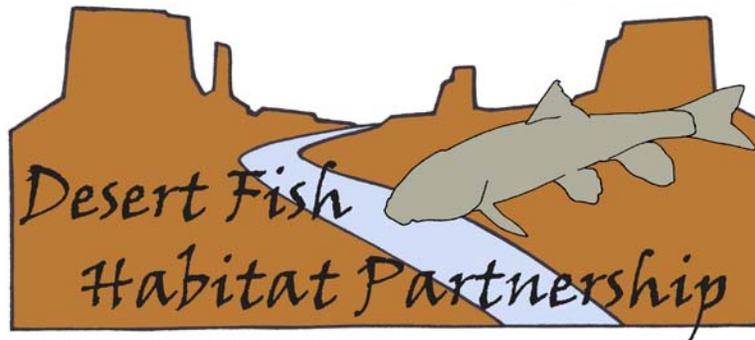


## Desert Fish Habitat Partnership 2011 Annual Report



*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 2011: "Waters to Watch"- Myton Diversion Fish Passage Project, UT
- November 2011: Steering Committee Meeting, Salt Lake City, UT
- December 2011: NFHP 2012 Projects Proposed for Funding: Shoshone Pupfish Pond Construction, Condor Canyon Meadow Valley Wash Restoration, Alamito Creek Restoration, and Weber River Watershed Improvement Project.

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

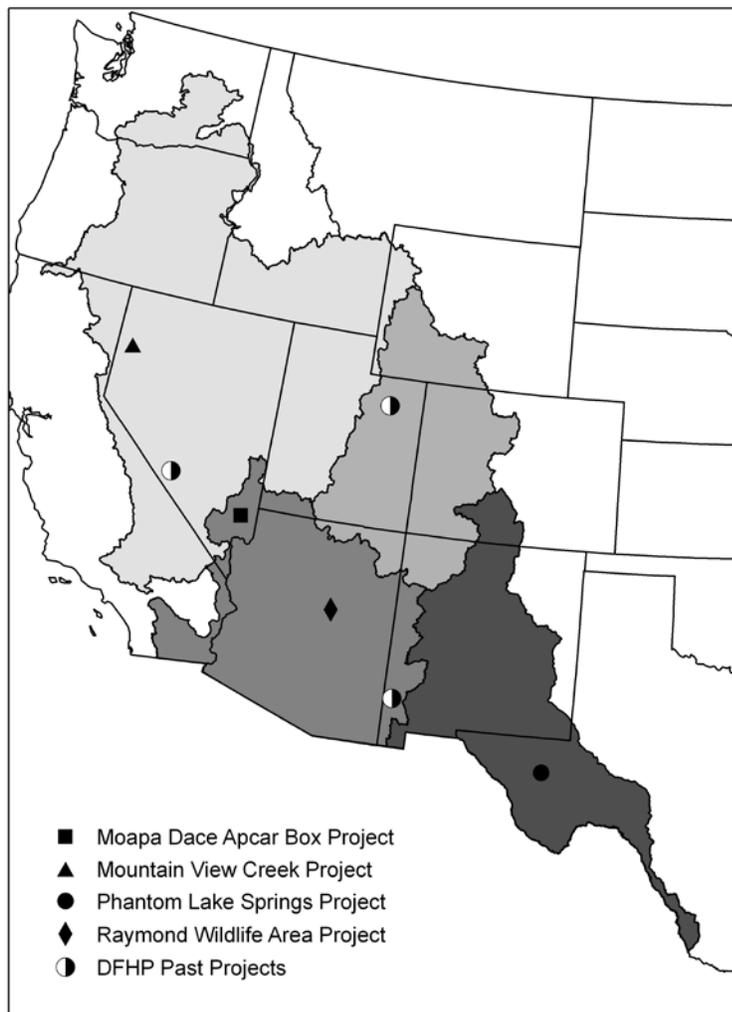
DFHP's Framework is used to guide daily and long-term activities. From the Framework, the principal goals of DFHP are:

- 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

## DFHP Projects for 2011

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 2011 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.

Projects completed in 2011 were:



Map of Desert Fish Habitat Partnership 2011 projects.

**Phantom Lake Springs Ciénega Habitat Rehabilitation, TX. Fish Species Addressed (Rank): Comanche Springs pupfish (1.89) and Pecos gambusia (1.89). Total Project Cost: \$110,000.** 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 stabilized the current cave pool and rebuilt a larger, more natural ciénega. 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 before restoration.



Project site of Phantom Lake Springs after restoration.



Comanche Springs pupfish.



Pecos gambusia.

**Construction of a Refugia Pond on Raymond Wildlife Area, AZ. Fish Species Addressed (Rank): Little Colorado spinedace (2.22) Total Project Cost: \$70,800.** This project replaces the previously awarded Tonto National Forest Mud Springs habitat improvement and protection project that was cancelled by the landowner last year due to a change in scope and commitment for that project. Little Colorado spinedace in the East Clear Creek Watershed are genetically distinct from Little Colorado spinedace in other drainages. Currently all populations in East Clear Creek drainage are located on a relatively small geographic area and are extremely vulnerable to being lost in a single wildfire. This project made improvements to an

existing pond to create a refugia for East Clear Creek lineage of this threatened fish on Raymond Wildlife Area in central Arizona. The pond includes a short stream section for spawning habitat for spinedace and a shallow marshy area for northern leopard frogs. A solar pump provides stream flow. After completion, the pond will be stocked with wild spinedace, followed by leopard frogs. The implementing agency is the Arizona Game and Fish Department; partnering agencies are the U.S. Fish and Wildlife Service and Coconino National Forest.



Site of refugia pond on Raymond WA.



Pond liner being installed.



Little Colorado spinedace.

**Mountain View Creek Nonnative Species Barrier, NV. Fish Species Addressed (Rank): Wall Canyon sucker (2.67) and speckled dace (1.00). Total Project Cost: \$11,500.** A population of Wall Canyon sucker persists in Mountain View Creek, a tributary to Wall Canyon Creek downstream of Wall Canyon Reservoir. This section of Wall Canyon Creek supports limited numbers of nonnative brown trout and crayfish, both of which have severely impacted the Wall Canyon sucker population. Design and construction of a barrier that will prevent or slow invasion of nonnatives will be completed in 2012. Crayfish will be intensively trapped to eliminate or reduce the population upstream of the barrier. The implementing agency is Nevada Department of Wildlife; partnering agency is U.S. Fish and Wildlife Service.



Downstream of the barrier.



Upstream of the barrier.



Wall Canyon sucker.

**Moapa dace Apcar Box Culvert, NV. Fish Species Addressed (Rank): Moapa dace (1.89), Moapa White River Springfish (1.89), Virgin River chub (2.11), and Moapa speckled dace (1.56). Total Project Cost: \$250,304.** Apcar Spring, one of 25 thermal source springs for the Muddy River in Clark County, Nevada, historically sustained Moapa dace, an endemic endangered minnow. The upper Apcar system was recently rehabilitated and now supports a breeding population of Moapa dace, but was isolated from adult and juvenile habitat downstream by an undersized, perched culvert. This project installed a box culvert, thus removing a velocity barrier and restoring connectivity for this important portion of Moapa dace habitat. The implementing agency is U.S. Fish and Wildlife Service; partnering agencies are Nevada Department of Wildlife, U.S. Geological Survey, U.S. Bureau of Land Management, and Southern Nevada Water Authority. The majority of implementation funding was provided by the National Fish Passage Program.



Site of the box culvert.



Moapa dace.

## Proposed DFHP Projects for 2012

For 2012, DFHP selected four projects (listed here) to be funded by NFHP (\$90,000):

**Shoshone Pupfish Pond Construction, CA. Fish Species Addressed (Rank): Shoshone pupfish (2.67). Total Project Cost: \$30,000.** Shoshone Spring and wetlands have been owned by one family for over 50 years. Endemic Shoshone pupfish were considered extinct by 1969, but were rediscovered in a ditch near the springs in 1986. A pond built for these fish now hosts 500 to 1500 of their descendants, believed the last of their kind. This project will construct two additional habitats, one secluded in a mesquite bosque and one in a landscaped tourist area, and will ensure persistence of Shoshone pupfish in their native range and educate the public about their importance. The implementing agency is the Shoshone Development Corporation; partnering agencies are California Department of Fish and Game and the U.S. Fish and Wildlife Service.

**Condor Canyon Meadow Valley Wash Restoration, NV. Fish Species Addressed (Rank): Big Spring spinedace (1.89), Meadow Valley Wash speckled dace (2.11), and Meadow Valley Wash desert sucker (2.22). Total Project Cost: \$100,000.** The known range of Big Spring spinedace, a threatened species, lies within an 8-kilometer section of Meadow Valley Wash (MVW), mostly within Condor Canyon, Nevada. Construction of a railroad grade in the late 1800's resulted in widespread channelization and stream instability within Condor Canyon. Cattails have expanded throughout the canyon, choking the channel and trapping sediments. These alterations to the aquatic ecosystem have adversely affected Big Spring spinedace. The U.S. Bureau of Land Management will reconstruct sections of the stream channel to a more stable form, reconnect an isolated spring disconnected by the railroad grade, remove invasive cattail, and plant native riparian vegetation. Restoration of hydrologic function to these areas and enhancement of native riparian vegetation will restore habitat for Big Spring spinedace, as well as MVW speckled dace and MVW desert sucker. Restored areas will also provide habitat for birds and other wildlife that frequent the canyon. The implementing agency is the U.S. Bureau of Land Management; partnering agencies are Nevada Department of Wildlife, U.S. Fish and Wildlife Service, and the U.S. Forest Service.

**Alamito Creek Restoration, TX. Fish Species Addressed (Rank): Conchos pupfish (2.56), Chihuahuan shiner (2.56), Mexican stoneroller (2.33), Roundnose minnow (1.56), and Mexican tetra (1.67). Total Project Cost: \$118,000.** The Alamito Creek Preserve Team seeks to restore the grassland in Alamito Creek watershed by removing approximately 200 acres of mesquite and other non-natives and reseeded with native grasses. Invasive vegetation is thought to be lowering the water table and reducing creek flows. The Preserve hopes to showcase a healthy West Texas stream environment and inspire other protection and restoration efforts by encouraging the public, adjoining landowners, and regional decision-makers to participate in a watershed cooperative with conservation as its goal. The implementing organization is the Trans Pecos Water and Land Trust; partnering agencies are the U.S. Fish and Wildlife Service (Texas Fish and Wildlife

Conservation Office and the Partners for Fish and Wildlife Program) and Texas Parks and Wildlife Department.

**Weber River Watershed Improvement Project, UT. Fish Species Addressed (Rank): Bluehead sucker (1.89), Utah sucker (1.56), Colorado cutthroat, speckled dace (2.11), Longnose dace (1.22), Redside shiner (0.89). Total Project Cost: \$515,000.** This project combines diversion reconstruction and fish passage improvement on the lower Weber River with barrier removal and culvert modifications in two upper tributaries. Because these improvements will benefit trout as well as desert fishes, funding will be contributed by both WNTI and DFHP. Other partners include Trout Unlimited, Utah Division of Wildlife Resources, U.S. Fish and Wildlife Service, South Weber Irrigation Company, Uintah Central Irrigation Company, and Weber Basin Water Conservancy District.

#### Tools for Habitat Assessment and Conservation

DFHP has been working with a variety of groups to develop assessment and prioritization tools for use throughout the desert west. Recently, USGS completed the Lower Colorado River Basin Threat Assessment (the paper is currently in review). Though conservation of the unique fish fauna of the Lower Colorado River Basin (LCRB) is imperative, deciding how to allocate resources for conservation is hampered by lack of information. USGS developed conservation priorities for streams in the LCRB based on species diversity, species traits such as life history, threats, species distributions, stream fragmentation (based on location of major dams), and presence of nonnative species. Results show that major watersheds with the highest conservation potential include the Virgin River, lower reaches of the Little Colorado River, and upper reaches of the Gila, Verde, Salt, Santa Cruz, and San Pedro Rivers.

The Little Colorado and Virgin River basins had the highest conservation potential (in the top 10%) but lands there lacked adequate protections for biodiversity. Climate change, with warmer temperatures and reductions in precipitation, is predicted to impact watersheds with the greatest species diversity and conservation values. Data from this effort will be valuable for systematic conservation planning within the LCRB, and the process can hopefully be expanded to other DFHP basins.

#### 2010 Waters to Watch Update- Green River Basin, CO/WY/UT

White River Surveys for bluehead and flannelmouth suckers and roundtail chub were conducted July 2011, by Utah Division of Wildlife Resources and BLM Utah. White River is clearly an important spawning area and nursery for these three species. Catch per unit effort for YOY bluehead and flannelmouth suckers was higher than previous samplings, though roundtail chub YOY catch stayed about the same. Percent of native fishes in White River was greater than other reaches sampled in Green River Basin and most other upper Colorado River areas.

In January 2011, the National Fish and Wildlife Foundation funded (\$75,000) development of a San Rafael River restoration plan, a proposal submitted by the BLM

UT. Given the presence of imperiled desert fishes, including bluehead and flannelmouth suckers and roundtail chub, the San Rafael River has high restoration priority, and a science-based restoration, conservation and monitoring plan will be created. Actions which restore physical habitat through tamarisk eradication, in-stream flow augmentation, and reconnection of channel and floodplain habitats will be emphasized.

#### National Fish Habitat Partnership Involvement

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

- NFHP Board Meeting participation, April and July 2011
- Presentation at NFHP Symposium, September 2011
- Presentation at NFHP Board Meeting, October 2011
- NFHP Performance Measure Evaluations teleconference, October 2011
- NFHP Fish Habitat Assessment participation, 2011
- NFHP Communications Committee participation, 2011
- NFHP Fish Habitat Partnership meeting participation, 2011
- NFHP FHP bimonthly teleconferences, 2011

#### 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 efforts include:

1. Presentations at meetings:
  - Gila River Basin Native Fishes Conservation Program Meetings, January and December 2011
  - Carlsbad BLM Oil Developers Meeting, January 2011
  - San Juan River Recovery Implementation Program Meetings, February, May, and November 2011
  - Middle Rio Grande Endangered Species Act Collaborative Program Meetings, March, May, and July 2011
  - Western Fish Habitat Partnerships Meeting, September 2011
  - American Water Resources Association Annual Conference, November 2011
2. Informational booths at:
  - AZ/NM Chapter of the American Fisheries Society-The Wildlife Society Joint Annual Meeting, February 2011
  - Native American Fish and Wildlife Society, Southwest Regional Meeting, July 2011
3. DFHP's website (hosted by the National Park Service) provides information about DFHP, the Framework, RFPs, updates, and contact information.  
[www.nature.nps.gov/water/DFH\\_partnership.cfm](http://www.nature.nps.gov/water/DFH_partnership.cfm)
4. A quarterly newsletter. [www.nature.nps.gov/water/DFH\\_partnership.cfm](http://www.nature.nps.gov/water/DFH_partnership.cfm)

5. DFHP’s Facebook page was launched to reach out to the public and includes RFPs, newsletters, updates, links to partners, and photos.  
[www.facebook.com/pages/Desert-Fish-Habitat-Partnership/193053497376208](http://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          | Oregon Department of Fish and Wildlife |
| • Jeff Sorensen                           | • Paul Scheerer                        |
| U.S. Bureau of Land Management            | Southwest Tribal Fisheries Commission  |
| • Stephanie Carman                        | • Kevin Terry                          |
| U.S. Bureau of Reclamation                | Texas Parks and Wildlife Department    |
| • Rob Clarkson                            | • Gary Garrett                         |
| California Department of Fish and Game    | The Nature Conservancy                 |
| • Glenn Yoshioka                          | • Tom Collazo                          |
| Colorado Division of Wildlife             | Trout Unlimited                        |
| • Harry Crockett                          | • Dan Daulwalter                       |
| Desert Fishes Council                     | U.S. Fish and Wildlife Service         |
| • Heidi Blasius                           | • Jennifer Fowler-Propst               |
| Idaho Department of Fish and Game         | U.S. Forest Service                    |
| • Scott Grunder                           | • Cynthia Tait                         |
| National Park Service                     | U.S. Geological Survey                 |
| • John Wullschleger                       | • Mike Saiki                           |
| Native American Fish and Wildlife Society | Utah Division of Wildlife Resources    |
| • <i>rep not available</i>                | • Krissy Wilson                        |
| Natural Resources Conservation Service    | Wyoming Game and Fish Department       |
| • Kathryn Boyer                           | • David Zafft                          |
| Nevada Department of Wildlife             |                                        |
| • Jon Sjoberg                             |                                        |
| New Mexico Department of Game and Fish    |                                        |
| • Andrew Monie                            |                                        |

*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) | Rio Grande Representative |
| • Stephanie Carman                       | • Megan Bean              |

State Agency Representative (Co-chair)

- Jeff Sorensen

Basin and Range Representative

- Jon Sjoberg

Upper Colorado River Representative

- Krissy Wilson

*Lower Colorado River Representative*

- Jeremy Voeltz

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

- Stewart Jacks

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 40 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 2011 DFHP meeting was held in Salt Lake City in conjunction with the Three Species and Northern Leatherside Chub meetings.