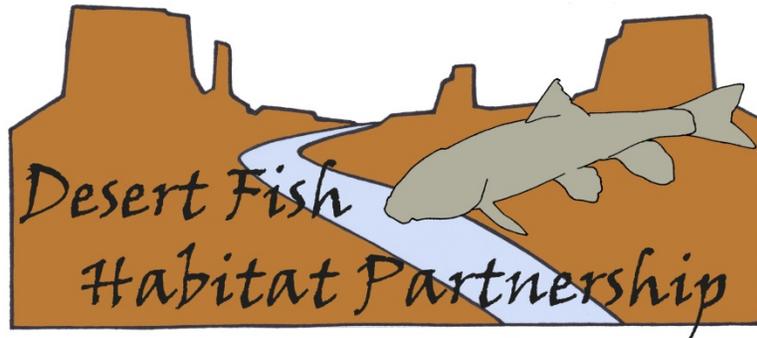


## Desert Fish Habitat Partnership 2013 Annual Report



*Bringing together people and organizations with a common interest in voluntary conservation of desert fishes and their habitats.*

The Desert Fish Habitat Partnership (DFHP) was initiated in 2005 to conserve native desert fish by protecting, restoring, and enhancing their habitats in cooperation with state and tribal fish and wildlife agencies, federal resource agencies, research and private organizations, and engaged individuals. DFHP seeks to address critical fish and aquatic habitat conservation needs in the Great Basin and Mohave, Sonoran, and Chihuahuan deserts in southwestern United States. These lands support 179 non-salmonid native fish taxa prioritized for conservation by DFHP under the guidance of the western states' State Wildlife Action Plans and the National Fish Habitat Partnership (NFHP).

### Milestones

- April 2013: NFHP 10 "Waters to Watch"- Balmorhea Springs Complex, Texas
- November 2013: Annual Steering Committee Meeting, Flagstaff, AZ
- December 2013: DFHP 2014 Projects Proposed for Funding: Mohave Tui Chub Habitat Restoration Project, Muddy River Stream Bank Habitat Restoration Project, Black Bob Allotment San Francisco River Fencing Project, Diamond Y Spring Habitat Restoration Project, Pahrnagat Valley Watershed Assessment Project, Verde River Flow Restoration through On-Farm Efficiency Project, Mechanical removal of non-natives in Kehl and Miller Canyons Project

### Framework for Strategic Conservation of Desert Fish: Achievements and Goals

DFHP's Framework is used to guide daily and long-term activities. From the Framework, the principal goals of DFHP are:

- Protect and maintain intact healthy aquatic ecosystems supporting desert fish habitats
- Prevent further degradation of desert fish habitats that have been impaired
- Reverse declines in the quality and quantity of desert fish habitats to improve the overall population status of desert fishes and other aquatic organisms

- Increase the quality and quantity of fish habitats that support a broad natural diversity of desert fishes and other native aquatic species

To accomplish these goals, DFHP supports on-the-ground projects that protect the most under-served, imperiled desert fish species and conserve and restore their habitats. DFHP's first projects were implemented in 2012 with funding from NFHP and USFWS. DFHP selected projects that focused on species and habitats that were (1) unique to the deserts of North America; (2) highly imperiled; and (3) that lacked adequate management and resources to ensure effective conservation. Fishes were ranked from 0.9 to 2.8, with highest priority species receiving scores greater than 2.0.

DFHP Projects for 2013

Projects funded in 2013 were:



Map of Desert Fish Habitat Partnership 2013 projects.

**Benton Pond Speckled Dace Habitat Restoration Project, CA. Fish Species Addressed (Rank): Owens speckled dace (*Rhinichthys osculus ssp.*) (2.11). Total Project Cost: \$71,800.** Owens speckled dace historically occupied springs and streams throughout the Owens Valley and Benton Valley and is the only native fish known from Benton Valley. Extirpation of speckled dace from these habitats is attributed to introduction of deleterious non-native fishes and habitat alteration by impoundment and disruption of valley-floor spring discharge by groundwater pumping. Primary objectives of the project are to reestablish speckled dace and to promote natural ecological processes. The project will eradicate the aggressive hardstem bulrush (*Schoenoplectus acutus*), which has significantly encroached on the ponds and will eventually choke out open water habitats. Hardstem bulrush will be removed by hand and mechanical cutting, and the application of prescribed fire in partnership with the California Department of Forestry and Fire Protection. Introduced Sacramento perch, a predatory species, will be removed and relocated by California Department of Fish and Wildlife (CDFW) to appropriate locations in the region. Following successful vegetation management and perch removal, speckled dace will be re-introduced to the ponds by CDFW. Work on this project started in September 2013 and has primarily consisted of planning meetings and communications with project collaborators in anticipation of the start of on-the-ground activities in 2014. The implementing organization is Eastern Sierra Land Trust; partners are Bill Bramlette (landowner), California Department of Fish and Wildlife, California Department of Forestry and Fire Protection, and U.S. Fish and Wildlife Service.



Area of cleared hardstem bulrush.



View of ponds from above.

**Amargosa Canyon Salt Cedar Removal and Native Habitat Restoration Project, CA. Fish Species Addressed (Rank): Amargosa pupfish (*Cyprinodon nevadensis*) (2.22), Amargosa Canyon speckled dace (*Rhinichthys osculus amargosae*) (2.11). Total Project Cost: \$60,000.** To improve habitat for Amargosa pupfish and Amargosa Canyon speckled dace, the project would remove dense stands of non-native salt cedar along the Amargosa River from Tecopa downstream to the Kingston Range Wilderness Area and establish native riparian vegetation. While the current native fish population is doing fairly well outside of the salt cedar area, in this stretch of the Amargosa Canyon dense salt cedar growth has been expanding. This salt cedar forest also bisects two segments of native vegetation

where native fish numbers are significantly higher and therefore could be reducing native fish movement and ultimately affecting gene flow and population size. The implementing agency is U.S. Bureau of Land Management; partnering agencies/organizations are Amargosa Conservancy, The Nature Conservancy, and U.S. Fish and Wildlife Service. This project is ongoing.



Habitat site of proposed Amargosa Canyon project.

**Rillito Spring Project, TX. Fish Species Addressed (Rank): Pecos pupfish (*Cyprinodon pecosensis*) (2.56). Total Project Cost: \$43,600.** Rillito Spring is a privately owned spring in West Texas that first appeared in 2005 and has increased in magnitude ever since. The Pecos pupfish is in danger of extirpation from Texas, and is known to exist in only one mile of Salt Creek, near Orla. Threats to the pupfish include hybridization with introduced sheepshead minnow (*Cyprinodon variegatus*), and loss of habitat due to surface and ground water pumping. A natural refugia is needed to help insure pupfish survival in Texas. The spring owners have created a creek and two ciénegas, which currently support several introduced species of fish and invertebrates. The owners wish to enhance the spring system and have agreed to make the spring a refuge for the threatened Pecos pupfish. The steep sides of one of the ciénegas are sloughing off into the pool, and the hand shoveled creek is filling in with cattails. Some habitat reconstruction (e.g., meanders, addition of substrate, reshaping of the ciénegas) is needed to make the habitat suitable for Pecos pupfish as well as Pecos gambusia. The implementing agency is Texas Fish and Wildlife Conservation Office; partnering agencies are U.S. Fish and Wildlife Service and Texas Parks and Wildlife Department. This project is ongoing.



Springhead opening at Rillito Spring.



Upper ciénega at Rillito Spring.

**Phantom Lake Springs Ciénega Habitat Rehabilitation Project, TX: Phase II-backup pump. Fish Species Addressed (Rank): Comanche Springs pupfish (*Cyprinodon elegans*) (1.89), Pecos gambusia (*Gambusia nobilis*) (1.89). Total Project Cost: \$3,300.** Phantom Lake Springs Ciénega, located in western Texas, supports an assemblage of five aquatic species of concern: two endangered fishes, and three candidate invertebrates. Spring flow from Phantom Lake Springs has declined since the 1940's, and habitat in the spring pool has been maintained by pumps since 2001. Due to deterioration of the short-term fixes, pumps need constant adjustment to maintain water level. Short term failures in the pumps have resulted in extreme conditions, threatening the aquatic species. The project funded by DFHP in 2011 stabilized the current cave pool and rebuilt a larger, more natural ciénega. However, additional funding was needed in 2013 for a backup pump. The implementing agency is the U.S. Fish and Wildlife Service; partnering agencies are the U.S. Bureau of Reclamation and the Texas Parks and Wildlife Department.



Project site of Phantom Lake Springs after restoration.

## Proposed DFHP Projects for 2014

For 2014, DFHP received nine project proposals. The top three priority proposals are listed here:

**Mohave Tui Chub Habitat Restoration Project, CA. Fish Species Addressed (Rank): Mohave tui chub (*Siphateles bicolor mohavensis*) (2.33). Total Project Cost: \$39,170.** The small spring and groundwater-fed ponds at Zzyzx were the last refuge of the endangered Mohave tui chub after it was extirpated from the Mojave River. Water quality problems led to the loss of habitat in West Pond, leaving only Lake Tuendae. The California Department of Fish and Wildlife will restore water quality by installing hookups to an existing well, and re-introduce Mohave tui chub. West Pond will provide habitat for migratory birds and be evaluated for re-introduction of western pond turtle. An additional site on Mojave National Preserve, Rainbow Wells, will be stabilized to create new habitat for Mohave tui chub. The implementing agency is Mojave National Preserve, California Department of Fish and Wildlife; partnering agencies are U.S. Fish and Wildlife Service, California State University, Fullerton, and Naval Air Weapons Station at China Lake.

**Muddy River Stream Bank Habitat Restoration Project, NV. Fish Species Addressed (Rank): Virgin River chub (*Gila seminuda*) (2.11), Moapa speckled dace (*Rhinichthys osculus moapae*) (1.56), Moapa White River springfish (*Crenichthys baileyi moapae*) (1.89). Total Project Cost: \$79,417.** This project will focus on continued stream bank restoration associated with the riparian habitat that borders Muddy River on the Moapa River Indian Reservation. Currently a large portion of the lower reaches of the Muddy River and its riparian area are degraded due to historical river dredging, overgrazing and streambed trampling by cattle. In addition, invasion of salt cedar (tamarisk) and phragmites has replaced native cottonwood and willow vegetation. The Moapa Band of Paiutes will continue to implement a stream bank stabilization project and habitat improvement plan along the Muddy River to improve fisheries habitat for the Virgin River chub and Moapa speckled dace. The project will entail removal of invasive salt cedar and phragmites as well as stream bank restoration utilizing natural stream bank stabilization techniques (bioengineering techniques). The implementing agency is Moapa Band of Paiutes; partnering agencies are U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, and National Resource Conservation Service.

**Black Bob Allotment San Francisco River Fencing Project, NM. Fish Species Addressed (Rank): Loach minnow (*Tiaroga cobitis*) (2.00), Sonora sucker (*Catostomus insignis*) (1.78), Desert sucker (*Catostomus clarkii*) (1.67), Longfin dace (*Agosia chrysogaster*) (1.67), Speckled dace (*Rhinichthys osculus*) (1.00). Total Project Cost: \$266,163.** The proposed project will enhance ~ 220 acres of the river channel and riparian zone on the San Francisco River through the installation of 9.5 miles of livestock enclosure fence and the development of an upland water well-system. The fence, in addition to 3.5 miles of natural barriers, would restrict livestock grazing and congregation along the river for 7 miles. Three designated lanes for stock watering will be constructed, but

implementation of a well-system will provide alternative water sources for livestock and wildlife, phasing out the need for such waterlanes. The proposed project will reduce siltation, trampling of riparian vegetation and excessive nutrient input from cattle while improving habitat quality for native fish and other sensitive riparian species (Narrow-headed gartersnake, Arizona toad, and Common Blackhawk). The implementing agency is U.S. Forest Service; partnering agencies are U.S. Fish and Wildlife Service and Secure Rural Schools Act- Title II Funds.

#### Tools for Habitat Assessment and Conservation

Over the past year, DFHP has continued to communicate its science and data needs to others, such as the NFHP board, other FHPs, and U.S. Fish and Wildlife Service's Landscape Conservation Cooperatives (LCCs). This includes working with the Western Native Trout Initiative (WNTI) on a project intended to identify common priorities for cross-partnership coordination, and potentially resulting in additional scientific assessments for DFHP basins. For example, past work by the University of Missouri resulted in a scientific assessment of the Lower Colorado River Basin. They have been working on Upper Colorado River Basin species distribution modeling, and now have plans due to funding from WNTI (through the WAFWA multi-state grant program) to extend the Upper Colorado River Basin project into a completed scientific assessment (similar to the Lower Colorado Basin). This Upper Colorado assessment will identify high priority watersheds based on known and predicted species occurrences coupled with a threat assessment. These assessment tools will allow DFHP to make strategic decisions regarding fish habitat conservation in these basins. This coming year will be focused on engaging other partners to convey DFHP scientific assessment needs in the Rio Grande and Great Basins, including how they might be funded, which will facilitate their completion and ultimately aid DFHP in strategic decision-making across its geographic domain.

DFHP also endorsed a project entitled, "Systematic review of aquatic ecological integrity assessments in western North America: Identifying challenges and opportunities for integration into landscape conservation plans." This project is a national LCC funded project led by Julian Olden, University of Washington, and will provide LCCs and partners with recommendations of best practices for evaluating aquatic ecological integrity at different landscape scales, identify critical data needs, and help develop a sustainable, collaborative network around improving integration of assessment products.

#### 2013 National Fish Habitat Partnership 10 "Waters to Watch"- DFHP Project Selected

The Balmorhea Springs Complex is a Desert Fish Habitat Partnership 2013 priority and was selected as one of NFHP's 10 "Waters to Watch" for 2013. Springs and ciénegas are critical components of a desert landscape. They support diverse aquatic and terrestrial flora and fauna by providing a scarce resource, water, in arid areas. Many of these springs and ciénegas support endemic, genetically distinct organisms that have diverged because of spatial and temporal isolation. Some of these rare organisms are listed as endangered and face threats from anthropogenic activities in their respective watersheds. The Balmorhea Springs Complex occurs in the Chihuahuan desert in west

Texas between the Toyah basin and Davis Mountains. This spring system supports an assemblage of three endangered fishes (Comanche Springs pupfish, Pecos gambusia, and headwater catfish) and four invertebrate species of concern. Persistence of these springs and ciénegas and the organisms that rely upon them is threatened by complete dewatering, depletion of aquifers by groundwater pumping, conversion for agricultural or recreation use, poor land management practices (e.g., over grazing and destruction of grasslands, erosion), and invasive species. Several large springs in this region have already dried up or no longer flow as a result of excessive pumping from a regional aquifer. Comanche Springs, part of the Complex, was historically one of the largest springs in Texas, flowing at more than 42 million gallons per day in 1899 but ceasing to flow in the early 1960s because of groundwater pumping. Management of spring and ciénega systems requires a holistic, watershed approach with private, state, federal, and local partners to conserve, restore, and address threats to these important desert habitats. Phantom Lake, San Solomon, West Sandia, and East Sandia springs and ciénegas in the Balmorhea Springs Complex have been actively managed by multiple partners in order to protect these aquatic habitats and their organisms.



Phantom Lake Springs ciénega.



San Solomon Ciénega.



Sandia Springs Preserve.

### National Fish Habitat Partnership Involvement

DFHP has been actively involved in development and implementation of NFHP related efforts. Some highlights include:

- NFHP/DFHP/LCC interaction report, January 2013
- NFHP FHP Excellence Workshop, January 2013
- NFHP 10 “Waters to Watch” press release participation, April 2013
- NFHP Board Meeting participation, July 2013
- NFHP River Network Fish Habitat Excellence Business Plan teleconference, July 2013
- NFHP River Network Economic Evaluation Tool webinar, December 2013
- NFHP Communications Committee participation, 2013
- NFHP Partnership Committee participation, 2013
- NFHP FHP bimonthly teleconferences, 2013
- NFHP Federal Caucus meeting participation, 2013

### Outreach and Communications

One of DFHP’s primary goals is to increase awareness, not only of DFHP and NFHP, but also to educate professionals and private citizens about the importance and conservation of desert fishes. DFHP outreach and communication efforts include:

1. Presentations:
  - DFHP Fossil Creek rotenone treatment presentation, November 2013
  - DFHP/State Wildlife Action Plan webinar presentation, December 2013
  - NFHP and BLM (internal) role briefing for BLM Chief, Division of Fish and Wildlife presentation, 2013
2. Teleconferences:
  - DFHP, WNTI, and GPFHP Multi-State Grant teleconferences, 2013
  - DFHP bimonthly teleconferences, 2013
  - DFHP science and data teleconferences, 2013
3. Publications/Articles:
  - “The Desert Fish Habitat Partnership” on seriouslyfish.com. Read it at <http://www.seriouslyfish.com/the-desert-fish-habitat-partnership/>
  - DFHP Quarterly Newsletters
4. DFHP’s website (hosted by the National Park Service) provides information about DFHP, the Framework, RFPs, updates, and contact information. [http://www.nature.nps.gov/water/fisheries/DFH\\_partnership.cfm](http://www.nature.nps.gov/water/fisheries/DFH_partnership.cfm)
5. A quarterly newsletter. [http://www.nature.nps.gov/water/fisheries/DFH\\_partnership.cfm](http://www.nature.nps.gov/water/fisheries/DFH_partnership.cfm)
6. DFHP’s Facebook page was launched to reach out to the public and includes RFPs, newsletters, updates, links to partners, and photos. <https://www.facebook.com/pages/Desert-Fish-Habitat-Partnership/193053497376208>

### Coordination and Administration

The Operating Structure, formally presented in the Framework in 2008, defines the roles and responsibilities of DFHP partners. The Operating Structure was updated in late 2010 to better reflect the organization and administration of the Partnership.

*Steering Committee* is a self-directed group of partner representatives, the decision-making body of DFHP, and has oversight responsibility for all DFHP activities.

#### Arizona Game and Fish Department

- Jeff Sorensen

#### U.S. Bureau of Land Management

- Greg Gustina/Elroy Masters

#### U.S. Bureau of Reclamation

- Rob Clarkson

#### California Department of Fish and Wildlife

- Glenn Yoshioka/ Steve Parmenter

#### Colorado Parks and Wildlife

- Harry Crockett

#### Desert Fishes Council

- Heidi Blasius

#### Idaho Department of Fish and Game

- Scott Grunder

#### National Park Service

- John Wullschleger

#### Native American Fish and Wildlife Society

- *rep not available*

#### Natural Resources Conservation Service

- Casey Burns

#### Nevada Department of Wildlife

- Jon Sjoberg

#### New Mexico Department of Game and Fish

- Andrew Monie

#### Oregon Department of Fish and Wildlife

- Paul Scheerer

#### Southwest Tribal Fisheries Commission

- Kevin Terry

#### Texas Parks and Wildlife Department

- Gary Garrett

#### The Nature Conservancy

- Tom Collazo

#### Trout Unlimited

- Dan Dauwalter

#### U.S. Fish and Wildlife Service

- Jennifer Fowler-Propst/Karin Eldridge

#### U.S. Forest Service

- Cynthia Tait

#### U.S. Geological Survey

- Gary Scoppetone

#### Utah Division of Wildlife Resources

- Krissy Wilson

#### Wyoming Game and Fish Department

- Mark Smith

*Executive Committee* serves as the daily governing arm of DFHP; it oversees the responsibilities of the coordinator, interacts with the National Fish Habitat Partnership Board and the Western Association of Fish and Wildlife Agencies, and responds to issues that require immediate attention. Membership, drawn from the Steering Committee and At-Large Council, is as follows:

#### Federal Agency Representative (Co-chair)

- Cynthia Tait

#### Rio Grande Representative

- Megan Bean

#### State Agency Representative (Co-chair)

- Jeff Sorensen/ Scott Grunder

#### U.S. Fish and Wildlife Service Liaison (R2)

- Stewart Jacks/Kirk Young

Basin and Range Representative

- Jon Sjoberg

Upper Colorado River Representative

- Krissy Wilson

Lower Colorado River Representative

- Jeremy Voeltz

Non-Governmental Representative

- Heidi Blasius

Tribal Organization Liaison

- Kai-T Bluesky

*At-Large Council* includes all individuals, groups, and agencies outside the Steering Committee who would like to participate in DFHP. Although the At-Large Council cannot vote, they can attend meetings, participate on the Executive, Science and Data, and ad hoc committees, and provide or receive technical and financial assistance. Currently, there are 35 members on the At-Large Council.

*Science and Data Committees, Regional Workgroups, and ad hoc Committees* are utilized by DFHP to address long- and short-term goals.

*Coordinator* provides primary staff support to DFHP Steering and Executive committees and is responsible for record keeping, disseminating information, and coordinating and facilitating overall implementation of actions and projects. The Coordinator position is currently provided by the U.S. Fish and Wildlife Service (Kayla Barrett).

DFHP holds a teleconference every two months to discuss issues, set priorities, and make decisions. Meetings are held annually; the 2013 DFHP meeting was held in Flagstaff, AZ.