table 2. Present and Future Livestock Numbers, Dates and Duration, Hogback Lease.

Livestock Grazing	Period	Numbers
Present	Jan 1 to Apr 30	40 to 55
Future	Dec 1 to Mar 31	35

Riparian Grazing Management

Riparian vegetation will be managed to meet habitat goals. Forage utilization will be monitored during the grazing period. Riparian habitats can be grazed until 40 percent of the herbaceous forage (key species) is utilized (including elk use), or until the end of the specified grazing period, whichever occurs first. This riparian prescription will enhance the survival of riparian shrubs and trees during their first three years of growth and achieve LORP riparian objectives. Clary and Webster (1989) found that riparian shrubs can be reduced by livestock grazing the young shrub age classes. Future grazing methods will minimize impacts to the young age classes of riparian shrubs and trees. During dry years or years with below normal precipitation, livestock numbers, grazing duration, and timing of grazing may be altered, if needed, to maintain good rangeland health.

Tree high-lining by livestock is a concern for cuckoo habitat needs since they require a well developed understory for nesting (Ecosystem Sciences 2000). From observations in 1993 and 1999, Laymon and Williams (1999) found that the Hogback Creek Lease did not appear to be overgrazed. High-lining of trees did not seem to be a problem. The opportunity for livestock to high-line trees during leaf out periods from spring to fall does not exist. The Spring Exclosure (Figure 3) will be fenced in the adjacent grazing lease to extend the protection of the Hogback riparian woodlands. This small exclosure borders the southeast corner of the Hogback Creek Lease.

Upland Grazing Management

Upland management objectives are to sustain livestock grazing, provide productive wildlife and fish habitat, maintain desired healthy rangeland conditions, and maintain or increase rangeland condition trend. Maximum annual average herbaceous vegetation (key species) utilization allowed in upland areas by livestock grazing (including elk and other wildlife use) is 65 percent, or grazing will cease at the end of the grazing period, whichever occurs first.

Seeps and Springs

The new grazing management changes will continue to protect the springs and seeps.

Supplemental Feeding

The lessee does not feed supplements to livestock while they are on the Lease.

Livestock Watering

Stockwater is sufficient throughout the Lease. No additional watering sites will be developed at the present time.

Fencing

The lessee will annually maintain, prior to any livestock entering the Lease to graze, all existing exterior fences and gates. All fences will be rebuilt as needed and maintained to LADWP standards. Disturbance to native vegetation will be minimized during fence maintenance. Interior fenced exclosures and/or single cages will be installed and maintained by LADWP inside the Lease if they are needed to protect planted trees from grazing during the rehabilitation period.

Firewood Cutting and Wood Gathering

No firewood cutting or wood gathering will be allowed on riparian areas or anywhere within the Lease without prior written authorization from LADWP.

Drought and Low Precipitation Years

During drought years or periods of low precipitation, LADWP may reduce the grazing period, change the timing of grazing, or reduce livestock numbers. Water allocations for the Lease may be adjusted to accommodate all resource concerns.

Special Status Species

Yellow-billed Cuckoo

Controlled grazing between December 1 and March 31 should cause no adverse impacts to western yellow-billed cuckoo habitat (Laymon and Williams 1999). No potential for high-lining trees and shrubs should occur because stock numbers are reduced and no grazing will be allowed during spring, summer, and fall periods. The elimination of previous grazing by unauthorized cattle will also improve yellow-billed cuckoo habitat.

Rare Plants

Rare plants occur in riparian/wetland habitats associated with the spring-seep complex. Winter grazing only (December through March) should cause no adverse impacts to rare plant populations. No livestock grazing will occur during plant active growth and reproduction periods. Elimination of all unauthorized cattle grazing will reduce vegetation use and trampling. This should give rare plants sufficient protection.

Native Vegetation and Weed Control

The lessee will do necessary weed control annually on the Lease. The lessee will inform LADWP if problem weed locations occur and whether chemical or mechanical control methods (or both) will be used. The lessee will inform LADWP as to the location of a proposed herbicide application, the timing of application, the type of chemical used, and the amounts of all herbicides to be

used prior to any weed control. No herbicide or any other chemical will be applied near standing or flowing waters, rare plants, animal species of concern, or near human habitation without prior LADWP approval.

Operational Emergencies

If a serious temporary (one year or less) grazing emergency occurs on the lessee's federal allotment(s) or on the lessee's private lands that, in turn, results in serious reductions in allotted livestock numbers, or duration and timing of grazing, temporary deviations in grazing Lease protocols on LADWP lands may be made to lessen the lessee's emergency situation. Circumstances that may necessitate emergency changes in LADWP grazing practices are fires, forage reductions from high snow years, and forage reductions from drought conditions. During the attempt by LADWP to provide grazing relief to the lessee, all grazing standards and criteria for grazing riparian and upland vegetation will be abided by.

6.0 RECREATION

The Hogback area is a widely acknowledged commons area where fairly unrestricted access and use has been in effect by local recreational users for half a century. The land and its natural resources are perceived and treated as public lands by recreational stakeholders. Currently there is unrestricted recreational day-use, except where posted, throughout nearly all of the Hogback Creek area; recreational access even by leaseholders cannot be restricted to more than 25% of the lease holding, except for irrigated pastures. Though access can be denied to recreational users in irrigated pastures, most leaseholders do not deny such access. A casual system has been in use for many years that asks recreational users to always use a good neighbor policy of making sure they have left gates as they find them, open or closed, and treat agricultural, grazing, and water diversion areas with respect. With few exceptions this casual guideline has worked effectively for many years.

To continue to enjoy access to the Hogback Creek area for a variety of recreational activities, stakeholders do not need to substantially change their recreational habits from current uses during the restoration efforts for yellow-billed cuckoo. There are currently light recreational impacts and pressure in the area, therefore recreation management is to remain relatively unchanged from current practices until, or if, increased demand and/or conflicts require increased management.

Existing Recreation Guidelines

The City of Los Angeles owns about 250,000 acres in Inyo County. Over 75% of the 250,000 acres, or nearly 188,000 acres, is undeveloped and unrestricted land

that is open to recreationists for fishing, hunting, hiking, birdwatching, and other recreational activities that do not degrade the land, water, or wildlife resources. The following are guidelines for recreational use in the Hogback Creek area and are the current policies of the LADWP.

Camping

Overnight camping is allowed only in designated campgrounds, all of which are located outside the Hogback Creek area. Designated campgrounds are developed, maintained and operated by Inyo County and most provide fire rings or barbecues, trash disposal facilities, and rest rooms. There will be no overnight camping allowed within the project area, but day-use picnicking, hiking, fishing, hunting, and other outdoor activities that are currently enjoyed will continue unchanged from current guidelines.

Fires

To protect against wildfires and to allow for the restoration of YBC habitat, no fires or fireworks are allowed in the Hogback Creek area. Fires are allowed only in designated campgrounds.

Off-Road Vehicles

To limit disturbance to plants and wildlife, and to minimize any further degradation to soils and land forms, all mechanized off-road vehicles (including motorcycles, ATVs, RVs, etc.) are limited to use only on existing roads and trails. All off-road vehicle recreationists are requested to respect the concerns and needs of other recreational users, many of whom may be using the Hogback Creek area to fish, hunt, hike, or observe birds and other wildlife. Noise and dust from off-road vehicles can be disturbing to wildlife, livestock, plants and soils. Care should be exercised to not use off-road vehicles near areas used by other recreationists seeking a natural outdoor experience away from residential and commercial noise and air problems, or in close proximity to grazing operations.

Leased Lands

The Hogback Creek area will remain as lease-holdings for agricultural and livestock use. At least 75% of leased lands will continue to remain open for recreational access and enjoyment. All lands not open to recreational use will be posted, and all recreational users are asked to respect the operational concerns and needs of lessees. All gates should be left as found, either open or closed, and care should always be taken to not negatively impact or disturb agricultural or livestock operations, particularly in the use of firearms, off-road vehicles, or recreational activities that could potentially harm or disturb livestock or their pasturage.

Fishing

Access to fishing in Hogback Creek will remain open. It is not anticipated that there will be any restricted areas in the initial phase of restoration. Fishing is

subject to the regulations of the State of California, Department of Fish and Game.

Hunting

Access for hunting in the Hogback Creek area will continue to be allowed and is subject to regulations of the State of California, Department of Fish and Game. Firearms are prohibited to be discharged within 150 yards of occupied buildings, farm structures, livestock, public roads and highways. The careless use of firearms for target practice could cause a potentially vary dangerous and damaging fire that would be detrimental to restoration of the Hogback Creek area.

Woodcutting

Any removal of older willow and cottonwood could harm the seed source for restoration and YBC habitat. Woodcutting and wood gathering is prohibited in the Hogback Creek area.

Hiking and Biking

It is anticipated that the Hogback Creek area will remain a superb hiking and biking day-use area that will appeal to all recreationists who enjoy birdwatching, wildlife viewing, or exercise in a natural and unique ecosystem. Areas that are off-limits for hiking or biking will be posted, and, as with other outdoor recreational activities, it is requested that hikers and bikers be careful to not disturb plants, build fires, or leave any trash behind. Pack it in and pack it out.

Artifact-Gathering or Pot-Hunting

It is prohibited by federal law to disturb or remove any artifacts from previous human activity and use. This includes not only native American artifacts, but also old LADWP structures and artifacts and any old mining or agricultural structures or artifacts.

Future Recreation Guidelines

The Hogback Creek area has no recreational uses that could potentially affect YBC habitat. Currently the area is not used for ORV activities or any other recreational activity that might conflict with YBC habitat enhancement. Consequently, the current rules imposed by LADWP on recreation will continue.

Hunting

Although many types of hunting occur, hunting in the Hogback Creek area is centered mainly on quail and doves. Hunters use the access roads and the parking areas, especially in the northeast area around Hogback Creek. Since hunting season generally opens on September 1, and yellow-billed cuckoos generally leave the area around this time, it is believed that hunting will not pose a risk to yellow-billed cuckoos.

Hiking and Bird Watching

Disturbance to YBC habitat and nesting from hiking and bird watching will be negligible.

7.0 FIRE CONTROL

Most of the Hogback Creek Grazing Lease burned in 1987. The fire was intentional and was set to improve rangeland condition to favor better livestock grazing. The fire went out of control and burned most of the riparian woodlands. A 1999 field evaluation (Ecosystem Sciences No Date) found riparian trees and shrubs were recovering well from the 1987 fire effects. The recovery was mainly due to tree sprouting. The Lease has a high ability to recover from fire damage, especially the herbaceous vegetation component.

Future grazing and wildlife habitat management changes within the Parcel will increase the volume of fuels and in turn increase fire frequency potential. The major impact in the past to wildlife habitat in the Lease has been from fire effects. Therefore, more effort will be needed to prevent and manage fire within the Parcel in the future. The closest fire resources would be the California Department of Forestry (CDF) Fire Station 59, located in Independence. The Hogback Creek Lease is within State Responsibility Area (SRA) whereby the state has statutory responsibility for wildland fire protection.

The CDF has this area as a Designated Protection Area (DPA) which means the CDF will respond to fires first in this area. Generally if a fire is reported on SRA lands all wildland agencies respond with an appropriate response. If no CDF Fire Resources are in the area Interagency Fire (BLM and Inyo NF) will continue to staff the fire until CDF arrives and assumes control. If the fire is larger than a spot fire typically the Local Government Resources or fire districts are requested to respond. All fires in the Owens Valley are seen as a priority.

The CDF and LADWP offices already have an agreement in place whereby a LADWP Resource Representative is consulted for all fires on LADWP land, and the Resource Representative is a part of the Joint Unified Command. The wildland fire agencies CDF, BLM, USFS and LADWP already have an "Assistance by Hire" agreement to work on fires mutually. Coordination will be done between LADWP and CDF fire prevention and control personnel for more effective fire management as it relates to the Lease.

No burning, firewood cutting or wood gathering will be allowed by any individual on the Lease without written approval from LADWP. The lessee will not burn any part of the Lease without receiving LADWP approval. All managed burning for the purpose of improving rangeland, wildlife habitat, and/or watershed condition, will be conducted under the direction of LADWP.

All burn areas resulting from unintentional fire will be removed from grazing for at least two years. LADWP will then determine the grazing rest needed to allow rehabilitation of fire impacts, should they exist. No managed burning will be allowed in riparian habitats without proper study and evaluation. Unintentional fires in riparian woodland areas will be given high priority fire suspension. A resource officer will be called in at the beginning of any fire and participate in the fire control decisions. If existing western yellow-billed cuckoo habitat is reduced more than 25 percent by fire, a reduction in grazing use will immediately be evaluated and applied if warranted (Ecosystem Sciences 2000).

8.0 MONITORING AND ADAPTIVE MANAGEMENT

The Hogback Creek priority enhancement area vegetation monitoring, data analysis, and adaptive management measures were developed to 1) determine the overall project success, 2) determine whether the long term management goals are being attained, and 3) to determine whether remedial measures are necessary to meet project goals. The purpose of implementing a vegetation monitoring program is to quantitatively and qualitatively assess whether planted cottonwoods are surviving within newly planted areas and to determine whether remedial measures are necessary to ensure planting success.

Monitoring Methods and Data Analysis

Quantitative and qualitative analysis of cottonwood plantings will be conducted within planting locations throughout the Hogback Creek project area to determine planting survival rates and to assess the health and vigor of newly established plants. Because a limited number of cottonwood plants (approximately 600) will be planted at the Hogback Creek site, new plant survival will be evaluated at each planting location by total count (i.e., a total count of live and dead individuals will be conducted to determine percent survival). Qualitative analysis will consist of visual observations of the health and vigor of each group of transplants, herbivory and browse affects, insect damage, and weedy species competition. Other incidental observations of adverse affects or conditions will be recorded on data sheets. Growth parameters, such as branch length or tree height, will not be collected as it is expected that each new plant will develop according to its' own potential and adaptability to site-specific soil and hydrologic conditions. Additionally, such data would be time consuming and labor intensive. Digital photographs will be taken of each plant group on an annual basis to document growth changes over time. Plant survival data will be collected during the height of the growing season (i.e., July/August).

Permanent photo monitoring stations will be established at strategic locations throughout the Hogback Creek project site to document overall progress of habitat improvement within the planted riparian areas. Photo monitoring stations will be identified with steel fence posts to enable future identification.

One of the best ways to quantitatively monitor long-term changes in condition at Baker and Hogback Creeks is to repeat aerial photograph and vegetation mapping at 5 year intervals. To ensure this mapping is useful in assessing the responses of wildlife to vegetative change, it is necessary to develop mapping units that are based on plant community structure as well as plant species and community type. All mapping and data collection efforts will be incorporated into a GIS.

Vegetation Community Type Descriptions

Vegetation community types and landscape mapping units will be identified and defined for the Hogback Creek Area. Mapping units will be defined by the dominant overstory and dominant understory species characterizing a given vegetation community based upon important wildlife habitat values (primarily bird species). Mapping units will be verified in the field, revised as necessary, and then used for mapping. Although variation occurs within each vegetation community type at different locales, the species dominants consistently remain the same. Each vegetation community type will be assigned an acronym to correspond with the dominant species of that type. Riparian forest will be divided into a number of vegetation community types to provide more information for wildlife habitat values (primarily bird species) based on age classes, tree height, spacing, and dominant overstory and understory species. In addition, riparian shrublands and upland shrublands will be divided into mapping units. Other mapping units could include agricultural land, developed and/or disturbed land, rock outcrops, small open water bodies, and channels.

Mapping and Riparian Ocular Estimates

Vegetative community mapping will be performed on aerial imagery at a scale of approximately 1:6,000. Vegetation communities will be mapped, field verified, and digitized to determine the acreage of each type. Dominant overstory and understory species, as the major components of the plant community structure, will be used for mapping and naming purposes. Riparian plant communities will be the primary focus of the vegetation data collected for the purpose of assessing wildlife suitability. As part of the vegetation survey, stands of riparian vegetation will be assigned values, based on ocular estimates, for height, age classes, and canopy cover (foliar cover). Ocular estimates will be documented and mapped at each encounter of cottonwood or willow stands. In addition, riparian and upland vegetation type data will be collected and used during analyses. Ocular estimates of tree canopy (primarily cottonwood and willow) and tree height will be documented at each stand as they are encountered in the field. Individual trees will be included in the riparian vegetation community types, and will not be assessed separately. Estimates for both height and cover usually vary within the stands and ranges will be developed to represent these variations.

Adaptive Management Measures

Transplant survival rates of installed plant materials will vary depending upon the health and vigor of the stock, handling and planting procedures, available moisture, soil conditions, and other environmental factors such as insect damage and wildlife herbivory. Transplants will be planted in areas which have been determined to be desirable for their survival and long term growth; however, it is not uncommon for transplants to experience a mortality rate of 20-50% even given the best conditions. It is anticipated approximately 400 mature cottonwood trees will be successfully established from planting 600 trees. Should a minimum of 400 healthy trees not be obtained following a three year monitoring period additional trees will be planted until 400 trees are established to meet the minimum requirements of the yellow-billed cuckoo.

Noxious weeds and black locust invasion are currently not a problem within the Hogback Creek project area. Annual monitoring will include a qualitative assessment of problematic species which may affect transplant success and overall habitat improvement. Should noxious weeds or black locust become a problem, measures to control these species, such as the use of selective wildlife safe herbicides and manual removal, will be implemented. A visual assessment of the perimeter fences will also be conducted to ensure livestock are adequately restrained from entering the priority enhancement areas.

Measures which will affect long term success of the priority enhancement areas that need to be periodically monitored include (1) the condition of perimeter fencing, (2) livestock trespass, (3) recreational use, (4) fires, and (5) woodcutting. The perimeter fences should be regularly inspected and maintained to ensure the fencing remains in good condition and is functioning properly. Cost of recreation management, long-term weed control, and fencing for the Hogback Creek enhancement project are not included in this report.

Annual Reporting

Annual monitoring reports will be submitted to LADWP and ICWD by December 15 for a period of five years, or as required by the MOU parties. Reports will include a summary of the monitoring results, transplant survival data, copies of data forms, and photographs of planting locations and photomonitoring stations. A discussion of project progress will be included with recommendations for remedial measures as necessary. Monitoring measures will be the same each year for a period of five years.

Yellow-billed Cuckoo Survey and Monitoring Protocol

Introduction

The Yellow-billed Cuckoo has a large home range, calls infrequently when mated, and is rarely detected visually. It is also territorial only in a limited sense. These factors render traditional bird survey methods, such as point counts and

transects, of limited value to determine the presence/absence or abundance of the species. Playback surveys are the recommended method for conducting surveys for the species. Because of large and overlapping home ranges, locating all nests in a population is the only way to census (i.e. to do a complete count of) the population.

Survey Method

Playback of the cuckoo's pair contact call ("kowlp" call) has proved to be the best method to survey the species. The tape-recorded call should be able to be easily heard for a minimum of 100 m. It is recommended that a dual speaker, sports tape recorder, like the Sanyo "Outsider" or Sony "Outback" be used. These recorders have both the power to project the required distance, lack of distortion at high volume, and are rugged enough to stand up under field conditions. Any recording of the "kowlp" call is fine. Use of the recording from the Peterson Field Guide tape is good because it is distinctive and there is a discernable difference between a real cuckoo and another cuckoo surveyor's tape. Never use a tape of the cooing call, which is given only by unmated males, to survey for cuckoos. This call will reduce the response rate of mated cuckoos below what it would be if no call were used.

Surveys should be conducted between the hours of 6:30 and noon. The hot part of the day should be avoided as response rate declines sharply. Avoid conducting surveys when the temperature exceeds 100 degrees. Surveys in the late afternoon (6:00) and evening (8:00) are also possible but the survey results have not been compared to known populations. Survey stops located every 200 m along the forest edge are recommended. If the forest patch is greater than 100 m in width, it will be necessary to make two or more transects through the patch. No part of the patch should be more than 100 m from a survey location. In terms of the number of survey stations/100 acres, 12 stops would be needed for a square habitat patch (633 m x 633 m), 10 stops for a 200 m x 2000 m patch, and 20 stops for a 100 m x 4000 m patch.

The recorded call should be played about 10 times at each stop, with about 30-60 second pauses between each call. An alternative is to stop every 100 m and play the tape 5 times at each stop. It has not been found that one method is superior to another. The pauses between the calls are extremely important. Cuckoos rarely respond instantly and usually wait 30 seconds or more before responding. If you are walking, talking, or playing the tape you will probably not hear the response. Approximately 3 miles of habitat can be surveyed per morning.

Three surveys of the study area should be conducted during the breeding season. Surveys should not be conducted before 15 June, because most cuckoos have not arrived before that date. Surveys should not be conducted after 10 August because many cuckoos have left their breeding areas by that date and the remaining cuckoos have become very quiet and rarely respond.

Surveys should be conducted 10 to 14 days apart during the 15 June to 10 August period. This spacing allows the surveyor to hit the various stages of the nesting cycle for any given pair, increasing the chance of response. An ideal spacing would be the first survey about 20 June, the second about 4 July and the third about 1 August. Surveys should not be carried out in winds over 7 mph because this reduces both the cuckoo's response rate and the surveyor's ability to hear the response. Likewise, surveys should not be conducted when it is raining. Rain is generally not a problem in California during the survey period.

Survey Results

With surveys for sensitive species, the problem of presence vs. absence vs. not found always arises. A response by a cuckoo during a survey of course indicates that a cuckoo is present at the site. Surveys conducted at sites where the population is known indicate that with three surveys there is approximately a 95% chance of detecting at least one member of each pair. Therefore, there is approximately a 5% chance of cuckoos being present at the site but not being detected during the survey. The absence of cuckoos in any given year does not indicate that the site is never used by cuckoos. Some sites in California have been unoccupied by breeding pairs for five or six years only to be reoccupied. In addition, numbers of pairs can vary greatly from year to year at even the best sites. At the South Fork Kern River, from 1985 to 1997, the cuckoo population has varied from a low of three pairs to a high of 23 pairs. Surveys should be conducted at the Baker Creek site yearly for a minimum of 25 years.

Cuckoo Response and Call Context

Cuckoos can respond to the taped calls in several ways. How they respond depends on their breeding status, breeding season phenology, and individual variation. Unmated male cuckoos will often fly into where the observer is located and, after one or two minutes, will respond with a cooing call. The cooing call is a mate attraction call and is therefore the song of the cuckoo. To the inexperienced, the call could easily be mistaken for a Mourning Dove. Experienced observers sometimes mistake this call for the call of a Greater Roadrunner. The main difference is that the Roadrunner call descends while each note of the Yellow-billed Cuckoo call is on the same pitch (except sometimes that last note or two are on a lower pitch). This cooing can continue indefinitely and unmated males cuckoos will sometimes follow a surveyor for several hours. It is sometimes necessary to skip one or more survey location to lose these unmated males. Unmated female cuckoos, when they respond at all, often fly in and silently observe the surveyor. On a few occasions they respond with a low guttural call similar to, but much lower and hoarser than cooing.

Mated male and female cuckoos sometimes also respond by flying in silently, but usually they respond from a ways off with a contact "kowlp" call. Mated cuckoos never coo. Both male and female cuckoos make a "kowlp" call and the sexes can only be told apart by call with much experience. In the vicinity of an active nest both male and female will make a soft knocking call which is used to tell the

mate and young that a predator is near. This call can be made in response to your presence or to the presence of a hawk or owl. Juvenile cuckoos that are still dependent on the adults for food will respond with a soft clucking call, which tells the parents their location. As the young get older (3-4 weeks out of the nest), the clucking gets louder and begins to resemble the parents “kowlp” call.

Surveyor Qualifications

Surveys should be conducted by qualified ornithologists with experience in successfully surveying yellow-billed cuckoo populations. They should understand and have experience with cuckoo call context. This is needed because of the cuckoo’s cryptic nature, the difficulty of identification of some of its calls, and the need to understand call context. Verified sightings should be considered sightings that have been made by field biologists who have experience with the species.

Survey Recommendations for Hogback Creek

To monitor the cuckoo population at Baker Creek, cuckoos will be surveyed at the site annually for a minimum of 20 years, using the survey protocol listed here. The surveys should begin in summer 2005 prior to the beginning of restoration activities. Nest location and nest monitoring is not necessary to determine population trends, but is needed to determine exact numbers of cuckoos at the site. If evidence of nesting pairs of cuckoos is detected, nests should be located.

Grazing Monitoring and Evaluation

Utilization Monitoring

Utilization cages will be placed as needed within the Lease to monitor forage use by livestock. Cages will be positioned annually in selected areas prior to the arrival of livestock. The utilization of key forage species will be documented using locally developed key species height-weight curves.

Monitoring Rangeland Condition

Rangeland trend condition will be monitored at permanent transect locations to guide future management decisions. Transect monitoring will consist of nested frequency sampling, vegetative cover sampling, shrub age classification, visual obstruction readings, and photo documentation. Sampling protocols will follow procedures outlined in the Interagency Technical Reference “Sampling Vegetation Attributes” in the Rangeland Analysis and Planning Guide (BLM 1996). This monitoring data will be evaluated in terms of the “trend” in plant cover, plant frequency, and shrub age structure of the vegetation community. Trend results will be compared to “Desired Future Condition”.

Adaptive Management

Management directions may be modified over time through adaptive management based on review of monitoring information. Adaptive management provides flexibility to account for unforeseen benefits or impacts. Future grazing

management may be changed based on upland and riparian habitat assessments and range trend monitoring. Fencing, forage utilization, livestock water sources, stock numbers, timing and duration of grazing may be adjusted, if necessary, to achieve LADWP and Lease goals.

9.0 BUDGET

Preliminary Cost Estimates Required to Implement Monitoring and Adaptive Management Measures

Preliminary costs required for implementation are summarized in Table 3.

Costs not included in the estimate are the area perimeter fence, periodic fence inspection, and required maintenance to ensure fencing remains in good condition and is functioning properly. In addition, costs for long-term weed control, recreation management, firewood cutting management, and fire management are not included in Table 3.

Table 3. Hogback Creek Management Cost Estimate

Planted Areas	(5 Ac)
Planting Materials/Equipment (\$2,000/ac)	\$10,000
Planting Labor (3 man days/ac)	15 man days
Fencing Materials/Equipment (\$2.50/ft)	\$55,000 (22,000 feet)
Fencing Labor (0.006 man days/foot)	132 and days (22,000 feet)
Black Locust Eradication (0.2 acres) Materials/Equipment (\$3,350/ac)	\$670
Black Locust Eradication (0.2 acres) Labor (14 man days/ac)	3 man days
5-Year Miscellaneous Maintenance Supplies (Weed Control) (\$100/ac/yr)	\$2,500
5-Year Miscellaneous Maintenance Labor (5.7 man days/ac/yr)	143 man days
5-Year Vegetation Monitoring Program (15 man days/yr)	75 man days
Total Estimated Project Capital Expense	\$68,170
Total Estimated Man Days for Project	368 man days

Vegetation Monitoring and Maintenance Costs

After five growing seasons (the 6th year of monitoring), the Baker project site vegetation should be remapped using GIS. The GIS mapping along with the annual vegetation monitoring would require field time (including travel) and time

to write-up the monitoring report. Professional services are estimated at 15 man days per year plus other direct costs (mileage, hotel, per diem, document reproduction). GIS vegetation cost will occur four times over a 24 year monitoring period. These costs are not included in table 4 and do not include the cost of aerial photos.

Yellow-billed Cuckoo Surveys Costs

Yearly surveys for the two sites (Baker and Hogback Creeks) will take approximately 9 days to conduct and 5 days for report preparation. The cost will be approximately \$14,000 for a qualified surveyor to conduct this work.

Grazing Monitoring Costs

Monitoring costs of the Hogback Creek Lease for utilization, range and pasture conditions, and livestock compliance (numbers and on/off dates) would be approximately \$11,000 annually.

10.0 IMPLEMENTATION SCHEDULE

Implementation will start with approval of the final yellow-billed cuckoo habitat enhancement plan by the LADWP Board of Commissioners.

The next step, after plans are approved, will be to (1) complete CEQA and public review; (2) formulate a detailed planting, diversion, and irrigation site map; and (3) order and collect plant materials, seed, equipment, and supplies.

Pond and diversion construction, planting, seeding, and irrigation will be initiated just after plants become dormant in the fall (November). The first implementation task will be to construct diversions, ditches, and ponds. Then the planting and seeding will begin. Planting and seeding should be finished by the end of January so that the germinating seed and rooting plants can take advantage of moderate temperatures and higher soil moisture levels. Irrigation systems needed for temporary supplemental water must be in place by March. Therefore, pole planting activities will be scheduled for late fall 2005. Root stock material will be collected for propagation in early winter 2005, propagated through the growing season, and planted in late summer or early fall 2006.

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Appendix D

Baker Creek Enhancement Plan Amendment

Appendix E
Special-Status Species Not Likely
to Occur in the Project Area

**Special-Status Plants and Wildlife Reported from the Project Vicinity
but not expected on the Project Sites**

Common and scientific name	Status¹ (Fed/State/CNPS)	Habitat	Occurrence in project areas
Plants			
Amargosa niterwort <i>Nitrophila mohavensis</i>	FE/--/	Occurs in seasonally muddy, salt-encrusted alkaline flats at the south end of Carson Slough on both sides of the California/Nevada border, and near Tecopa Hot Springs.	Unlikely to occur due to restricted species range.
Eureka Valley evening-primrose <i>Oenothera californica</i> ssp. <i>eurekensis</i>	FE/--/	Grows in flat to gently sloping sand areas bordering larger desert sand dunes. Found only in the southern portion of the Eureka Valley Sand Dunes system in Inyo County.	Unlikely to occur due to absence of suitable habitat.
Fish slough milk-vetch <i>Astragalus lentiginosus</i> var. <i>piscinensis</i>	FT/--/1B	Known from eight occurrences near Fish Slough in Mono and Inyo counties. Occurs in loamy fine sand of alkali flats and mounds at elevations of 1,100-1,200 m in the Great Basin Desert. Blooms May-Jun.	Unlikely to occur due to restricted species range.
Spring-loving centaury <i>Centarium namophilum</i>	FT/--/	Formerly occurred at Tecopa Springs, now all known living populations are restricted to Ash Meadows, Nevada. Found in moist to wet clay soils along the banks of streams or in seepage areas.	Unlikely to occur due to restricted species range.
Curved-pod milk-vetch <i>Astragalus mohavensis</i> var. <i>hemigyris</i>	--/--/1A	Known in California from one record from Darwin Mesa in 1941. Occurred in Joshua Tree woodland/ Mojavean desert scrub.	Unlikely to occur; considered extinct and lack of suitable habitat.

Common and scientific name	Status ¹ (Fed/State/CNPS)	Habitat	Occurrence in project areas
Birds			
American peregrine falcon <i>Falco peregrinus</i>	-/SE	Inhabits seacoast, offshore islands and mountainous areas with cliffs for nesting and ready access to avian prey. In California, an uncommon bird in open areas, especially near water.	Unlikely to occur due to rarity and lack of suitable habitat. Rare transient and very rare summer and winter visitor in Inyo County.
Bald eagle <i>Haliaeetus leucocephalus</i>	FT/SE	Occurs near large bodies of open water such as lakes, marshes, seacoasts and rivers, where there are fish to eat and tall trees for nesting and roosting.	Unlikely to occur due to lack of suitable habitat. Locally uncommon winter resident of the Owens Valley.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE/SE	Inhabits riparian woodlands, scrub, and thickets for nesting. Typically breeds in willow riparian forest supporting a dense, shrubby understory. Nests from early April through July. Historically a fairly common breeder along the Owens River.	Suitable breeding habitat exists at both sites. Unlikely due to rarity and localized occurrence. Rare and local summer resident known only from Tecopa and Furnace Creek Ranch...
Inyo California towhee <i>Pipilo crissalis eremophilus</i>	FT/--	Resident completely isolated in the Argus Range. Nesting occurs in dense vegetation at springs and along water courses. Forages in open areas adjacent to the riparian scrub.	Unlikely to occur due to restricted species range.
Bank swallow <i>Riparia riparia</i>	--/ST	Uncommon in California. Nests in colonies, excavating tunnels into vertical sandbanks. Forages over nearby meadows and water.	Unlikely to breed due to lack of suitable habitat. In Inyo County, a fairly common migrant and a rare, local summer breeder.

Common and scientific name	Status ¹ (Fed/State/CNPS)	Habitat	Occurrence in project areas
Greater sandhill crane <i>Grus canadensis</i>	--/ST	Common locally in California. This species can be found in large numbers at a few habitual gathering places. Nests in open meadows. Winters in marshes or on farmland, spending the night in groups in shallow water.	Unlikely to occur due to rarity and lack of suitable habitat. In Inyo County, a rare migrant in fall (mid-October until mid-November) and a very rare winter visitor and spring migrant (once at Tinemaha).
California least tern <i>Sterna antillarum</i>	FE/SE	In California, common locally around nesting colonies on the coast; uncommon to rare elsewhere. Nests on sand dunes and sandbars close to water among scattered debris and grass.	Unlikely to occur due to rarity and lack of suitable habitat. In Inyo County there are a few records from late May to early June from Tecopa, Furnace Creek Ranch, Tinemaha Reservoir and Owens Lake.
Sharp-shinned hawk <i>Accipiter striatus</i>	CSC	Found in dense to semi-open coniferous, deciduous or mixed forests; occasionally along riparian edges.	Likely to occur as fall migrant and winter visitor in the project areas. Unlikely to breed since outside breeding range.
Golden eagle <i>Aquila chrysaetos</i>	CSC	In California, rare in grasslands, deserts, and open country usually in mountainous areas. Nests on cliff ledges or less often in tall trees.	Likely to occur as occasional forager due to suitable foraging habitats in vicinity. Unlikely to breed in the project areas due to lack of suitable nest sites.
Ferruginous hawk <i>Buteo regalis</i>	CSC	Breeding habitat is open terrain and grasslands in the Great Basin. A winter visitor in Owens Valley. Often seen around alfalfa fields in winter.	May occur as rare winter visitor or migrant. Unlikely to breed in project areas since outside breeding range.
Merlin <i>Falco columbarius</i>	CSC	Most commonly seen on coastlines. Occurs in open country, wetlands, woodlands, agricultural fields, and grasslands. In California an uncommon migrant and visitor in late Sep to mid-Apr.	May occur as rare winter visitor at both sites.

Common and scientific name	Status ¹ (Fed/State/CNPS)	Habitat	Occurrence in project areas
Prairie falcon <i>Falco mexicanus</i>	CSC	In California an uncommon year-round resident in river canyons, cliffs, rimrocks or rocky promontories in arid open lowlands or high intermontane valleys. In winter and migration found in open treeless country such as open fields, pastures, grasslands and sagebrush flats.	Unlikely due to lack of occurrence records.
Vaux's swift <i>Chaetura vauxi</i>	CSC	Found in coastal coniferous forests of coast redwood and Douglas fir or interior forests of mixed oaks and conifers. Nests in large hollow trees usually in small groups. Uncommon summer migrant and breeder. In California not shown in Owens Valley.	Unlikely to occur due to lack of suitable habitat.
Le Conte's thrasher <i>Toxostoma lecontei</i>	CSC	Uncommon and local on extremely arid and sparsely vegetated plains with saltbush and creosote bush. Range includes Fresno County to Kern County and the Mojave Desert.	Unlikely to occur due to restricted species range.
Amphibians			
Mountain yellow-legged frog <i>Rana muscosa</i>	FC/--	High Sierra Nevada from 1,800-3,600 m along sunny stream banks and undisturbed ponds and lakes, usually with sloping gravel banks.	Unlikely to occur due to lack of suitable habitat.
Northern leopard frog <i>Rana pipiens</i>		Shallow water depths, abundant emergent vegetation and the absence of predatory fish species. Restricted to a national wildlife refuge near the Oregon border. Historically recorded from scattered localities below 1,981 m in eastern California.	Unlikely to occur due to restricted species range.

Common and scientific name	Status¹ (Fed/State/CNPS)	Habitat	Occurrence in project areas
Inyo Mountains slender salamander <i>Batrachoseps campi</i>	CSC USFS Sensitive	Restricted to the immediate vicinity of springs, seeps, and their associated riparian growth in about 15 canyons and springs along a 40 km section of the Inyo Mountains.	Unlikely to occur due to restricted species range.
Yosemite toad <i>Bufo canorus</i>	FC/--	Found in high Sierra Nevada from 2,000-3,000 m in lakes or ponds, damp meadows, slow-moving streams, and forest margins.	Unlikely to occur due to lack of suitable habitat.
Reptiles			
Desert tortoise <i>Gopherus agassizii</i>	FT/--	Sonora and Mojave desert of southern California	Unlikely to occur due to limits of range.
Fishes			
Lahontan cutthroat trout <i>Oncorhynchus</i> (=Salmo) <i>clarki</i> <i>henshawi</i>	FT/--	Formerly found in the Truckee, Carson, and Walker rivers, and Donner, Pyramid, Walker, and Independence lakes, and Lake Tahoe. Currently limited to a few isolated tributaries of the Truckee, Walker and Carson rivers.	Unlikely to occur due to restricted species range.
Owen's pupfish <i>Cyprinodon radiosus</i>	FE/SE	Restricted to springs in the vicinity of the Lower Owens River. Formerly found on the margins of marshes, shallow sloughs and desert springs bordering the Owens River throughout the valley.	Unlikely to occur due to restricted species range.
Owen's tui chub <i>Gila bicolor synderi</i>	FE/SE	Pool habitats with low current velocity and dense aquatic vegetation, also pools free of non-native predatory fish.	Unlikely to occur due to potential presence of predatory fish.
Invertebrates			
Nevares Spring naucorid bug <i>Ambrysus funebris</i>	FC/--	A small aquatic insect found only at Point of Rocks Springs and their outflow streams	Unlikely to occur due to restricted species range.

Common and scientific name	Status ¹ (Fed/State/CNPS)	Habitat	Occurrence in project areas
Mammals			
Fisher <i>Martes pennanti</i>	FC/-- USFS Sensitive	Two remnant populations exist in southern Sierra Nevada and northwestern California. Prefers coniferous forests but also found in mixed and deciduous forest. Fisher will avoid open spaces with no cover.	Unlikely to occur due to lack of suitable habitat.
Amargosa vole <i>Microtus californicus scirpensis</i>	FE/--	Critical habitat consists of marshes and associated land and water along the Amargosa River, from just north of Tecopa Hot Springs to the Amargosa Canyon, just south of Tecopa.	Unlikely to occur due to restricted species range.
Sierra Nevada bighorn sheep <i>Ovis canadensis californiana</i>	FE/SE	Occurs around Mt. Williamson and Mt. Baxter, west of Independence, Owens Valley. Inhabits alpine meadows, grassy mountain slopes and foothill country near rocky cliffs and bluffs. Avoids forest and thick brush or areas without precipitous escape terrain, such as the Owens Valley.	Unlikely to occur due to a lack of suitable habitat. Horn sheaths were found in 1926 along Lone Pine Creek and trail to Mt. Whitney at 3,000 m, horn sheath was found at Birch Creek south of Big Pine at 10,500 ft in 1951
Yuma myotis <i>Myotis yumanensis</i>	FSC	Common throughout California near larger permanent water bodies such as reservoirs and slow-moving quiet streams and rivers. Roosts in buildings, bridges, cliff crevices and trees.	Unlikely to occur due to marginal habitat.
American badger <i>Taxidea taxus</i>	CSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Found in the White Mountains record in 1917 (MVZ).	Unlikely to occur due to lack of occurrence records.

Notes on Status ¹:

U.S. Fish And Wildlife Service

- FE Endangered: Any Species That Is In Danger Of Extinction Throughout All Or A Significant Portion Of Its Range.
- FT Threatened: Any Species Likely To Become Endangered Within The Foreseeable Future.
- FC Candidate: Federal Candidate To Be Proposed For Listing.

California Department of Fish and Game

- SE Endangered: any species that is in danger of extinction throughout all or a significant portion of its range.
- ST Threatened: any species likely to become endangered within the foreseeable future.

USDA USFS

- USFS Sensitive Forest Service Sensitive: Species that are managed according to the Regional Forester's Sensitive Species Management Guidelines

California Native Plant Society

- 1A List 1A plants that are believed to be extinct
- 1B List 1B plants that are rare, threatened or endangered in California and elsewhere.