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DRAFT PRELIMINARY MANAGEMENT PLAN

for Upper Muddy River Aquatic and Floodplain Habitats in Clark County,
Nevada.

Version 1.0 (Internal Draft)

by

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INTERNAL

Parcels addressed (Clark County, Nevada Assessor Parcel Numbers):

BLM-Perkins (030-23-201-002, 030-23-401-001,
030-26-101-001, 030-26-301-003, 030-26-701-003)

TNC-Alamo (030-22-501-004, 030-22-501-006)

TNC-Henrie (030-26-601-001, 030-26-601-002
030-26-601-003)

TNC-Perkins (030-22-501-007, 030-22-501-010,
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INTRODUCTION AND ECOSYSTEM ANALYSIS - PART I

Introduction

The Muddy River is located in Clark County, Nevada, originating approximately 60 miles northeast of Las Vegas, Nevada in the unincorporated towns of Moapa and Glendale. It is a perennial, spring-fed river that flows some 26 miles into the impounded Colorado River. The Lake Mead impoundment submerges the last 7 river miles of the Muddy River. Prior to the impoundment of the Colorado River, the Muddy River joined with the Virgin River for a short distance before emptying into the Colorado River. The upper Muddy River area is depicted in figure 1 and is defined as the 100 year floodplain upstream of the Interstate 15 river crossing. The upper Muddy River and associated riparian and floodplain areas support many endemic fishes and aquatic invertebrates as well as several other species of concern. One of the endemic fish species, the Moapa dace, is listed as endangered under the Endangered Species Act, and the Muddy River population of another fish species, the Virgin River chub, is likely to be listed as an endangered species in the foreseeable future.

Land ownership in the upper Muddy River floodplain is primarily private, in a mix of agricultural, industrial and residential uses. Nevada Power Company owns and manages 312 acres of floodplain and 1.2 river miles associated with the Reid Gardner Generating Plant. The Moapa Band of Paiutes manages 590 acres of floodplain along with 2.4 miles of the river within the Moapa River Indian Reservation. The Bureau of Land Management (BLM) holds approximately 250 acres of floodplain, 1.8 river miles, and most of the uplands surrounding the upper Muddy River floodplain. In addition, The Nature Conservancy (TNC) holds 59 acres of floodplain and 0.5 miles of river frontage adjacent to the BLM floodplain holdings.

In the headwaters of the Muddy River, the U.S. Fish and Wildlife Service (USFWS) manages the Moapa Valley National Wildlife Refuge, established in 1979 for the conservation of the Moapa dace and other species and habitats of concern. The Refuge is managed as part of the Desert National Wildlife Refuge Complex, for which the USFWS is preparing a Comprehensive Conservation Plan. The USFWS also developed the Recovery Plan for the Rare Aquatic Species of the Muddy River Ecosystem (1995) to guide conservation actions for the aquatic species and habitats of concern in the river system. The Muddy River Recovery Implementation Team (RIT) was formed to coordinate implementation of the recovery plan among resource management agencies and other stakeholders.

The upper Muddy River is identified as a globally unique area in TNC's Mojave Desert ecoregional assessment (TNC 2000a). Recognizing the importance of the upper Muddy River in supporting a unique and irreplaceable assemblage of species and habitats, TNC

prepared the Upper Muddy River Site Conservation Plan (TNC 2000b). This plan described four key challenges (threats) to conservation of the species and habitats of concern in the upper Muddy River; incompatible land development, reduction of regional aquifer and surface water, introduction/invasion of non-native species, and incompatible land use practices. The plan also recommended several strategies to abate these threats and conserve the species and habitats of concern. Recommended strategies were; acquisition of conservation easements or fee title to land and water rights, the restoration of native habitats, community-based and public policy development, community outreach, as well as development of research and monitoring plans.

TNC is nearing completion of an Integrated Science Plan for the upper Muddy River which addresses two of the research and monitoring strategies recommended by the 2000 Site Conservation Plan. The Integrated Science Plan describes the current knowledge of the fluvial geomorphology of the river, and presents a science and restoration plan for the upper Muddy River. Currently in draft form (TNC 2004), the final Integrated Science Plan is anticipated in February 2005.

The aquatic and riparian systems of the upper Muddy River are also identified as unique habitats and resources to be addressed by the Clark County Multiple Species Habitat Conservation Plan (MSHCP; RECON 2000). It was anticipated that implementation of the MSHCP would take place in phases, and that the permittees would pursue amendments to the MSHCP to gain coverage for additional species. The USFWS biological opinion and section 10 incidental take permit for the MSHCP includes the stipulation that during the first phase of the MSHCP's implementation, lands and waters in the upper Muddy River will be protected and managed to benefit species and habitats of concern. In addition, USFWS has conditioned the section 10 take permit for the first phase of the MSHCP on completion of several conservation management strategy plans, including a plan to address the Muddy River. Coverage of several bird species of concern is conditioned on the acquisition of riparian lands in the Muddy and Virgin Rivers and Meadow Valley Wash.

The acquisition of lands as well as water and development rights in these areas may be funded through the Southern Nevada Public Lands Management Act (SNPLMA) account for purchase of environmentally sensitive lands. The SNPLMA directs the BLM to sell public land and allocate the revenues to several accounts, including capital improvements for federal lands and purchase of environmentally sensitive lands by the federal government within the state of Nevada, with priority consideration given to lands in Clark County. Approximately 400 acres of land in the upper Muddy River area have already been purchased by the BLM using the SNPLMA mechanism. The lands currently held by TNC in the upper Muddy River have all been nominated for acquisition under the SNPLMA.

Further, under the Implementation Agreement for the MSHCP, the BLM has agreed to manage species covered or evaluated under the MSHCP for their long-term conservation. The BLM manages public lands for multiple uses, including conservation of species and habitats of concern, under the direction of the Las Vegas Resource Management Plan (RMP: BLM 1998). Several actions called for in the RMP are specific to riparian or aquatic

species and habitats of concern (FW-3-a, FW-3-b, FW-3-e, FW-3-g) and the Muddy River (SS-1-a,SS-2-b). The RMP directs that lands adjacent to the Moapa Valley National Wildlife Refuge will be managed to complement spring and aquatic habitat for special status species, including projects that may affect ground water levels or spring flows. In addition, the RMP specifically directs the BLM to improve aquatic and riparian habitat on the Muddy River, Virgin River and Meadow Valley Wash by replacing saltcedar with native species. Also, for artificial and natural waters that provide benefit for wildlife, a minimum buffer of 0.25 mile is established for permitted events. The RMP also provides guidance to protect riparian areas and mesquite/acacia woodlands that provide important resting/nesting habitat for bird species of concern. The BLM is currently preparing a conservation management strategy for mesquite/acacia woodlands to support the MSHCP.

Two local not-for-profit organizations also operate in the Muddy River area. Partners in Conservation (PIC) works in cooperation with the BLM to conduct desert clean-ups; to inventory roads, tracks and trails; and to install tortoise exclusionary fencing along major roadways. The Muddy River Regional Environmental Impact Alleviation Committee (MRREIAC) works with the Nevada Division of Forestry Conservation Crews to remove saltcedar and other invasive weeds and plant native riparian species along the Muddy River in support of the MSHCP.

In the last four years substantial progress has been made in protecting and restoring important aquatic, riparian and floodplain habitat along the Muddy River in support of the Clark County MSHCP and the recovery of the endangered Moapa dace. At this juncture, the challenge at hand is to coordinate management and restoration of key floodplain and riparian parcels. Toward this end this “activity-level” preliminary management plan (PMP) was crafted to provide short-term management direction, in anticipation of longer term management in public ownership for the upper Muddy River consistent with the BLM Las Vegas RMP (BLM 1998), the Clark County MSHCP (RECON 2000), the Recovery Plan for the Rare Aquatic Species of the Muddy River Ecosystem (USFWS 1996), and the Desert National Wildlife Refuge Complex’s Comprehensive Conservation Plan document currently under development. This PMP is interdisciplinary and integrates biological, geological, cultural, and recreation management actions.

This first iteration of the PMP focuses on 505 acres of land, including approximately 250 acres within the 100-year floodplain of the upper Muddy River (figure 2, appendix B) This includes the Perkins Ranch (recently acquired by the BLM under the SNPLMA) , and three TNC properties and associated water rights nominated for federal acquisition under the SNPLMA: TNC-Alamo, TNC- Perkins, and TNC-Henrie parcels (figure 2). This PMP will be updated as new parcels, water rights or other interests are acquired.

Preparation of the PMP included close coordination with the resource staffs of the two primary federal land management entities, the BLM and the Moapa Valley National Wildlife Refuge, as well as members of the Muddy River RIT which includes representatives of Federal and State agencies, other scientific authorities, and other involved parties. Various other stakeholders participated in the creation of this plan,

including the Moapa Band of Paiutes, the Muddy River Coordination Working Group of the Clark County MSHCP, the USFWS Southern Nevada Field Office, the Nevada Department of Wildlife, and many other entities listed in part VI of this document.

Scoping meetings with various agencies, individuals and interest groups occurred in July through September of 2004 to identify issues relevant to the upper Muddy River PMP area. Other stakeholders were encouraged to submit additional comments or issues if they were unable to attend the meetings (see part VI of this document for a list of stakeholders and meeting attendees). Management actions were developed based on comments received from stakeholders. In addition, consideration was given to public comments received at a September 9, 2004 stakeholder informational meeting on the Integrated Science Plan for the upper Muddy River, also in preparation by TNC at this time. The attendees of this meeting are also listed in part VI of this document.

Ecosystem Analysis

Six important ecological assemblages or systems have been identified for management in the upper Muddy River floodplain. These have been described in greater detail in two reports prepared for the Clark County MSHCP; the Upper Muddy River Site Conservation Plan (TNC 2000b) and the draft Integrated Science Plan for the upper Muddy River (TNC 2004). A short description of each system is included here.

Warm Spring/Stream Aquatic Assemblage: This warm water assemblage includes the aquatic species from the spring heads and outflow streams to their confluence with the upper Muddy River mainstem and downstream to approximately river mile 31 near the Warm Springs Road bridge. Water at the springs emerges at a temperature of 86-89 °F (30 to 32°C) and gradually cools as it flows to the mainstem of the river. The two Muddy River endemic fishes, the Moapa dace and Moapa Whiteriver springfish, as well as the Moapa speckled dace and seven geographically limited aquatic invertebrates are members of this assemblage. This aquatic assemblage does not occur within the PMP planning area, but is present in the adjacent spring heads and outflow streams that supply the upper Muddy River.

Muddy River Aquatic Assemblage: The upper Muddy River mainstem downstream from approximately river mile 31 is captured by this cooler aquatic assemblage. Adult Moapa dace, Virgin River chub (Muddy River population) and the Moapa water strider are the species of concern present in this stretch of the river. This is the aquatic assemblage that occurs in the PMP planning area.

Desert Riparian Woodland: This deciduous woodland system is small in extent and occurs mainly in the upper reaches of the Muddy River headwaters, in a narrow band along the river mainstem, streams and springs. Velvet ash, Fremont cottonwood and Goodding's willow characterize this system. This system may provide habitat for the Arizona viceroy butterfly, five bird species of concern including the Yellow-Billed Cuckoo, and other resident and neotropical migratory birds. Desert Riparian Woodlands are

present in the PMP planning area, and have become somewhat degraded through the invasion of saltcedar.

Desert Riparian Shrubland: Lining the mainstem of the Muddy River above the Interstate 15 crossing, this system is characterized by quailbush, arrow weed, coyote willow, seep-willow, wolfberry, Emory's baccharis and scattered mesquite trees. The desert pocket mouse, 8 bird species of concern including the Southwestern Willow Flycatcher, as well as 4 butterfly species of concern potentially use this habitat. This system is also present in the planning area. Saltcedar has invaded much of this habitat, and is the dominant tree in some areas.

Interior Riparian Marsh: Riparian marshland is typified by seasonally or perennially flooded soils, where marshland and meadows form on lowlands, seeps and saturated swales. Sedges, grasses, cattails and yerba mansa dominate this habitat. Although small in area, the marshes along the Muddy River provide important habitats for seven bird and five amphibian species of concern. This habitat is not present in the planning area. Most of the occurrences of this system in the upper Muddy River have been converted to pasture.

Mesquite Bosque: This dense woodland of screwbean or honey mesquite occurs on a variety of sites including upper floodplain terraces, stream banks, alkali sinks and ephemeral washes. While mesquite trees can develop surprisingly deep and extensive root systems, they flourish where groundwater depth is shallow. The vegetation under these woodlands is sparse and composed of annuals. Mistletoe is common in the canopies, and the bosques provide habitat for 3 butterfly and 3 bird species of concern, including the Phainopepla. This system occurs in the planning area, but has been invaded by saltcedar or converted to agricultural fields.

To facilitate understanding of the ecosystem and vegetation classifications used in the various plans that address the upper Muddy River riparian area, table 1 provides a comparison of the TNC assemblages, BLM-defined ecosystems, and Clark County MSHCP habitat terms.

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Table 1. Comparison of habitat and system descriptions used by The Nature Conservancy, the Bureau of Land Management , and the Clark County MSHCP.

TNC assemblage name	BLM ecosystem name	Clark County MSHCP habitat type
Warm Spring/Stream	--	Desert Riparian/Aquatic and Springs
Muddy River Aquatic	--	Desert Riparian/Aquatic
Desert Riparian Forest	Riparian	Desert Riparian/Aquatic
Desert Riparian Shrubland	Riparian	Desert Riparian/Aquatic
Riparian Marsh	Riparian	Desert Riparian/Aquatic and Springs
Mesquite Bosque	Mesquite	Mesquite / Catclaw
Saltbush Shrubland	Southern Desert Shrub	Mojave Desert Scrub
Creosote Bush Shrubland	Salt Desert Shrub	Salt Desert Scrub

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Figure 1. Upper Muddy River, Mojave Desert

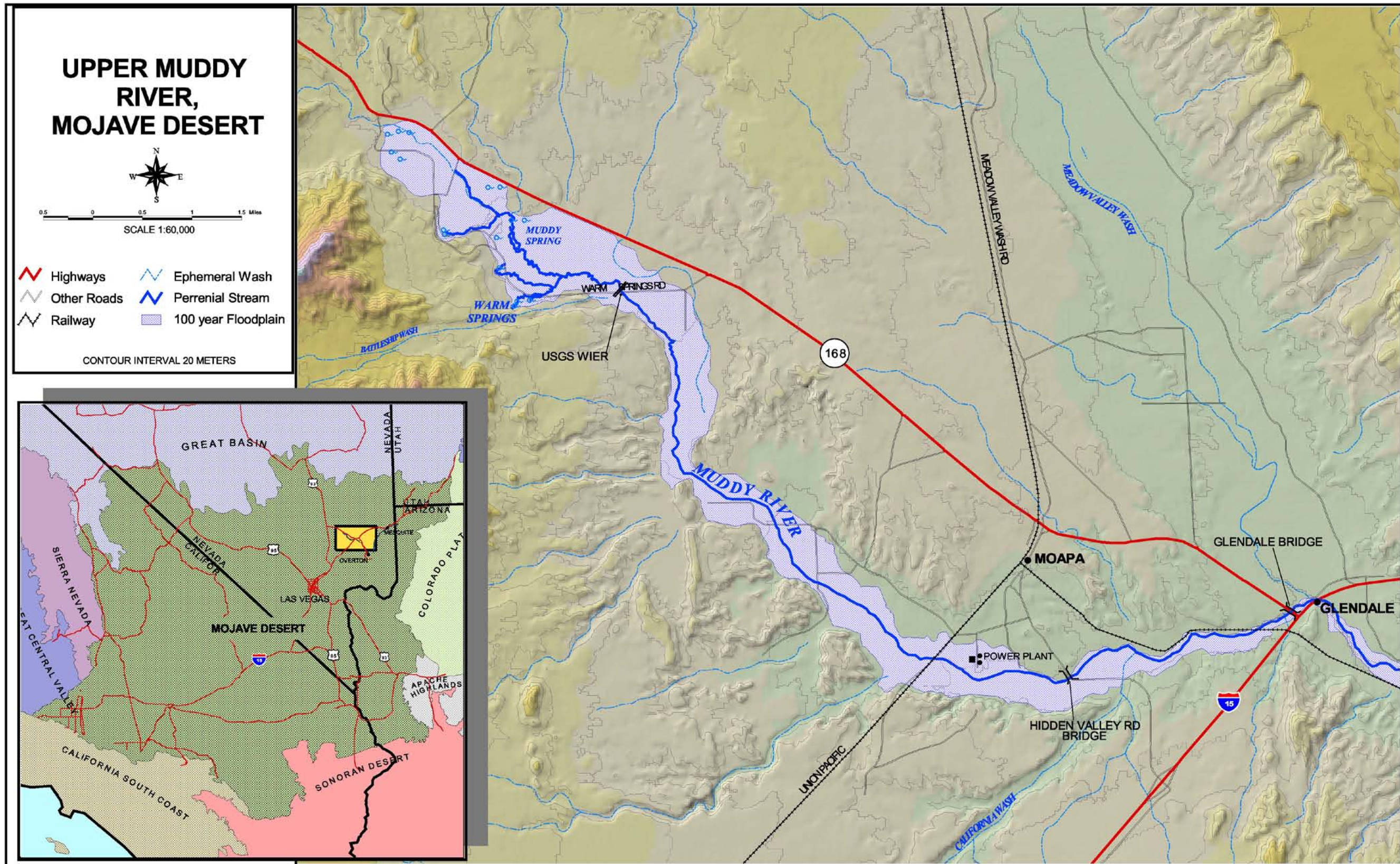
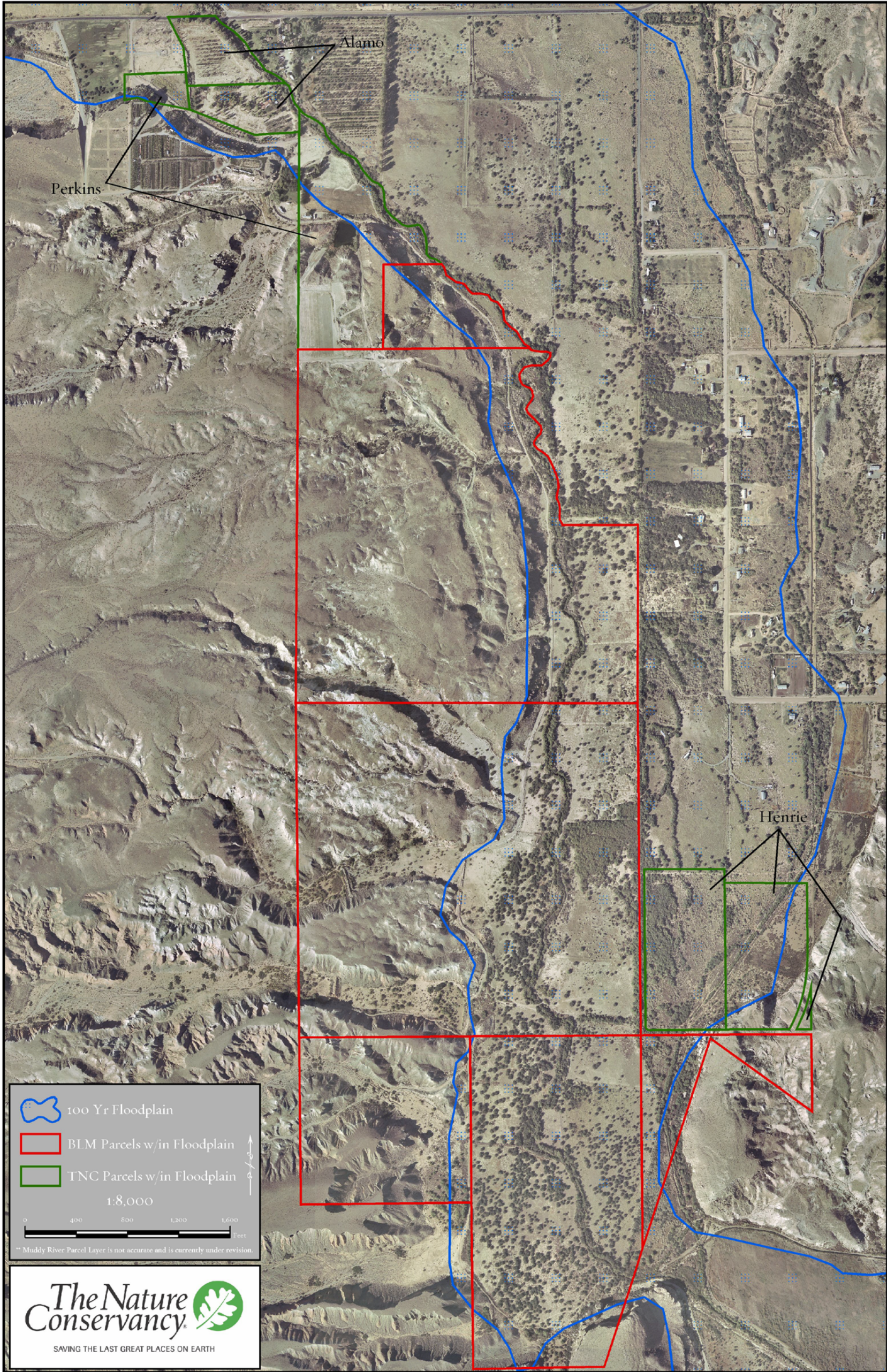


Figure 2. Parcels addressed by the Preliminary Management Plan.



MANAGEMENT OBJECTIVES AND CONSTRAINTS - PART II

Management Objective

The upper Muddy River PMP area will be adaptively managed to protect and enhance species and habitats of concern and biological, hydrological, geological, and cultural resource values within a multiple use framework.

Constraints

Constraining factors that influence the preliminary management of these parcels because of law, policy, regulation or circumstance include the following:

1. Section 7 of the Endangered Species Act (ESA) requires Federal agencies to consult with the U.S. Fish and Wildlife Service on any actions funded, authorized, or carried out by them that may affect a listed species to ensure that federal actions do not jeopardize the continued existence of the species or destroy or adversely modify designated critical habitat. Actions on the upper Muddy River must not preclude recovery of those species listed under the ESA. In addition, both the BLM and TNC are members of the Muddy River RIT. All management actions within the PMP planning area should be compatible with the Recovery Plan for the Rare Aquatic Species of the Muddy River Ecosystem (USFWS 1995).
2. Management of the parcels addressed in this PMP should be compatible with guidance for parcels that might be considered for addition to the Moapa Valley National Wildlife Refuge in the future.
3. The BLM is party to the Implementation Agreement for the Clark County MSHCP. All species and habitats of concern addressed by the Clark County MSHCP and section 10 permit should be considered in the PMP. Specific management actions in the Implementation Agreement that relate to the upper Muddy River should be considered for inclusion in this PMP. Future iterations of the PMP should also address recommendations in the Mesquite Catclaw Conservation Management Strategy and Muddy River Conservation Management Strategy that will eventually be developed through the MSHCP process.
4. The Migratory Bird Treaty Act implements several treaties and conventions between the U.S. and other countries for the protection of migratory birds. Taking, killing or possessing migratory birds is unlawful.
5. Under the Clean Air Act, Clark County Air Quality implements a permitting program for dust-producing, non-agricultural activities that are over ¼ acre in extent. During and after ground disturbing activities, land managers will need to ensure that dust control measures are implemented.

6. Section 404 of the Clean Water Act prohibits discharge of dredge or fill materials into the nation's water if a reasonable alternative to this action exists. All management actions in the PMP planning area must comply with the Clean Water Act and associated permitting requirements.
7. The BLM manual 9001 provides policy guidance for the use of chemical pest or weed control on BLM lands. Only EPA registered pesticides may be used, and they must be used in conformance with current label guidelines and restrictions. Prior to any pesticide use on the BLM lands, a Pesticide Use Proposal must be submitted to an authorized BLM official. At the completion of pesticide application, a Pesticide Application Record must be submitted within 24 hours to an authorized BLM official.
8. The American Indian Religious Freedom Act, Native American Graves Protections and Repatriation Act, Archaeological Resources Protection Act, and National Historic Preservation Act may apply to resources in the PMP area. No survey for affected resources has been completed on the recently acquired BLM lands in the PMP planning area, nor on the private lands currently held by TNC.
9. The Moapa Band of Paiutes has provided to TNC a preliminary list of plant species the Tribe traditionally has used in the PMP area. Access to and personal use of sacred and traditionally used plant species that do not have legal protections under state or federal laws is allowable under the Las Vegas RMP (BLM 1998)
10. All actions identified in this PMP must be authorized under existing guidance in the BLM Las Vegas Field Office RMP (1998). In addition, the Draft Southern Nevada Mesquite Woodland Habitat Management Plan (BLM 1999) identifies management actions specific to mesquite woodland habitats.
11. The BLM is directed by manual 6840 to consider special status species' needs in all management decisions and to implement special management for those species listed as threatened, endangered, or otherwise listed as sensitive by a BLM State Director (see species list, appendix C).
12. The Nevada Revised Statutes 501 and 527.270 provide protections for certain plant and animal species within the State of Nevada (see species list, appendix C).
13. All water rights addressed by the PMP are subject to Nevada State water law.
14. Management actions in the PMP must conform with Clark County's Regional Plan and Zoning limitations. Currently all parcels are zoned RU – rural.
15. Actions in the PMP planning area must conform with the Clark County Regional Flood Control Master Plan. The TNC-Henrie parcels are split by a Clark County flood control channel. All PMP parcels contain some flood zone A lands which have been identified by the National Flood Insurance agency for mandatory

insuring of improvements. In addition, consideration should be given to the potential or perceived impacts of PMP management actions on the likelihood of flooding of neighboring or downstream lands.

16. Consideration should be given to potential or perceived impacts of PMP management actions on adjacent landowners (Moapa Band of Paiutes, Nevada Power, Moapa Valley National Wildlife Refuge, Clark County Flood Control District, private landowners), and rights-of-way holders (Southern Nevada Water Authority).
17. Land managers will need to control noxious or invasive plants (i.e., saltcedar, Russian knapweed, tall whitetop) and animals (i.e., tilapia, bullfrogs, Oriental snail, crayfish). Cooperation with the Muddy River RIT for invasive species control will reduce the likelihood of resource management conflicts.
18. Access management, and the maintenance of roads, tracks and trails need to be addressed. The private Hillside Drive road track is connected with a track across the PMP parcels to the Moapa Valley Indian Reservation, and several other tracks exist on the parcels between the old agricultural fields. No road tracks or trails on the PMP properties have been claimed by Clark County under Revised Statute 2477, nor have they been addressed through BLM's public road inventory and designation process.
19. The PMP planning area is within 50 miles of Las Vegas, a metropolitan area with over a million residents.
20. Availability of funding will influence the pace of management action implementation.

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MANAGEMENT ISSUES - PART III

The following issues present situations and circumstances that must be evaluated and resolved in order to achieve the management objectives of this plan. These issues were identified during scoping meetings with stakeholders, listed in Part VI of this document.

Issue 1: Protection of Federally listed species, BLM Sensitive species, NV State protected species, and Clark County MSHCP Covered, Evaluation or Watch species

The planning area contains confirmed or potential habitat for many special status species of concern (see species list, appendix C). The federally endangered Moapa dace is endemic to the upper portions of the Muddy River, and adult dace may be present in the PMP planning area. Management of the area must not preclude recovery of any listed species and should be designed to promote habitat enhancement or restoration activities that assist and/or lead to species recovery. Management of the PMP area should also benefit species addressed by the Clark County MSHCP (see species list, appendix C) that are not yet listed under the ESA. If any of these species are listed in the future, use of the area may become more restricted. Questions that need to be addressed are:

1. How should the river segment and 100-year floodplain in the PMP area be managed to benefit these species?
2. How should acquired water rights be managed and maintained, including those associated with acquired parcels, to benefit these species?
3. How should water rights be managed to provide maximum benefits for the species and habitats of concern?
4. How should concentrated public use be directed away from riparian habitats and other sensitive portions of the planning area?
5. What types of human use of the area are consistent and compatible with protection and recovery of these species and habitats of concern?

Issue 2: Control of invasive plant and animal species

Invasive plant species such as saltcedar and Russian knapweed have invaded the upper Muddy River basin, and are degrading the habitat values for which these parcels were acquired. While wildlife do utilize saltcedar stands, these species are better adapted to native riparian plant species, and will benefit from the restoration of native habitats. The continued spread of weed species poses a threat to not only the riparian wildlife species that utilize the riparian corridors, but also to the aquatic assemblage. The aquatic species are affected by the reduction in the local water table caused by the excessive use of water by saltcedar, and the potential degradation in water quality from the salts deposited by salt cedar, particularly after wildfires. The potential for wildfire in thick stands of saltcedar also puts human safety and structures at risk.

Several non-native and invasive aquatic animal species are also present in the upper Muddy River system. Tilapia, crayfish and bullfrogs feed on the native aquatic biota that inhabit the river. In addition, Oriental snail poses a threat to the smaller aquatic species that are unique to the Muddy River. Questions that need to be addressed are:

1. How to remove and control invasive plant species from the riparian and floodplain areas without precluding recovery of the listed species?
2. How to remove and control invasive plant species in the most effective and efficient manner possible, given regulatory requirements for pesticide use and other weed removal techniques on public lands?
3. How to remove and discourage reintroductions or reinvasions of non-native, invasive animal species without precluding recovery of the listed species?

Issue 3: Management of water resources

In addition to land, water rights have been identified as key interests to be acquired in the upper Muddy River (RECON 2000, TNC 2000b). Fifty acre-feet of groundwater rights were acquired by TNC with the TNC-Perkins parcels and are nominated for acquisition by the BLM under the SNPLMA. Use of these water rights should benefit the species and habitats of concern mentioned in issue 1. Questions which need to be addressed:

1. How to use and manage water rights acquired in the upper Muddy River to benefit the species and habitats of concern in the upper Muddy River area?

Issue 4: Protection of cultural, archaeological and paleological resources

The area addressed in this plan and the surrounding uplands have been inhabited by humans for thousands of years. Prior to earth disturbing activities, cultural, archaeological and paleological surveys must be completed. Questions that must be addressed include:

1. How to minimize earth disturbing management activities to protect these resources?
2. How to minimize damage to or poaching of these resources by members of the public?

Issue 5: Cooperative Management Agreements with Agencies, Organizations and Adjacent Landowners

The parcels addressed in this Preliminary Management Plan are adjacent to Nevada Power Company, Moapa River Indian Reservation and private lands. Federal, State and local agencies, TNC, MRREIAC, PIC and private land owners conduct many cooperative activities in the area to benefit native species, habitats and other public land resources. The BLM and other entities can continue to work together to complement and not duplicate each other's efforts. In addition to increasing the effectiveness of habitat restoration actions as well as the supply and diversity of public use opportunities, coordination can divert uses to areas where it is more desirable and away from environmentally or culturally sensitive areas. Questions that need to be addressed:

1. What projects can be cooperatively implemented to provide increased efficacy and efficiency of restoration and other resource management activities?

Issue 6: Public access to the upper Muddy River and road track maintenance

Several road tracks and a bridge across the Muddy River were created on the PMP parcels by previous private land owners for their private use. The private Hillside Drive road track is connected with a road track which crosses the PMP parcels to the Moapa River Indian Reservation, and several other road tracks and trails exist on the parcels between the old agricultural fields. The BLM – Perkins parcel has a privately built bridge that crosses the Muddy River. No road tracks or trails on the PMP properties have been claimed by Clark County under Revised Statute 2477, nor have they been addressed through the BLM's public road inventory and designation process.

The road track that connects the Moapa River Indian Reservation and the private Hillside Drive is located on top of earthen berms that also served to block flood flows from washes onto old agricultural fields. In the absence of continual maintenance, these berms have degraded in many places, and the track is impassible by non-4X4 vehicles in some areas. While intact, these earthen berms blocked important sediment flows to the upper Muddy River, and this lack of sediment input to the river may have degraded fish spawning habitat downstream in the Muddy River (TNC 2004). Questions that need to be addressed include:

1. How to provide and maintain access to these parcels for land and resource managers and emergency responders?
2. What level of maintenance is required for the existing bridge over the Muddy River and other road tracks to ensure public safety?
3. How to manage the existing road track between the private Hillside Drive and the Moapa River Indian Reservation boundary to allow sediment flows from the washes to reach the river; to minimize road incursions and damage to resources; and to reduce trespass from the BLM parcels onto adjoining private and tribal lands?

Issue 7: Recreational Use

The majority of lands surrounding the upper Muddy River have been privately owned since European settlement of the area, and public access to the Muddy River was limited until the purchase of the Perkins Ranch by the BLM under the SNPLMA. Some local residents have expressed a desire to access the river for swimming, and the surrounding lands for hiking, equestrian use, picnicking, camping and other recreational activities. Non-residents have expressed interest in accessing the PMP area for bird watching. A member of the Moapa Band of Paiutes has expressed concerns over degradation of the river, theft or damage of cultural artifacts, and continuing trespass onto the Moapa River Indian Reservation from the PMP planning area.

1. What types of managed use are consistent with the Muddy River Recovery Plan and RMP guidance for the management of the riparian and aquatic habitats and species of concern in the area?
2. How to minimize use conflicts while providing a wide range of opportunities?

Issue 8: Illegal Activities

Illegal activities presently occurring in the area may include trespass, theft of cultural artifacts, poaching of wildlife, dumping, illegal fireworks discharge, shooting, off-road travel, and mesquite wood cutting. Questions that need to be addressed:

1. What types and level of law enforcement presence are needed?
2. How to effectively and efficiently inform public land users and residents about appropriate and legal uses of these public lands?

Issue 9: Fate of the agricultural and residential structures on the TNC parcels

The TNC-Alamo parcel currently includes numerous residential and agricultural improvements, including fences, irrigation piping and house structures. Some additional agricultural improvements exist on the TNC-Perkins parcels as well. These improvements must be maintained until their ultimate fate is determined. Many suggestions for future use and management of these improvements have been suggested, ranging from complete removal to enhancement of the residential space for use or lease by public land management agencies. Many of these suggested uses are contingent upon assessments to be completed by federal agencies prior to acquisition decisions for these SNPLMA nominated parcels. To guide TNC management of these parcels in the short term, the following question must be addressed:

1. How to minimize investment of limited property management resources to maintain these improvements and structures, while maximizing flexibility for future potential uses of these improvements?

Issue 10: Compliance with additional local and federal laws

In addition to the Endangered Species Act and cultural resource protection regulations, the planning area is further regulated by various federal, state and local laws. Of these, compliance with the Clean Water Act as administered by the U.S. Corp of Engineers and Clean Air Act, as administered by Clark County Air Quality Department and U.S. Environmental Protection Agency are of most relevance to potential land management of these parcels. Questions which need to be addressed:

1. What activities are precluded or regulated by the Clean Air Act and Clean Water Act?

2. What actions are required by the Clean Air Act and Clean Water Act, and what permitting requirements are relevant to the planning area?

Issue 11: Implement adaptive management of PMP lands

To increase the efficacy and efficiency of management actions as well as the transparency of decision making regarding management implementation, adaptive management principles should be incorporated into this PMP. The results of monitoring and experimental treatments can then guide and inform management decisions in this and similar areas. Questions which need to be addressed:

1. What types of experiments or monitoring programs can be implemented in the PMP area within existing land management guidance?

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MANAGEMENT ACTIONS - PART IV

The area addressed by this Preliminary Management Plan has recently been analyzed by TNC and Otis Bay Riverine Consultants to create an Integrated Science Plan for the upper Muddy River (draft; TNC 2004), which includes recommendations for management and monitoring actions. The following actions were developed as part of the Integrated Science Plan, and are designed to protect the species and habitats of concern. Such actions may ultimately prevent additional species from being listed under the ESA, thus avoiding the need for greater use restrictions on both federal and private lands.

The following management actions were developed to address the resource issues and concerns identified in the previous section:

Issue 1: Protection of species and habitats of concern:

- Action 1.1 Remove saltcedar using adaptive management techniques and encourage regrowth of native plant species or actively revegetate with native plant species.
- Action 1.2 Ensure that pesticide use complies with the BLM Vegetation Management program for the Western States (BLM 1991), and label instructions for all chemicals.
- Action 1.3 Enhance riparian system by revegetating with native plants, such as mesquite, willow, salt grass, *Sporobolus* and other species.
- Action 1.4 Discourage recreational use of the riparian or aquatic system.

Rationale for Actions 1.1 - 1.4:

Replacement of saltcedar and other invasive or noxious plant species with native riparian species will improve suitable habitat for the bird species of concern, as well as other native wildlife. Replacement of saltcedar with natives may reduce the amount of water transpired by the riparian zone, and may help to maintain instream flow in the river channel. Also, reducing the deposition of salts and other chemicals from saltcedar leaves may improve local water quality. These actions should enhance aquatic habitat conditions and may contribute to aquatic species recovery. Because of the concentration of species and habitats of concern within the PMP area, concentrated use of this area must be avoided, and road track and trail proliferation must be discouraged.

Issue 2: Control of invasive plant and animal species.

- Action 2.1 Implement controlled goat grazing, hand felling and herbicide (Garlon 4© or Habitat©) control of saltcedar along the riparian corridor within an adaptive management framework.
- Action 2.2 Implement controlled goat grazing and herbicide (Thordon© or Escort©) control of knapweed along the riparian corridor within an adaptive management framework.
- Action 2.3 Implement additional weed control in the 100-year floodplain and tributary washes adjoining the planning area.
- Action 2.4 Revegetate areas treated for weeds with native plant materials within an adaptive management framework.
- Action 2.5 Continue to coordinate with the Muddy River RIT to control invasive plant and animal species.

Rationale for Actions 2.1-2.5

TNC's draft Integrated Science Plan for the upper Muddy River (2004) identifies invasive vegetation removal for this segment of the upper Muddy River. Because the Muddy River is deeply incised and the channel banks are nearly vertical in the planning area, mechanical removal of saltcedar with bulldozers or tractors is not feasible. The potential for wildfire from prescribed burning of saltcedar puts human structures and the rare aquatic species in the river at risk. MRREIAC has been working with Nevada Division of Forestry's Conservation Camp crews to control saltcedar on private properties with hand felling and precise application of herbicides to cut stumps. In addition, use of goat grazing to control knapweed and to remove stems and resprouts from saltcedar trees has met with anecdotal success. The draft Integrated Science Plan for the upper Muddy River (TNC 2004) recommends that basic studies be conducted to document the efficacy and efficiency of these methods for restoration of riparian shrubland.

The Recovery Plan for the Rare Aquatic Species of the Muddy River (FWS 1995) is being implemented by the Muddy River RIT, and the team is currently focused on non-native animal removal in this stretch of the river. Continued cooperation with the RIT will increase efficiency of invasive plant and animal control activities in the upper Muddy River.

Issue 3: Management of water resources.

Action 3.1 Utilize all acquired water rights to temporarily irrigate areas of native plant revegetation or to otherwise benefit wildlife, or leave in aquifer to raise local water table to benefit floodplain, riparian and aquatic species of wildlife.

Rationale for Action 3.1

Use of acquired water rights to benefit wildlife and plant species and habitats of concern will conform with Nevada State water law and enhance the success of other management activities in the PMP area.

Issue 4: Protection of cultural, archaeological and paleological resources.

Action 4.1 Minimize earth disturbing activities during weed control, revegetation and road or trail maintenance.

Rationale for Action 4.1

Earth disturbing activities may disturb any cultural, archaeological and paleological resources that may be present in the PMP area. No surveys for these resources have been conducted on the recently acquired BLM parcels or the TNC parcels.

Issue 5: Cooperative Management Agreements with Agencies, Organizations and Adjacent Landowners

Action 5.1 Develop a cooperative management agreement between TNC, BLM and MRREIAC to implement adaptive management experiment for weed control and native riparian plant restoration in the PMP area.

Rationale for Action 5.1

This experiment would provide scientific data to inform future management of riparian species and habitats of concern along the Muddy River on both public and private properties.

Issue 6: Public access to the upper Muddy River and road track maintenance.

- Action 6.1 Inventory existing road tracks and trails upon acquisition of parcels to establish a baseline. Use a common data dictionary and techniques used by the BLM and PIC for other road inventory efforts in Clark County.

- Action 6.2 Evaluate the safety of all road tracks, trails and bridges and maintain for public safety.

- Action 6.3 Inform cooperating law enforcement agencies, PIC and MRREIAC of limited use designation for this area, to ensure that all parties are able to convey this information to the public land users.

Rationale for Actions 6.1-6.3

An inventory of road tracks and trails would inform land managers and provide information for future road designations processes, if warranted. Minimal maintenance of existing road tracks and trails should be limited to those actions necessary for public safety. Informing public land users of the limited use designation and enforcement of this designation may reduce off-trail traffic and result in fewer opportunities for weed spread or damage to vegetation, soils, and other resources.

Issue 7: Recreational Use

- Action 7.1 Emphasize primitive low-impact recreational opportunities and avoid permitting group events in the riparian portion of the PMP planning area.

Rationale for Action 7.1

The high concentration of species and habitats of concern in the aquatic and riparian systems require that wildlife management and habitat restoration be emphasized for this floodplain portion of the PMP area. Protection of these species in the PMP area may prevent the need to list the species in the future. Restoration activities in the PMP area may also increase the likelihood of recovery for the species already listed under the ESA.

Issue 8: Illegal Activities

Action 8.1 Inform all local law enforcement staff from local, state and federal agencies are aware of land and resource use guidance and priorities for this area.

Action 8.2 Inform local non-profit organizations, such as PIC and MRREIAC, of land and resource use guidance and priorities for this area.

Rationale for Actions 8.1-8.2

Well-informed law enforcement staff and local non-profit members will be better able to provide outreach to public land users related to land use guidance for the planning area. A public aware of land and resource use guidance, the species and habitats of concern, and the role that local protection and restoration efforts may have in reducing the likelihood of future listings under the ESA may be more likely to conform to land and resource use guidance.

Issue 9: Fate of the agricultural and residential structures on the TNC parcels

Action 9.1 Limit repairs and improvements to structures to those actions required by law, for public safety, or which are likely to result in short-term maintenance cost savings to the ultimate land managers.

Rationale for Actions 9.1

The limited funding for TNC management actions should focus on benefiting the species and habitats of concern. Minimal effort and funds should be expended to maintain property values for parcels nominated for acquisition under the SNPLMA.

Issue 10: Compliance with additional local and federal laws.

Action 10.1 Dust control permits for TNC-Alamo, TNC-Henrie and TNC-Perkins parcels will be obtained by TNC as necessary. Dust control measures will be implemented on TNC parcels as appropriate.

Action 10.2 No brush, mulch, soil, or fill materials will be placed in the Muddy River or its tributaries on TNC parcels.

Rationale for Actions 10.1-10.2

All management activities on PMP parcels must comply with the federal Clean Air and Clean Water Acts.

Issue 11: Implement adaptive management of PMP lands

Action 11.1 Inventory weed populations on parcels.

Action 11.2 Inventory all Mesquite/Catclaw habitats on parcels.

Action 11.3 Inventory any rare plant habitats on parcels for special status plant species.

Action 11.4 Cooperate with the RIT to survey PMP area for species of concern.

Action 11.5 Implement an experiment to test saltcedar and knapweed control and revegetation techniques that have met with anecdotal success in the upper Muddy River.

Rationale for Actions 11.1 – 11.5

Inventories and surveys of resources and disturbances within the PMP area will enable the BLM and other resource managers to establish a baseline against which to evaluate the efficacy of future management actions, and to evaluate the benefits of conveying private property to public management under the SNPLMA.

The proposed weed control experiment will be a 4x2 randomized complete block factorial design with four weed control treatments and two native plant restoration methods. A minimum of 10 replicates will be used. Each replicate will consist of a band of riparian habitat 90 meters long by 8-10 meters deep (approximately 0.22 acres each) on one side of the riparian system. The weed control treatments will be: no removal control (hereafter control), chainsaw felling followed by painting stumps with Garlon 4© or Habitat© and spraying knapweeds with Thordon© or Escort© (hereafter traditional), goat grazing only (trees remain standing), and goat grazing

followed by wicking of resprouts with Garlon 4© or Habitat© and use of the traditional method for larger trees not girdled by goats (no Thordon© or Escort© on knapweeds). Each weed treatment will be crossed with two forms of native plant restoration; natural regeneration (do-nothing control) and artificial native plant restoration using different species and methods for the lower and upper riparian zones as accomplished by Nevada Division of Forestry's Conservation Camp crews in the past. The results of an experiment such as this would allow BLM and other resource managers in the upper Muddy River to adaptively manage this species-rich, yet highly altered, river and riparian area.

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ENVIRONMENTAL ASSESSMENT FOR BLM PARCEL – NV POWER – PERKINS RANCH -- PART V

EA number
Internal Draft Provided to BLM staff December 2004

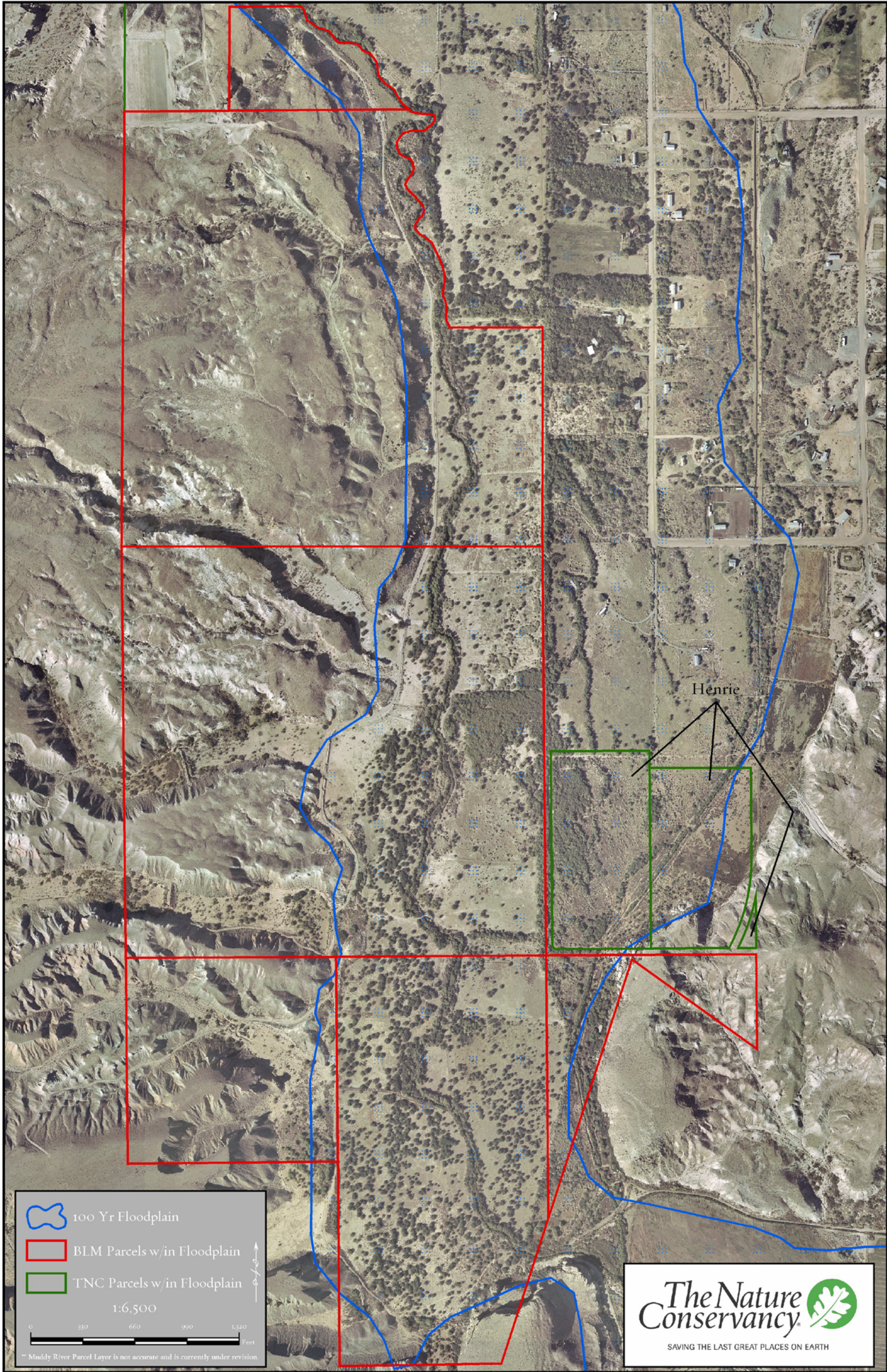
Environmental Assessment
For Preliminary Management Plan
for upper Muddy River aquatic and floodplain habitats
in Clark County, Nevada.

Preparer:
Sue Wainscott
The Nature Conservancy
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Las Vegas, Nevada 89102

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Figure 3. Map of BLM-Perkins parcels addressed by the PMP



PERSONS OR AGENCIES CONSULTED.

List persons, agencies and organizations consulted in the preparation of the PMP and the Environmental Assessment for the BLM Perkins Ranch parcels.

Meeting date July 26, 2004 Meeting for Agency Stakeholders Attendees:

Gerald Hickman, Bureau of Land Management
Lewis Wallenmeyer, Clark County Desert Conservation Program
Jim Heinrich, Nevada Department of Wildlife
Suzanne Hohn, Nevada Department of Wildlife
Jon Sjoberg, Nevada Department of Wildlife
Margie Klein, Nevada Division of Forestry
Darren Daboda, Moapa Band of Paiutes
Calvin Meyer, Moapa Band of Paiutes
Sue Wainscott, The Nature Conservancy
Janet Bair, The Nature Conservancy
Amy Sprunger-Allworth, U.S. Fish and Wildlife Service, Refuges
Grant Webber, U.S. Fish and Wildlife Service

Meeting date July 29, 2004 Discussion with Muddy River Working Group

Attendees:

Hermi Hiatt, Chairperson
Gerald Hickman, Bureau of Land Management
Lewis Wallenmeyer, Clark County Desert Conservation Program
Nancy Hall, Muddy River Regional Environmental Impact Alleviation Committee
Ann Schreiber, Muddy River Regional Environmental Impact Alleviation Committee
Sue Wainscott, The Nature Conservancy
Rob Scanland, The Nature Conservancy
Jeri Krueger, U.S. Fish and Wildlife Service

Meeting date August 24, 2004 Discussion with Muddy River Working Group

Attendees:

Hermi Hiatt, Chairperson
Gerald Hickman, Bureau of Land Management
Lewis Wallenmeyer, Clark County Desert Conservation Program
Ann Schreiber, Muddy River Regional Environmental Impact Alleviation Committee
Nancy Hall, Muddy River Regional Environmental Impact Alleviation Committee
Elise McAllister, Partners in Conservation
Sue Wainscott, The Nature Conservancy
Jeri Krueger, U.S. Fish and Wildlife Service

Meeting date August 26, 2004 Discussion with Muddy River Recovery Implementation Team

Attendees:

Jim Heinrich, Nevada Department of Wildlife
Darren Daboda, Moapa Band of Paiutes
Calvin Meyer, Moapa Band of Paiutes
Ann Schreiber, Muddy River Regional Environmental Impact Alleviation Committee
Nancy Hall, Muddy River Regional Environmental Impact Alleviation Committee
Paul Aguirre, Nevada Power Company
Zane Marshall, Southern Nevada Water Authority
Sue Wainscott, The Nature Conservancy
Amy Sprunger-Allworth, U.S. Fish and Wildlife Service, Refuges
Shawn Goodchild, U.S. Fish and Wildlife Service
Grant Webber, U.S. Fish and Wildlife Service
Cynthia Martinez, U.S. Fish and Wildlife Service
Gary Scopetone, U.S. Geological Survey

Meeting date September 9, 2004 Comments from public at Upper Muddy River Integrated Science Plan Stakeholder Workshop

Attendees:

John Alder	Bruce Lund
Janet Bair	Elise McAllister
Boyd Beals	Calvin Meyers
Hank Beals	Belva Perkins
Milton Bullock	Louis Provencher
Don Davis	Ann Schreiber
Ida Egan	Kathie Taylor
Jane Feldman	Dave Vincelette
Chad Gourley	Sue Wainscott
Nancy Hall	Lewis Wallenmeyer
Jeri Krueger	Mrs. Walters
	Tim Wood

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Implementing agreement for the Clark County Multiple Species Habitat Conservation Plan.

RECON 2000. Clark County Multiple Species Habitat Conservation Plan and Environmental Impact Statement.

TNC Mojave ecoregional plan

TNC upper Muddy River scp

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APPENDIX A LIST OF ACRONYMS

(ACEC) Area of Critical Environmental Concern
(BLM) Bureau of Land Management
(EA) Environmental Assessment
(EIS) Environmental Impact Statement
(ESA) Endangered Species Act
(MRREIAC) Muddy River Regional Environmental Impact Alleviation Committee
(MSHCP) Multiple Species Habitat Conservation Plan
(PIC) Partners in Conservation
(PMP) Preliminary Management Plan
(RIT) Recovery Implementation Team
(RMP) Las Vegas Resource Management Plan
(SNPLMA) Southern Nevada Public Land Management Act
(TNC) The Nature Conservancy
(USFWS) United States Fish and Wildlife Service
(WSA) Wilderness Study Area

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APPENDIX B PARCELS ADDRESSED IN PRELIMINARY MANAGEMENT PLAN

Common name	Parcel number	Current owner of record	# acres *	SNPLMA nomination round
BLM-NV Power-Perkins Ranch	030-23-201-002	USA Bureau Land Management	8	Round 2
	030-23-401-001	USA Bureau Land Management	136	Round 2
	030-26-101-001	USA Bureau Land Management	160	Round 2
	030-26-301-003	USA Bureau Land Management	76	Round 2
	030-26-701-003	USA Bureau Land Management	8	Round 2
			Total = 388	
TNC-Alamo	030-22-501-004	Nature Conservancy	6	Round 3
	030-22-501-006	Nature Conservancy	6	Round 3
			Total = 12	
TNC-S. Perkins	030-22-501-007	Nature Conservancy	3	Round 3
	030-22-501-010	Nature Conservancy	1	Round 3
	030-23-201-003	Nature Conservancy	25	Round 3
	030-26-301-001	Nature Conservancy	40	Round 3
			Total = 69	
TNC-Henrie	030-26-601-001	Nature Conservancy	19	Round 6
	030-26-601-002	Nature Conservancy	17	Round 6
	030-26-601-003	Nature Conservancy	<1	Round 6
			Total = 36	
Total acres addressed in Preliminary Management Plan v.1.0 = 505				

*Acreage estimates from Clark County, Nevada Assessor Office Website, accessed 07Dec2004.

APPENDIX C SPECIES LIST

Table C-1 Native animal species of concern potentially affected by Preliminary Management Plan for Upper Muddy River Parcels

<u>Common name</u>	<u>Latin name</u>	<u>BLM Management Guidance</u>	<u>Federal status</u>	<u>NV State status</u>	<u>CC MSHCP status</u>
amphibians					
Arizona southwest toad	<i>Bufo microscaphus</i>	NV BLM sensitive species Special status species identified in RMP			Evaluation-high
relict leopard frog	<i>Rana onca</i>	Special status species identified in RMP	C ¹	NV listed NRS 501	Covered
birds					
Western Burrowing Owl	<i>Athene cunicularia hypugaea</i>	NV & CA BLM special status species Special status species identified in RMP	xC2 ²	NV listed NRS 501 (Federal Migratory Bird Act)	Evaluation-high
Gambel's Quail	<i>Callipepla gambelii</i>	Wildlife resource identified in RMP		Hunted in NV	
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	BLM special status species	C	NV listed NRS 501 (Federal Migratory Bird Act)	Conditionally Covered
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	NV BLM special status species Special status species identified in RMP	LE ³	NV listed NRS 501 (Federal Migratory Bird Act)	Conditionally Covered
Peregrine Falcon	<i>Falco peregrinus anatum</i>	NV BLM special status species Special status species identified in RMP	LENL ⁴	NV listed NRS 501 (Federal Migratory Bird Act)	Covered
Yellow-breasted Chat	<i>Icteria virens</i>	NV BLM Sensitive		NV listed NRS 501 (Federal Migratory Bird Act)	

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<u>Common name</u>	<u>Latin name</u>	<u>BLM Management Guidance</u>	<u>Federal status</u>	<u>NV State status</u>	<u>CC MSHCP status</u>
Loggerhead Shrike	<i>Lanius ludovicianus</i>	NV BLM sensitive species	xC2NL ⁵	NV listed NRS 501 (Federal Migratory Bird Act)	
Blue Grosbeak	<i>Passerina caerulea</i> (syn. <i>Guiraca caerulea</i>)			NV listed NRS 501 (Federal Migratory Bird Act)	Conditionally Covered
Phainopepla	<i>Phainopepla nitens</i>	NV BLM Sensitive		NV listed NRS 501 (Federal Migratory Bird Act)	Covered
Abert's Towhee	<i>Pipilo aberti</i>			NV listed NRS 501 (Federal Migratory Bird Act)	
Sora	<i>Porzana carolina</i>			NV listed NRS 501 (Federal Migratory Bird Act)	
Vermillion Flycatcher	<i>Pyrocephalus rubinus</i>			NV listed NRS 501 (Federal Migratory Bird Act)	Conditionally Covered
Virginia Rail	<i>Rallus limicola</i>			NV listed NRS 501 (Federal Migratory Bird Act)	
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>		LE	NV listed NRS 501 (Federal Migratory Bird Act)	
Crissal Thrasher	<i>Toxostoma dorsale</i> (syn. <i>T. crissale</i>)	NV BLM Sensitive		NV listed NRS 501 (Federal Migratory Bird Act)	Evaluation-low
Arizona Bell's Vireo	<i>Vireo bellii arizonae</i>	Proposed NV BLM Sensitive		NV listed NRS 501 (Federal Migratory Bird Act)	Conditionally Covered

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<u>Common name</u>	<u>Latin name</u>	<u>BLM Management Guidance</u>	<u>Federal status</u>	<u>NV State status</u>	<u>CC MSHCP status</u>
fish					
Moapa Whiteriver springfish	<i>Crenichthys baileyi moapae</i>	Special status species identified in RMP	xC2	NV listed NRS 501	Evaluation-high
Virgin River chub	<i>Gila seminuda</i>	BLM NV sensitive Special status species identified in RMP	LE – Muddy River population not listed yet	NV listed NRS 501	Evaluation-high
Moapa dace	<i>Moapa coriacea</i>	BLM NV special status species Special status species identified in RMP	LE	NV listed NRS 501	Evaluation-high
Moapa speckled dace	<i>Rhinichthys osculus moapae</i>	BLM NV sensitive Special status species identified in RMP	xC2	NV listed NRS 501	Evaluation-medium
mammals					
Desert pocket mouse	<i>Chaetodipus penicillatus sobrinus</i>				Evaluation-high
Pale Townsend's big-eared bat	<i>Corynorhinus townsendii pallescens</i>	C. townsendii is a NV & CA BLM Sensitive species Special status species identified in RMP			Evaluation-high
Desert kangaroo rat	<i>Dipodomys deserti</i>				Evaluation-high
Spotted bat	<i>Euderma maculatum</i>	Special status species identified in RMP	xC2	NV listed NRS 501	Watch list
Silver-haired bat	<i>Lasiorycteris noctivagans</i>	NV & CA BLM Sensitive Special status species identified in RMP			Covered
California leaf-nosed bat	<i>Macrotus californicus</i>	NV & CA BLM Sensitive Special status species identified in RMP	xC2		Watch list
Fringed myotis	<i>Myotis thysanodes</i>	NV & CA BLM Sensitive Special status species identified in RMP	xC2		Evaluation-medium
Yuma myotis	<i>Myotis yumanensis</i>	NV & CA BLM Sensitive Special status species identified in RMP	xC2		Watch list

<u>Common name</u>	<u>Latin name</u>	<u>BLM Management Guidance</u>	<u>Federal status</u>	<u>NV State status</u>	<u>CC MSHCP status</u>
Big free-tailed bat	<i>Nyctinomops macrotis</i>	NV BLM sensitive Special status species identified in RMP	xC2		Watch list
Kit fox	<i>Vulpes macrotis</i>			Hunted in NV?	Evaluation-high
reptiles					
desert tortoise	<i>Gopherus agassizii</i>	NV BLM special status species Special status species identified in RMP	LTNL ⁶	NV listed NRS 501	Covered
Gila monster	<i>Heloderma suspectum cinctum</i>	NV & CA BLM special status species Special status species identified in RMP	xC2NL	NV listed NRS 501	Evaluation-high
Invertebrates, aquatic					
Moapa riffle beetle	<i>Microcyloepus moapus moapus</i>				Evaluation-high & medium
Moapa pebblesnail	<i>Pyrgulopsis avernalis</i> (syn. <i>Fluminicola avernalis</i>)	Special status species identified in RMP			Evaluation-high
Moapa turban snail	<i>Pyrgulopsis carinifera</i>				Evaluation-high
Moapa water strider	<i>Rhagovellia becki</i>				Evaluation-high
Moapa Warm Springs riffle beetle	<i>Stenelmis moapa</i> (Syn. <i>S. calida moapa</i>)	NV BLM sensitive species Special status species identified in RMP	xC2		
Grated tryonia	<i>Tryonia clathrata</i>				Evaluation-high
Naucorid water bug	<i>Ulingerina moapensis</i> (syn. <i>Limnocoris moapensis</i>)				Evaluation-high

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<u>Common name</u>	<u>Latin name</u>	<u>BLM Management Guidance</u>	<u>Federal status</u>	<u>NV State status</u>	<u>CC MSHCP status</u>
Invertebrates, terrestrial					
Western Palmer's metalmark	<i>Apodemia palmerii palmerii</i>				
Western great purple hairstreak	<i>Atlides halesus corcorani</i>				
Dammer's fatal metalmark	<i>Calephelis nemesi nemesi</i>				
MacNiel's desert sootywing	<i>Hesperopsis graciellae</i>	NV BLM sensitive species	xC2		
Arizona viceroy	<i>Limenitis archippus obsoleta</i>				
Southern Melissa blue	<i>Lycaeides melissa alateres</i>				
Leda hairstreak	<i>Ministrymon leda</i>				

¹ Candidate

² Former Category 2 Candidate, now "species of concern"

³ Listed Endangered

⁴ Listed Endangered, not listed in a portion of the species' range

⁵ Former Category 2 Candidate, now "species of concern", not listed in a portion of the species' range

⁶ Listed Threatened, not listed in a portion of the species' range

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Table C-2 Native plant species of interest potentially affected by Preliminary Management Plan for Upper Muddy River Parcels

<u>Common name</u>	<u>Latin name</u>	<u>BLM Management Guidance</u>	<u>Federal status</u>	<u>NV State status</u>	<u>CC MSHCP status</u>
Plants, vascular					
threecorner milkvetch	<i>Astragalus geyeri</i> var. <i>triquetrus</i>	Special status species identified in RMP	xC2	NV listed NRS 527.270	Covered
Nye milkvetch	<i>Astragalus nyensis</i>	Special status species identified in RMP			
sticky buckwheat	<i>Eriogonum viscidulum</i>	Special status species identified in RMP	xC2	NV listed NRS 527.270	Covered
species used for traditional purposes	<i>List being developed</i>	Traditional uses may be adequately covered by personal collection stipulations in RMP. Tribe may also choose to pursue a formal consultation process with BLM.			
Honey mesquite	<i>Prosopis glandulosa</i>	BLM Mesquite Habitat Management Plan draft 1999			
Screwbean mesquite	<i>Prosopis pubescens</i>	BLM Mesquite Habitat Management Plan draft 1999			
cactus and yucca				NV listed NRS 527.060-.120	

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APPENDIX D RMP MANAGEMENT OBJECTIVES AND DIRECTIONS THAT ADDRESS PARCELS IN UPPER MUDDY RIVER ACQUIRED UNDER THE SNPLMA

AQ-1 To acquire private lands to enhance the recovery of special status species, protect valuable resources and facilitate the management of adjacent BLM lands. Secure legal and physical on-the-ground access to otherwise inaccessible public lands.

AQ-1-a The following land acquisition priorities are based on finding willing sellers:

1. Private lands required to meet management objectives within designated ACEC, WSA, recommended Wilderness Areas, Congressionally designated areas, Threatened and Endangered Species habitat, and areas containing special status species.

AR -1 Ensure that actions occurring on BLM-administered lands do not violate local, state, tribal and Federal air quality laws, regulation, and standards.

AR-1-a Ensure that the planning process addresses air quality considerations by incorporating objectives and actions into resource activity plans, such as Allotment Management Plans, Habitat Management Plans, and Watershed Management Plans. Where applicable, include "conformity" demonstration in site-specific activity plans and/or National Environmental Policy Act documentation.

AR-1-b Permit only those activities on BLM-administered lands that are consistent with Federal, state, and local air quality standards and regulations. Require that all appropriate air quality permits are obtained before BLM approval of an action is granted. Where applicable, demonstrate how proposed management actions comply with local, state, tribal and Federal air quality laws, regulations, and standards (Conformity; per 40 CRF 93.100 et seq).

FW-3 Support viable and diverse native wildlife populations by providing and maintaining sufficient quality and quantity of food, water, cover, and space to satisfy needs of wildlife species using habitats on public land.

FW-3-a Manage mesquite and acacia woodlands for their value as wildlife habitat in the following areas: Amargosa Valley, Meadow Valley Wash, Moapa Valley, Pahrump Valley, Stewart Valley, Hiko Wash, Piute Wash, Crystal and Stump Springs, or any other areas identified as being of significant wildlife value.

FW-3-b Allow harvesting of green or dead and down Mesquite by permit only and in those areas identified in FW-3-a, where consistent with sustaining plant communities in a healthy and vigorous state and also consistent with sustaining viable wildlife populations.

FW-3-e Protect artificial and natural waters that provide benefit to wildlife by providing a minimum buffer of 0.25 mile for permitted activities (such as for off-road vehicle events.)

FW-3-f Protect key nesting areas, migration routes, important prey base areas, and concentration areas for birds of prey on public lands by mitigating activities during National Environmental Policy Act compliance.

FW 3-g Protect important resting/nesting habitat, such as riparian areas and mesquite/acacia woodlands. Do not allow projects that may adversely impact the water table supporting these plant communities.

FW-3-h Improve disturbed non-game bird habitat, including the water table supporting these habitats, by emphasizing maintenance and enhancement of natural biodiversity.

RC-11 Provide opportunities for off-road vehicle use while protecting wildlife habitat, cultural resources, hydrological and soil resources, non-motorized recreation opportunities, natural/aesthetic values, and other uses of the public land.

RC-11-d Designate approximately 2,186,483 acres as shown on Map 2-10 as Limited to existing roads, trails and dry washes for all motorized and mechanized vehicles.

RP-1 Provide widest variety of vegetation and habitat for wildlife, fish, and watershed protection; ensure that all riparian areas are in proper functioning condition by achieving an advanced ecological status, except where resource management objectives require an earlier successional stage. Manage vegetation consistent with VG-1.

RP-1-a. Complete assessments on all riparian areas, including development of actions necessary to achieve Proper Functioning Condition on all areas that are functioning at risk.

RP-1-d Do not allow competitive off-road vehicle events within 0.25 mile of natural water sources and associated riparian areas.

RP-1-f Use integrated weed management techniques to control and eradicate tamarisk, such as burning, chemical, biological or mechanical treatments, where potential for treatment is good. Rehabilitate the area with native species to help reduce the potential for tamarisk re-establishment and improve ecosystem health.

SL-1 Reduce erosion and sedimentation while maintaining or where possible enhancing soil productivity through the maintenance and improvement of watershed conditions.

SL-1-a On watersheds that exhibit good potential for recovery, implement protective measures, including but not limited to fencing and removal of tamarisk.

SS-1 Manage special status species habitat at the potential natural community or desired plant community, according to the need of the species.

SS-1-a Improve approximately 400 acres of aquatic and riparian habitat on the Virgin River, Muddy River, and Meadow Valley Wash from its existing poor-to-fair condition to good-or-better condition by replacing *Tamarix* with native species.

SS-2 Manage habitat to further sustain the populations of Federally listed species so they would no longer need protection of the Endangered Species Act. Manage habitats for non-listed special status species to support viable populations so that future listing would not be necessary.

SS-2-a Enter into conservation agreements with the U.S. Fish and Wildlife Service and the State of Nevada that, if implemented, could reduce the necessity of future listings of the species in question. Conservation agreements may include, but not be limited to, the following: Blue Diamond cholla, Las Vegas bearpoppy, white-margined penstemon and *Phainopepla*.

SS-2-b Manage public lands adjacent to the Ash Meadows Area of Critical Environmental Concern and the Moapa (*Valley*) National Wildlife Refuge to complement spring and aquatic habitat for special status species, including projects that may affect ground water levels or spring flows.

VG-1 Maintain or improve the condition of vegetation on public lands to a Desired Plant Community or to a Potential Natural Community.

VG-1-a. Manage to achieve a Desired Plant Community or a Potential Natural Community.

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