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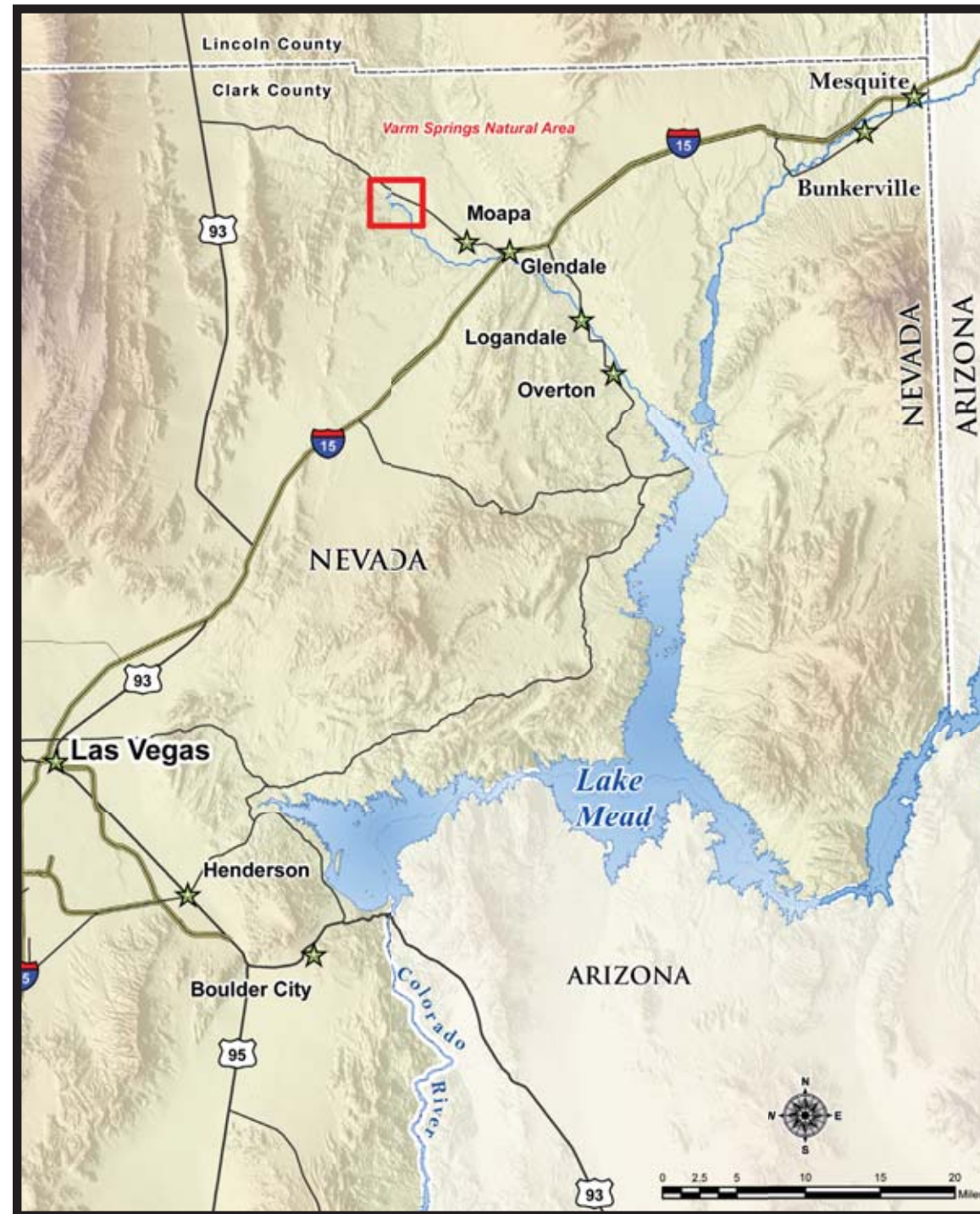


# INTRODUCTION

## WARM SPRINGS NATURAL AREA FACTS

- 1,220 acres of Mojave Desert riparian ecosystem
- 28 Sensitive Species
- Annual Rainfall 5.4 in.
- Elevation: 1,689 - 1,923 feet above mean sea level
- Five major spring complexes form the headwaters of the Muddy River
- Water emanates from 90° F thermal springs

## 1.01 SITE OVERVIEW

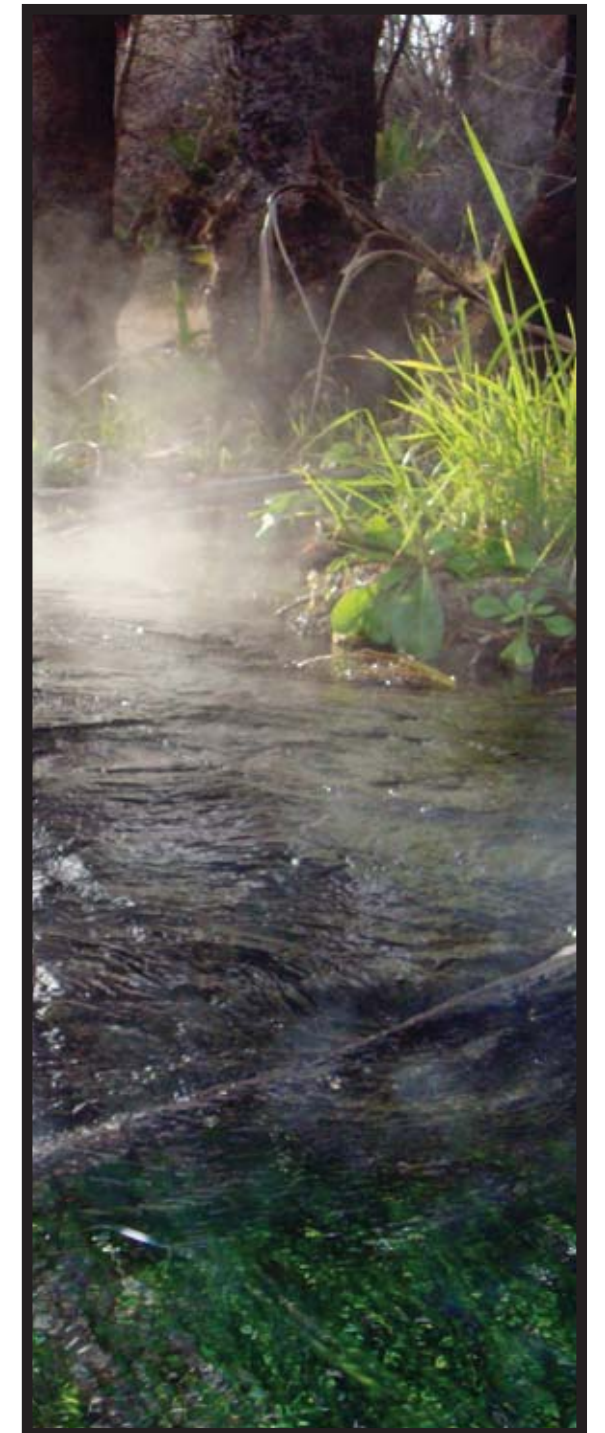


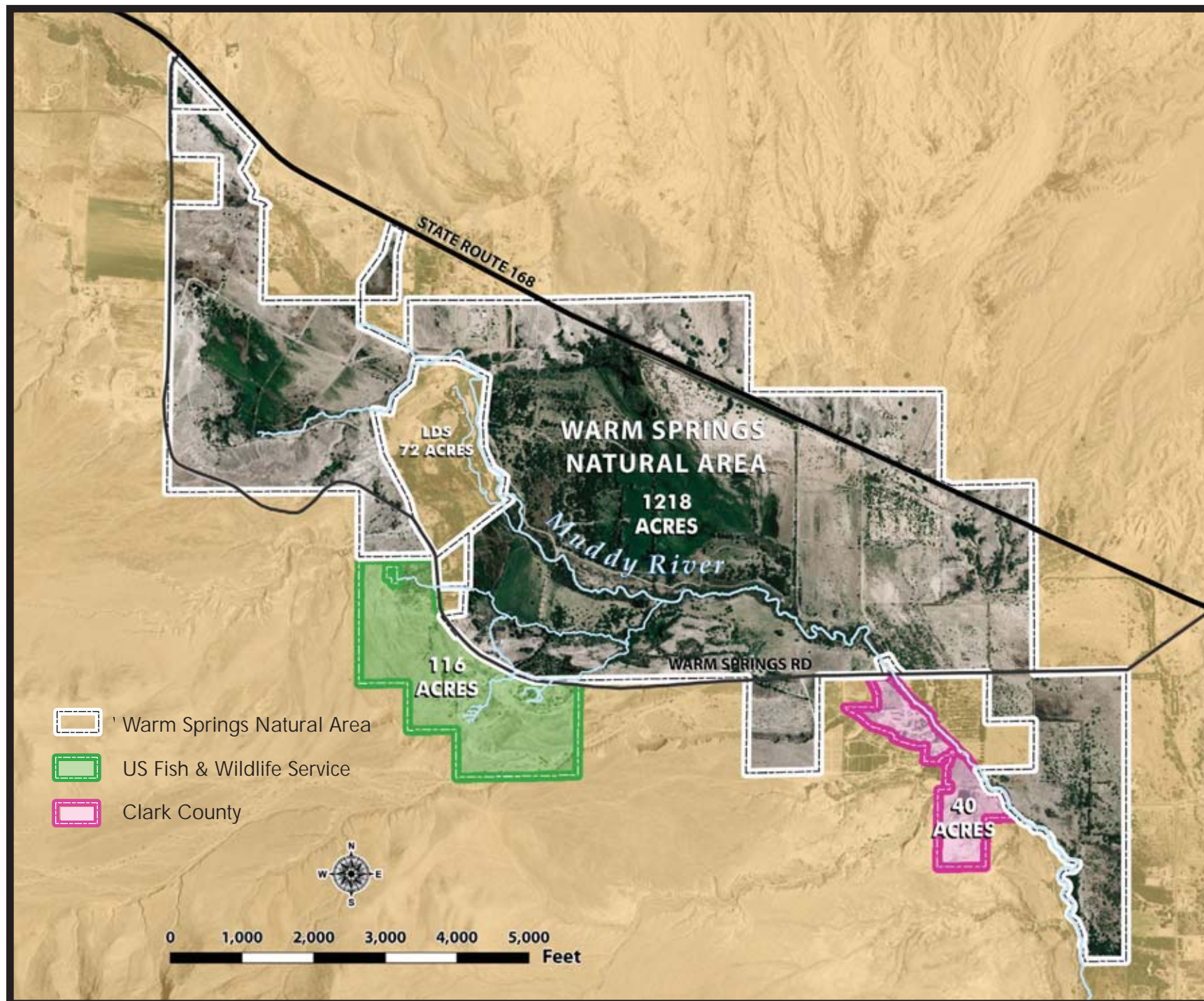
### Moapa Valley

The Warm Springs Natural Area is located approximately seven miles northwest of the Town of Moapa and 60 miles northeast of Las Vegas, in Clark County, Nevada. The Natural Area is in upper Moapa Valley, a valley about 40 miles long running roughly northwest to southeast. The towns of Moapa, Glendale, Logandale and Overton are located in the Moapa Valley. Logandale is about 12 miles southeast of Moapa and Glendale. Overton is another five miles southeast of Logandale. Population numbers in the Moapa Valley from the 2000 US Census (which did not include the Town of Moapa) were 5,784. In the 2000 US Census, the Town of Moapa had a population of 928. The population of the Moapa Valley was estimated to be 7,200 in 2008 and 7,471 in 2009 which does not include the Moapa Indian Reservation. The Reservation's population was estimated to be 1,292 in 2009.

### Headwaters of the Muddy River

Like a gemstone stashed away in the upper Moapa Valley, the Warm Springs Natural Area holds the secret to the headwaters of the Muddy River. Here, five major thermal spring complexes gush from the deep carbonate aquifer on three properties - the Moapa Valley National Wildlife Refuge, the Warm Springs Natural Area and the LDS Church property. They converge on the Warm Springs Natural Area in tributaries which flow into the Muddy River and on to Lake Mead.





**Warm Springs Natural Area**

The Warm Springs Natural Area is generally bordered by State Route 168 to the north, Warm Springs Road to the south and the Arrow Canyon Range to the west. The Moapa Valley National Wildlife Refuge and Clark County lands border the Natural Area to south. About 3.8 miles of the Muddy River flow through the Natural Area. The landscape is a mixture of desert, riparian, and fallowed agricultural fields. Here, seasonally flooded pastures are lined with mature Fremont cottonwoods. Goodding’s willows and velvet ash trees occur throughout the property. Skirting the fields are numerous groves of established mesquite trees, in which the Vermilion flycatcher nests occur. The adjoining pastures have abundant insects such as large fleshy grasshoppers, which are a staple of the flycatcher’s diet. The largest nesting population of Vermilion flycatchers in Nevada were observed here in 2000. The Warm Springs Natural Area has long been used by Native Americans, outlaws and early settlers. Today, the property continues to attract the attention of birders, naturalists, and wildlife enthusiasts.

**PROPERTY PURPOSES**

- Protect** the endangered Moapa dace and its habitat
- Establish** conservation projects that provide mitigation benefits for future water development
- Manage** the property as a natural area for the benefit of native species
- Restore** and manage the area as an ecological reserve including implementation of recovery actions identified in the Muddy River Recovery Implementation Program
- Create** opportunities for low-impact public use
- Develop** public education opportunities which include ecological processes and endangered species recovery
- Provide** the opportunity for a program of national scientific research on aquatic and terrestrial systems in the Mojave Desert

MUDDY RIVER RECOVERY  
IMPLEMENTATION  
PROGRAM  
EXECUTIVE COMMITTEE  
AND STAKEHOLDERS





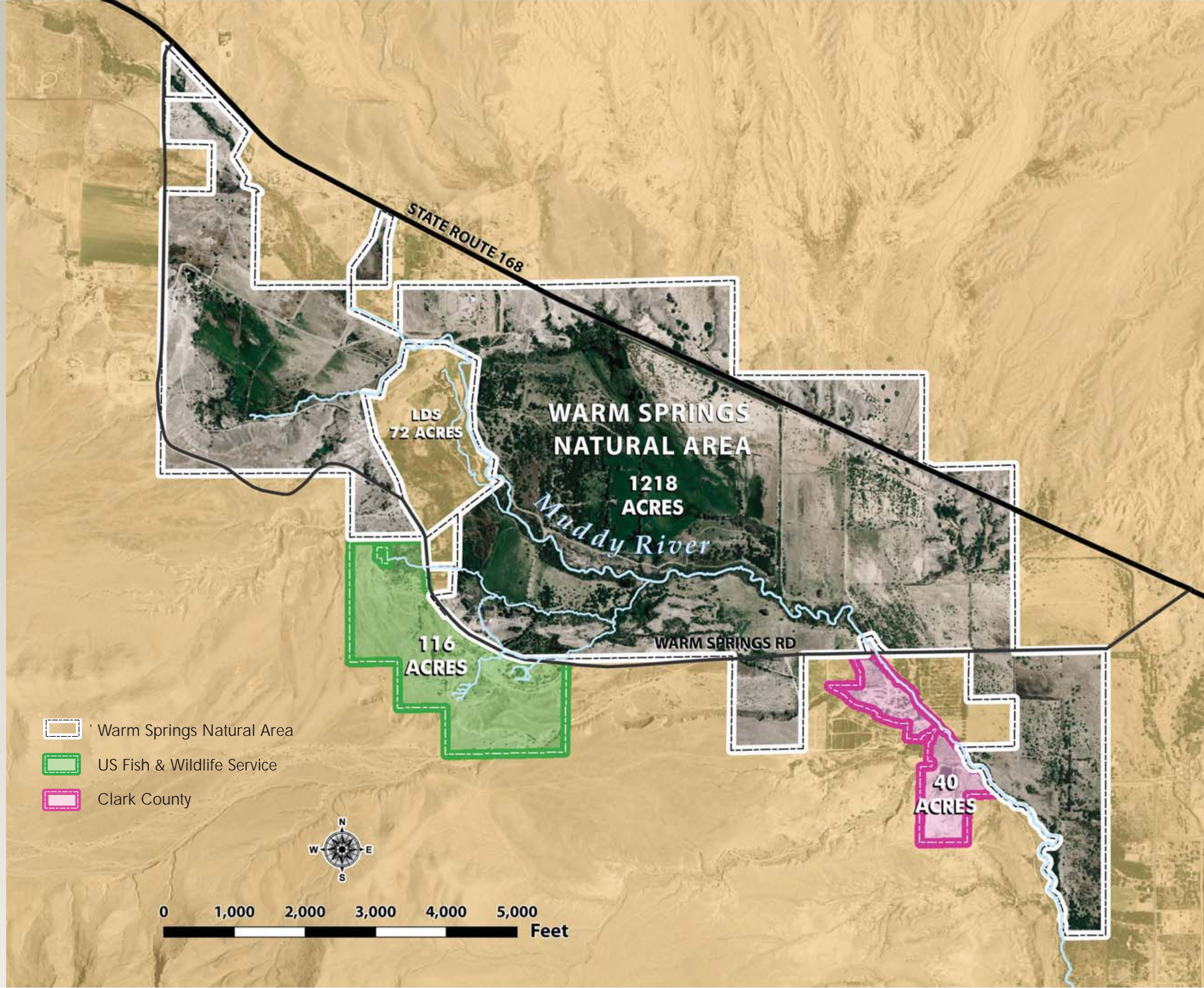
COYOTE SPRINGS LAND



Protecting nature. Preserving life.™



-  Warm Springs Natural Area
-  US Fish & Wildlife Service
-  Clark County



## 1.02 STAKEHOLDER PROCESS

### Muddy River Recovery Implementation Program

Development of the Muddy River Recovery Implementation Program (RIP) was identified in the 2006 *Muddy River Memorandum of Agreement (MOA) and the Intra-Service Programmatic Biological Opinion for the Proposed MOA Regarding the Groundwater Withdrawal of 16,100 Acre-Feet per Year from the Regional Carbonate Aquifer in Coyote Spring Valley and California Wash Basins, and Establish Conservation Measures for the Moapa Dace, Clark County, Nevada.*

The Executive Committee of the RIP is comprised of the signatories to the MOA which include SNWA, the US Fish and Wildlife Service, the Moapa Valley Water District, the Moapa Band of Paiutes, and Coyote Springs Investment, LLC. The RIP has a technical subcommittee, the Biological Advisory Committee. The Hydrologic Review Team was formed by the MOA and serves as a technical advisory committee to the RIP. Nevada Department of Wildlife was added as an *ad hoc* member to the Executive Committee.

The goal of the RIP is to implement a series of species recovery actions necessary to promote recovery and conservation of aquatic species in the Muddy River ecosystem, while at the same time, providing for mitigation and minimization of potential effects associated with the development and use of water supplies and other activities that may affect the aquatic ecosystem.

### Stakeholder Process/Core Team

SNWA committed in its Southern Nevada Public Land Management Act (SNPLMA) Nomination package to the Secretary of the Department of Interior to enlist the involvement of specific stakeholders to develop the Stewardship Plan. To that end, the RIP Biological Advisory Committee agreed to join SNWA in the shared vision of developing a plan that satisfies the property stakeholders and directs management actions that benefit the natural resources on site and the water resource entities involved. The RIP Biological Advisory Committee identified a process to develop the Warm Springs Natural Area Stewardship Plan. The process entailed the Core Team developing the Stewardship Plan and other stakeholders providing review.

### Core Team

The Core Team consists of representatives from SNWA, the US Fish and Wildlife Service, the Nevada Department of Wildlife and The Nature Conservancy. Individuals on the Core Team are named in the "Contributor" list on page 4. The Core Team met 2007 through 2010 and came together for workshops to discuss shared concepts and a vision for the Warm Springs Natural Area. The Core Team developed the Mission Statement - "*To manage the property as a natural area for the benefit of native species and for the recovery of the endangered Moapa dace – consistent with the Southern Nevada Water Authority's commitments to the Southern Nevada Public Land Management Act funding of the property*" - which establishes prioritization of management goals and serves to frame future decisions. Their recommendations have been reflected in this Stewardship Plan.

### Core Team Members

- Southern Nevada Water Authority
- US Fish and Wildlife Service
- The Nature Conservancy
- Nevada Department of Wildlife



## MUDDY RIVER RECOVERY IMPLEMENTATION PROGRAM

### Executive Committee

- Southern Nevada Water Authority
- US Fish & Wildlife Service
- Moapa Valley Water District
- Coyote Springs Investment
- Moapa Band of Paiutes
- Nevada Dept. of Wildlife (*ad hoc* member)

### Biological Advisory Committee

- US Fish & Wildlife Service
- Nevada Dept. of Wildlife
- US Geological Survey
- Bureau of Land Management
- Southern Nevada Water Authority
- Moapa Valley Water District
- Coyote Springs Investment
- Moapa Band of Paiutes
- The Nature Conservancy
- Clark County

### Other Stakeholders

- Moapa Town Advisory Board
- Moapa Valley Town Advisory Board
- Property neighbors

# INTRODUCTION

## 1.03 COMMITMENTS FOR MANAGING THE PROPERTY

### SNWA Commitments

Commitments for the Warm Springs Natural Area were established prior to the acquisition of the property in the Southern Nevada Public Land Management Act (SNPLMA) Financial Assistance Agreement signed on May 16, 2007. In the Financial Assistance Agreement, SNWA agreed to:

- Accomplish** the **OBJECTIVE** as approved by the Secretary of the Department of the Interior
- Furnish** qualified personnel for the coordination, oversight, and performance of the objective for the project
- Provide** supervision for the project to include responsibility for all technical aspects, development, implementation, scheduling, safety, coordination, and other project needs
- Make** certain necessary permits or environmental clearances are obtained
- Own** and maintain in perpetuity any land, buildings, trails, facilities, or other features improved or constructed.

### SNPLMA Nomination

As part of the 2005 SNPLMA Nomination to the Secretary of the Department of Interior, SNWA identified it would conduct a number of actions on the property. The Secretary of the Department of Interior approved SNPLMA funding for acquisition of the Warm Springs Natural Area on February 7, 2006. In the 2005 SNPLMA Nomination, SNWA pledged it would carry out:

- Development** of educational and recreational areas/trails emphasizing the natural resources for public use consistent with the Moapa Valley National Wildlife Refuge and other adjacent lands
- Invasive** plant management
- Invasive** fish and invertebrate management
- Bank** and channel stabilization activities
- Construction** and/or enhancement of wetlands
- Restoration** and/or enhancement of riparian and upland habitat
- Spring pool** restoration/enhancement



### Property Purposes

Purposes for the Warm Springs Natural Area were established by SNPLMA directives and agreed to early on by the Core Team. Purposes include:

- Protect** the endangered Moapa Dace and its habitat
- Establish** conservation projects that provide mitigation benefits for future water development
- Manage** the property as a natural area for the benefit of native species
- Restore** and manage the area as an ecological reserve including implementation of recovery actions identified in the Muddy River Recovery Implementation Program
- Create** opportunities for low-impact public use
- Develop** public education opportunities which include ecological processes and endangered species recovery
- Provide** the opportunity for a program of national scientific research on aquatic and terrestrial systems in the Mojave Desert

### SNPLMA OBJECTIVE

“The property will be acquired as a Parks, Trails, and Natural Area acquisition with the objective to develop a natural area. The natural area will provide controlled public access to enjoy the abundant natural resources, will include interpretation of the resources and Threatened and Endangered species located on the site, and will include measures to preserve and protect those resources. Natural Resources on the Property include, aquatic habitat for the Virgin River Roundtail Chub, the endemic Moapa Dace, the Southwestern Willow Flycatcher, and the Yellow-Billed Cuckoo. The property includes Nevada’s largest breeding population of Vermilion Flycatcher. Within this section of the Muddy River reside pockets of native Mesquite Bosque and Cottonwood-Willow riparian habitat.”  
(SNPLMA Financial Assistance Agreement)



## 1.04 PURPOSE OF THE STEWARDSHIP PLAN

### Plan Purpose

The purpose of the Warm Springs Natural Area Stewardship Plan is to establish a long-term management direction for the Warm Springs Natural Area that will foster relations between SNWA and the property neighbors (the US Fish and Wildlife Service, Moapa Band of Paiutes, Coyote Springs Investment, LLC., Moapa Valley Water District, Clark County, Moapa Town Advisory Board, and others) while preserving the important ecological integrity of the property. The Stewardship Plan establishes a framework for appropriate land uses that preserves the integrity of the natural resources and is consistent with SNWA's management of the water resources. It clarifies SNWA's responsibilities and management direction as they pertain to the Warm Springs Natural Area and ensures consistency with SNWA's commitments in the SNPLMA Nomination and the Muddy River Recovery Implementation Program.

The development of the Stewardship Plan for the natural resources and facilities has involved soliciting stakeholder input, developing the mission statement to guide the process, and establishing the goals and objectives for the management of the property.

The purpose of the Stewardship Plan is also to identify public uses considered compatible with the intent of the SNPLMA application to “develop educational and recreational areas/ trails emphasizing natural resources for public use consistent with the Moapa Valley National Wildlife Refuge, The Nature Conservancy, and other adjacent lands.”

While the Stewardship Plan is intended to provide guidance for SNWA management and future land uses and activities on the Warm Springs Natural Area, it is important to note that the Stewardship Plan is a conceptual document to begin dialogue and is not intended to require implementation of any specific management action recommendations. Implementation of such actions is left to the discretion of the SNWA Board of Directors through the annual budgeting process and through specific contract approvals as needed.

If funding is approved for a specific program or program element or if requests are made for the Warm Springs Natural Area for a specific use, the Stewardship Plan is intended to provide important guidance on how that program or program element is to be implemented.

### Plan Goals and Objectives

The following goals and objectives were developed by the Core Team:

**Provide** a clear statement for future management

**Clarify** SNWA's intentions and direction for property management

**Give** neighbors, visitors, governmental and non-governmental organizations an understanding of SNWA's management actions on and around the Warm Springs Natural Area

**Ensure** management actions consistent with the Southern Nevada Public Land Management Act Nomination Package and Financial Assistance Agreement

**Ensure** management actions consistent with the Muddy River Recovery Implementation Program

**Provide** a basis for the development of staffing plans, budget needs, maintenance operations, and capital improvements



## PROPERTY PURPOSES

**Protect** the endangered Moapa dace and its habitat

**Establish** conservation projects that provide mitigation benefits for future water development

**Manage** the property as a natural area for the benefit of native species

**Restore** and manage the area as an ecological reserve including implementation of recovery actions identified in the Muddy River Recovery Implementation Program

**Create** opportunities for low-impact public use

**Develop** public education opportunities which include ecological processes and endangered species recovery

**Provide** the opportunity for a program of national scientific research on aquatic and terrestrial systems in the Mojave Desert