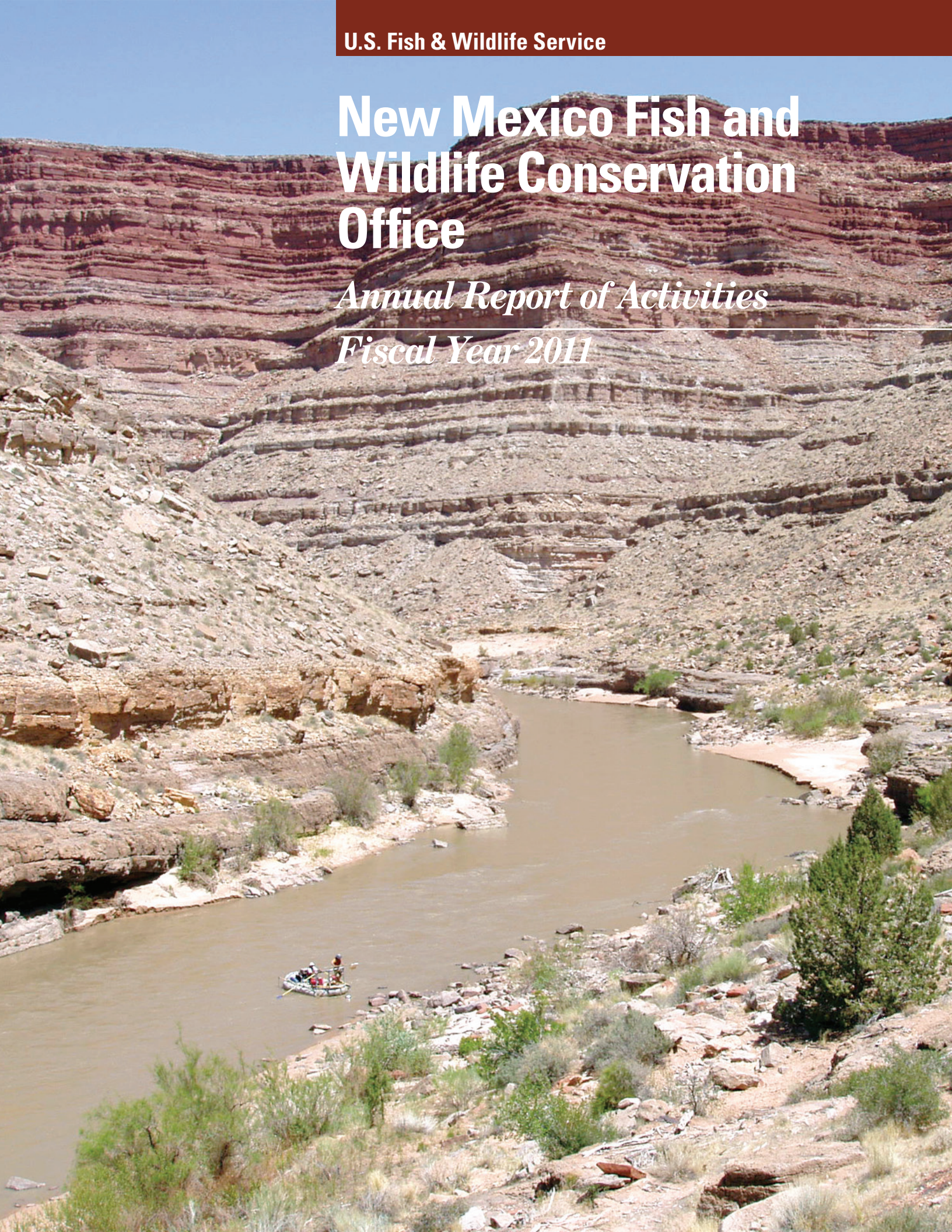
U.S. Fish & Wildlife Service

New Mexico Fish and Wildlife Conservation Office

Annual Report of Activities

Fiscal Year 2011



Front Cover:
San Juan River between Sand Island and Mexican Hat, Utah

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Introduction

Efforts of the New Mexico Fish and Wildlife Conservation Office (NMFWCO) to conduct dependable and accurate research, monitoring, and resource inventory activities are key to the U.S. Fish and Wildlife Service (Service) priorities. Paramount is the responsible use of those data. A variety of projects were continued in Fiscal Year (FY) 2011, including nonnative fish removal on the San Juan River, Pecos River fish monitoring, Rio Grande silvery minnow surveys, Gila River Basin species restoration, and community projects with local Tribal groups in New Mexico. These activities are outlined in detail in the following report. The NMFWCO is based in Albuquerque, NM, and is located at 3800 Commons Avenue NE.

Activities conducted by NMFWCO during FY 2011, address all six Fisheries Program Priorities: 1) recovery of listed and candidate species, 2) restoration of inter-jurisdictional fisheries and aquatic systems, 3) management of inter-jurisdictional fisheries, 4) fulfilling mitigation obligations, 5) restoring depleted aquatic populations to preclude listing, and 6) providing fish and wildlife management assistance to tribes and on Service lands. Priorities 1, 2, 3, and 5 have considerable overlap in the American Southwest with its scarcity of water and, consequently, were commingled in station efforts. While satisfaction of Tribal trust responsibilities remains an important component of NMFWCO activities, management activities related to native and fish species listed under the ESA, as amended, within various ecosystems play an equally important role and also provide a substantial portion of annual station funding from other agencies. Inherent in station activities is close coordination with biologists and administrators from tribes, other federal and state agencies, a variety of local government agencies, non-governmental organizations, academic institutions, and many private landowners.

Activities are generally discussed below by individual focus areas as identified in the *Fisheries Program Vision for the Future* (2002). Actions conducted by NMFWCO adhere to the Fisheries Program Mission of working with partners to restore and maintain fish and other aquatic resources at self-sustaining levels and support Federal mitigation programs for the benefit of the American public.

Workforce Management

Staffing

The NMFWCO staff represents a variety of aquatic and outdoor disciplines and includes a combination of permanent, TERM, temporary (TEMP), and student temporary appointment (STEP) positions.

Table 1. NMFWCO Personnel Roster for FY 2011

Name	*Title*	*Series*	*Appointment*
James E. Brooks	Supv. Fishery Biologist	GS-0482	Permanent
Jason E. Davis	Supv. Fishery Biologist	GS-0482	Permanent
D. Chris Kitcheyan	Supv. Fishery Biologist	GS-0482	Permanent
W. Jason Remshardt	Supv. Fishery Biologist	GS-0482	Permanent
Daniel Weston Furr	Fishery Biologist	GS-0482	Permanent
Susan M. Maestas	Administrative Officer	GS-0341	Permanent
Angela A. Carrillo	Administrative Officer	GS-0341	Permanent
Stephen R. Davenport	Supv. Fishery Biologist	GS-0482	TERM
Ernest Teller Sr.	Biol. Sci. Technician	GS-0404	TERM
Thomas P. Archdeacon	Fishery Biologist	GS-0482	TERM
Dustin J. Myers	Fishery Biologist	GS-0482	TERM
Bobby Ray Duran	Fishery Biologist	GS-0482	TERM
Angela James	Fishery Biologist	GS-0404	TERM
Sara Blocker	Fishery Biologist	GS-0482	TERM
Andrew Dean	Fishery Biologist	GS-0482	TERM
Christine Stewart	Fishery Biologist	GS-0482	TERM
Tristan J. Austring	Biol. Sci. Aid	GS-0404	STEP
Cole Wolf	Biol. Sci. Aid	GS-0404	STEP

An Organizational Chart (Figure 1) was approved for NMFWCO during FY 2011 and includes 18 fulltime positions, of which 7 are permanent.

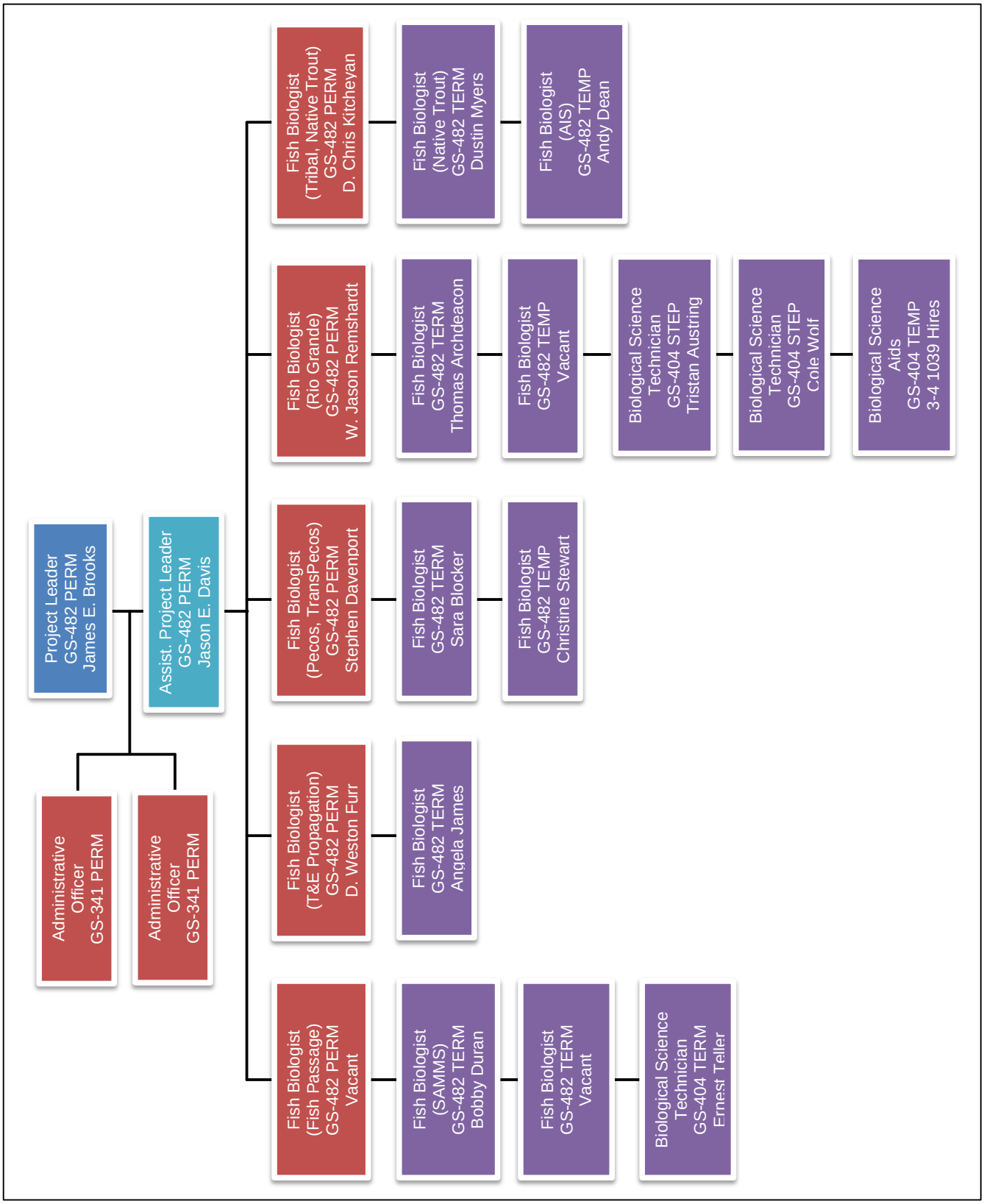


Figure 1. Approved Organizational Chart for New Mexico Fish and Wildlife Conservation Office

Budget and Administration

The budget of NMFWCO for the last five years represented a combination of base (13xx) and transfer funding (48xx). Transfer funding supported studies related to mechanical removal and control of nonnative fishes in the San Juan River; characterization of fish community structure of Pecos River fishes; and propagation/augmentation, habitat use and availability and movement studies and salvage/transplant (mitigation) of Rio Grande silvery minnow. Transfer funding was provided by U. S. Bureau of Reclamation (BOR). Carryover funds in 19XX from FY10 contributed to the total for FY11.

The NMFWCO functions have relied upon transfer funds from other agencies or other FWS programs to perform field surveys and various studies. In some years, soft funding comprised more than two-thirds of the annual budget; and almost always exceeded half the budget for any given year. The National Fish Passage Program (NFPP) has provided considerable funding support to NMFWCO for approved projects. The National Fish Habitat Action Plan (NFHAP) has provided additional funding, all for projects related to native trout conservation. Annual funding allocations to NMFWCO are shown below.

Table 2. Annual Funding Allocations For NMFWCO, 2007-2011

SUBACTIVITY	*2007*	*2008*	*2009*	*2010*	*2011*
1113	0	37,250	0	0	0
1130	0	0	5,000	0	10,000
1311	0	0	10,000	65,000	25,000
1322	0	0	0	20,374	19,500
1331	45,000	8,000	0	0	0
1332	417,000	24,000	0	0	0
1334	0	577,000	676,025	720,038	761,359
1335	0	15,000	61,373	58,145	33,833
1336	0	0	0	0	40,000
1341	0	0	0	0	12,000
1342	0	20,000	0	0	0
1343	0	0	11,000	12,000	0
19XX	1,100,087	1,361,816	1,291,285	1,213,816	1,234,873
1938 (YCC)	0	17,405	2,459	2,459	0
9831 (YCC)	0	4,000	0	0	0
TOTAL	**1,562,087**	**2,064,471**	**2,077,729**	**2,089,373**	**2,115,224**

In FY 2011, FWS was preparing for the implementation of the Department of Interior's (DOI) financial management and administrative system, Financial and Business Management System (FBMS). One of the benefits of FBMS is that it allows reimbursable agreements to remain "open" in the financial system across fiscal years until the work is complete, the period of performance has ended, or the paying agency's funding account is closed.

New 48XX accounts were set up as no year reimbursable replacing our 19XX accounts. The FBMS implementation team lumped the total obligations and expenditures incurred to determine the amount remaining in the reimbursable agreement at the end of FY 2011. Accounting for 48XX accounts will now be done over the 5-year agreement period for all obligations and expenditures incurred (running totals) eliminating the need to close down and re-establish the agreements each year.

Aquatic Species Conservation & Management

Native Species

Pecos River Basin

The NMFWCO continued long-term monitoring of the Pecos River fish community in FY 2011. Status and trends of the federally threatened Pecos bluntnose shiner *Notropis simus pecosensis* are tracked using two estimates of abundance: catch rate (Pecos bluntnose shiner /100 m^2) and percent abundance (number of Pecos bluntnose shiner divided by all fish collected).

Pecos bluntnose shiner catch-rate and percent abundance has increased annually since surface flow intermittence ended in 2005, when catch rates dropped to 2.3 fish/100 m^2, ± 0.4 SE. In 2011, we collected 6,524 Pecos bluntnose shiner, sampled 25,494 m^2, and visited 16 sites. Cumulative catch-rate was 26.1 ± 2.5 fish/100 m^2 SE, and cumulative percent abundance was 15.5 ± 1.2% SE. Cumulative percent abundance was similar to the previous year's metric, but catch rate increased. Pecos bluntnose shiner abundance varied seasonally and by river section

In 2011, the Near Acme gauge (USGS 08386000) recorded surface flow intermittence between August 21 and September 12, 2011, and September 27 and October 7, 2011. We observed river drying for approximately 19 river miles between the overhead gas line crossing and Bitter Lake National Wildlife Refuge, middle tract. We also observed surface flow intermittence upstream of NM Highway 70 Bridge on August 11, 2011, before river drying was recorded by U.S. Geological Survey (USGS) gauges.

We monitored fish community structure within isolated pools on two occasions in August 2011. We collected 728 Pecos bluntnose shiner from five isolated pools in this reach on August 11. Pecos bluntnose shiner was the most common fish in isolated pools on this date. On August 29, we monitored 11 isolated pools in the same reach and collected 751 Pecos bluntnose shiner. We also monitored fish community structure in 8 isolated pools at Bitter Lake National Wildlife Refuge (NWR) on August 30 and collected 251 Pecos bluntnose shiner. Pecos bluntnose shiner was one of the most common fish in isolated pools on these dates.

We did not include monitoring sites that fell within the dried reach in August and September 2011. We attributed increased catch rate of Pecos bluntnose shiner in FY 2011, compared to the previous year, to concentration of fish in refuge habitats in low flows. We encountered an exceptionally large concentration of Pecos bluntnose shiner at NM Highway 380 Bridge in October (313 individuals).

In 2011, we collected approximately 1,000 Pecos bluntnose shiner from the wild, and placed them at Dexter National Hatchery and Technology Center (NFH&TC). To complete this management action, we coordinated with BOR and Dexter NFH&TC. The objective was to provide a captive population, held at Dexter NFH&TC through irrigation season, to prevent excessive loss to the wild population because of river drying.

Surface flow intermittence on the Pecos River upstream of NM Highway 70 Bridge 11 August 2011.

FY 2012 Proposed Activities

Pecos River fish community monitoring will proceed in FY 2012. We will employ the same monitoring methods in years prior to facilitate inter-annual comparability, but we do anticipate a decrease in frequency of monitoring beginning in 2012.

In 2012, NMFWCO will again coordinate with BOR and Dexter NFH&TC to salvage 500-1,000 Pecos bluntnose shiner from the wild. This operation will provide a captive population held at Dexter through irrigation season to prevent excessive loss to the wild population if river drying occurs.

In 2012, NMFWCO will assist BOR with selecting a second site where phase two of Pecos River restoration will occur. A multi-agency effort identified sites at the Bureau of Land Management's (BLM) overflow wetlands Area of Critical Environmental Concern and several privately owned properties as potential areas for river restoration, as required under the 2006 Service biological opinion.

Upper/Middle Rio Grande Basin

The NMFWCO conducts research and long-term monitoring investigations of fish resources throughout New Mexico including the Rio Grande, providing expertise to other management agencies and Native American Tribes and Pueblos. Within the Rio Grande, these projects are mostly related to conservation of Rio Grande silvery minnow (RGSM). Current projects include coordinating and carrying out silvery minnow salvage, assisting with spawn monitoring, egg collection and acquisition of wild fish for broodstock, augmentation and monitoring, and movement (PIT Tag) studies. In addition, NMFWCO assists with other recovery implementation and cooperates with other Service stations, agencies and universities on various studies, and provides and operates on-site research facilities.

Salvage Activities

In 2011, 40.0 miles of the main channel of the Rio Grande dried resulting in the need for salvage of RGSM. This was an increase of 11.8 miles compared to 2010 and 10.0 miles compared to 2009 and included drying in the Isleta (12.9 miles) and San Acacia (27.1 miles) reaches.

Specifically, a portion of the reach between the south boundary of Bosque del Apache NWR to near Socorro in the San Acacia Reach and the reach between Tomé and Los Lunas, NM, dried on 56 days between June 25 and October 26, 2011. A total of 8,073 RGSM > 30 mm standard length were salvaged, transported, and released alive to a continuously flowing site of the Rio Grande at either just below Isleta Diversion Dam (Isleta Reach) or just below San Acacia Diversion Dam and the San Marcial Railroad Bridge (San Acacia Reach), depending on which reach they were salvaged from. There were 116 RGSM identified as incidental take which was below the permitted amount observed in 2011 of 9,182 (FWS 2011). In addition, a total of 337 that died during transport, were too sick to salvage, or were found dead during secondary drying not attributable to water operations. These mortalities count towards the FWS permit and do not count towards incidental take.

Salvage crew working isolated pool in 2011.

In addition to normal salvage activities, an emergency salvage action was initiated prior to the allowed drying season (June 15-Nov 15). On April 23, 2011, a total of 1,126 adult RGSM were salvaged from isolated pools as a result of approximately 9.0 miles of river that dried the previous day near Bosque del Apache NWR. We also documented the mortality of 527 adult RGSM during this effort.

Dried pools with remains of common carp and other species after drying event in April 2011.

Big Bend Activities

In 2011, NMFWCO continued participation in several ongoing activities related to RGSM reintroduction efforts in Big Bend, TX. Quarterly monitoring efforts continued during 2011, including trips in February, August, and October. These monitoring efforts continued to document RGSM survival and health (with assistance from Dexter NFH&TC) at the 4 core release sites in and near Big Bend National Park. The fourth trip in May was replaced by a more extensive survey in June to document movement and survival throughout the majority of the 10j re-establishment zone (Figure 1). The RGSM were observed 18 miles upstream and 70 miles downstream of release sites. The fourth of 5 initial releases of fish for this project occurred in October 2011, with the release of 304,651 RGSM (Figure 1). These fish were produced and transported by staff from Dexter NFH&TC.

Rio Grande in Big Bend during the June 2011 monitoring trip for reintroduced RGSM.

Crew sampling for RGSM in Big Bend, June 2011.

Interior Secretary Salazar at Big Bend release of RGSM, 2011.

Irrigation Canal Egg Entrainment

In May 2011, NMFWCO conducted daily monitoring of 3 irrigation canals below two irrigation structures within the Middle Rio Grande, NM, including the Isleta and San Acacia Diversion Dam. A total of 25 RGSM eggs were collected throughout the month, including eggs from all 3 irrigation canals. Relatively low river flows and higher egg monitoring numbers in irrigation systems in 2011 suggest that egg entrainment and the negative effect on the Rio Grande silvery population was increased compared to previous years.

Augmentation and Monitoring

Based on the September 2011 catch rates from the standard RGSM population monitoring conducted by ASIR (Dudley and Platania 2011b), a request for release in the Middle Rio Grande in 2011 was made through the RGSM augmentation program for 185,000 fish.

The catch rates from the September monitoring were compared with the target catch rate of 1 RGSM / 100 m^2 for each site (Figure 2). The 15 sites within the Isleta and San Acacia reaches had catch rates ranging from 0 to 11.9 RGSM / 100 m^2, including 10 sites below the target of 1 RGSM / 100 m^2. Seven of these sites recorded no RGSM. Therefore, there are a total of 10 release sites for RGSM for the Middle Rio Grande during 2011, with 3 in the Isleta Reach and 7 in the San Acacia Reach (Figure 2).

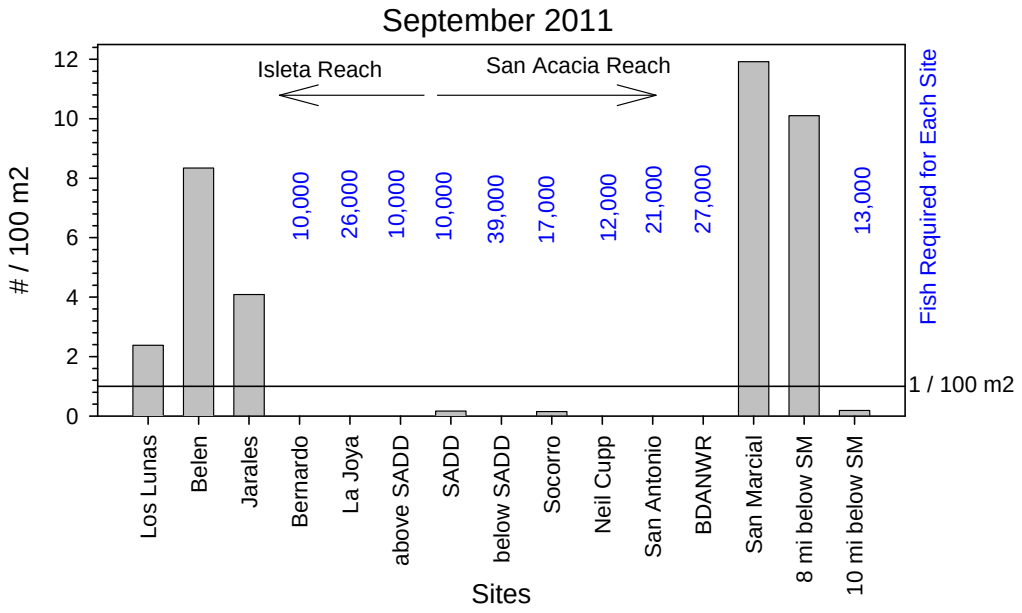


Figure 2. Catch rates for September 2011 Population Monitoring (from Dudley and Platania 2009)

On November 14-16, 2011, 190,838 RGSM were released by NMFWCO, with assistance from Dexter NFH&TC; City of Albuquerque, Biopark; and State of New Mexico, Los Lunas Refugium personnel.

PIT Tag Research Related to Albuquerque Fish Passage Structure

We completed the PIT tag research project in 2011. To determine if the RGSM would use in-stream fishways, we implanted 6,657 RGSMs with passive integrated transponders and used a passive scanning station to document movements from seven release locations, up to 19.7 km upstream and 13.5 km downstream of a bypass structure, and to document successful ascension of an in-stream rock channel fishway on the Rio Grande, Albuquerque, NM. Between March 18, one week after release, and August 21, 2011, 157 individuals were detected (2.4% of total); with 61.1% of fish detected upstream of release sites and 39.9% from downstream of release sites. More than half (60.2%) of detections occurred between 0700 and 1900 hours, suggesting RGSM are more active during daylight hours. The number of daily detections was inversely related to discharge (P <0.0001), while distance of each release location to the passageway was not related to the proportion of fish detected from each release location. We conclude RGSM can use appropriately constructed fishways this may ameliorate to some degree the associated negative impacts of habitat fragmentation in the Middle Rio Grande on RGSM.

Rio Grande Silvery Minnow Sanctuary

Various re-engineering or repair projects and two operational tests occurred in 2011. The tests evaluated pump discharge capacity, filtering rates, in-channel water level maintenance at various discharges, and time to channel loss of water due to pump shut-down. This afforded the NMFWCO the opportunity to assess wetted channel functionality during times of limited source water. The second test occurred from June 15 to August 22 (approximately 10 weeks). In combination, both tests provided valuable insight into the operational and functional challenges facing the Sanctuary.

In consultation with BOR, NMFWCO has identified various engineering and facility modifications that need to be addressed to enhance the Sanctuary's potential. These projects are scheduled to be finalized by spring of 2012; in time for that years operational start-up and biological tests.

Drying channel after pump failure showing ash accumulation.

FY 2012 Proposed Activities

The biological tests in 2012 will include the introduction of RGSM into the Sanctuary channel in order to monitor available habitats, water quality, nutrient availability, and holding capacity for the Sanctuary. The NMFWCO and BOR will continue to work closely together to ensure that the Sanctuary becomes an important management tool for the recovery of the RGSM.

Numerous re-engineering projects are scheduled to occur in 2012 to rectify these operational limitations. In particular, high sediment loads and an ash flow (from forest fires upstream in the Rio Grande Basin) caused significant damage to one of the vertical turbine pumps. Functionality of the facility is dependent upon the continuous operation of these pumps and will not be restored until this pump can be removed and refurbished in early 2012.

Continued testing of the operational functionality of the entire Sanctuary may detect more limitations or problems that will need to be addressed prior to biological phases of operations scheduled for 2012. The NMFWCO will continue to develop outreach and educational opportunities associated with the Sanctuary.

Upper Colorado River Basin – San Juan River

San Juan River Basin Recovery Implementation Program (SJRIP)

The San Juan River Basin Recovery Implementation Program (SJRIP) is a cooperative recovery program designed to aid in the recovery of razorback sucker *Xyrauchen texanus* and Colorado pikeminnow *Ptychocheilus lucius* while allowing water development to continue in the San Juan River Basin. Participants in the Program include the states of Colorado and New Mexico, four Native American Tribes (Jicarilla Apache Nation, Navajo Nation, Southern Ute, Ute Mountain Ute), water development interests, conservationists, and four DOI agencies (Bureaus of Indian Affairs BIA), BLM, BOR, and the Service - Regions 6 and 2). The SJRIP works through a committee process (Coordination, Biology, and Hydrology) and each participant has representation on these committees. For the Service, NMFWCO represents Region 2 on both the Coordination (Chair) and Biology (Member) Committees. NMFWCO participates in all committee meetings and associated workshops related to the SJRIP.

The NMFWCO is the principal investigator of a long-term program aimed at the control of large-bodied nonnative fishes, primarily channel catfish *Ictalurus punctatus* and common carp *Cyprinus carpio,* as a management tool for the recovery of razorback sucker and Colorado pikeminnow. In addition to nonnative fish removal, NMFWCO has assumed the lead responsibility for augmentation efforts for the two federally protected species. A component of this includes the co-management, with the Navajo Nation Department of Fish and Wildlife, of a series of razorback sucker grow-out ponds located southeast of Farmington, NM, on Navajo Agricultural Products Industries (NAPI) lands. The NMFWCO is also responsible for the pre-release acclimatization of hatchery-reared Colorado pikeminnow and razorback sucker designed to improve survivability and short term retention of stocked fish.

Nonnative species monitoring and control

The introduction and establishment of nonnative fishes has been recognized as one of several factors leading to the decline of native fish populations. The control of nonnative fishes has become an increasingly important management action in programs aimed at the recovery of federally protected species. The establishment of channel catfish and common carp was identified as a detriment to the recovery of Colorado pikeminnow and razorback sucker and their control has specifically been identified as a management element in the SJRIP's Long Range Plan.

Nonnative fish removal efforts conducted by NMFWCO began on a limited basis in 1998 with intensified efforts beginning in 2001. In response to changes in channel catfish distribution and abundance, nonnative fish removal efforts have continued to expand and now include removal from a total of 113.5 river miles (RM). With the assistance of the Service's Colorado River Project, NMDGF, and Utah Department of Wildlife Resources, a total of 29,881 channel catfish and 274 common carp were removed from 113.5 river miles in 2011. Channel catfish catch per unit effort (CPUE (fish/hour)) from PNM Weir to Hogback Diversion (river miles [RM] 166.6 – 159.0) has been reduced 70 % from 22.4 fish/hour in 2001 to 6.7 fish/hour in 2011 while CPUE from Hogback Diversion to Shiprock Bridge has been reduced 81.3 % from 57.7 fish/hour in 2003 to 10.8 fish/hour in 2011. Juvenile channel catfish catch rates in these two sections increased in 2011 and it is suspected that these juveniles immigrated into these sections from downstream. Majority of channel catfish and common carp were found in a 95 river mile section from Shiprock Bridge to Mexican Hat, UT. Catch rates for channel catfish in this section significantly increased in 2011 and was attributed to a high abundance of juvenile fish (Figure 3). Common carp were collected infrequently throughout the study area with catch rates < 1 fish/hour in each of the three study sections.

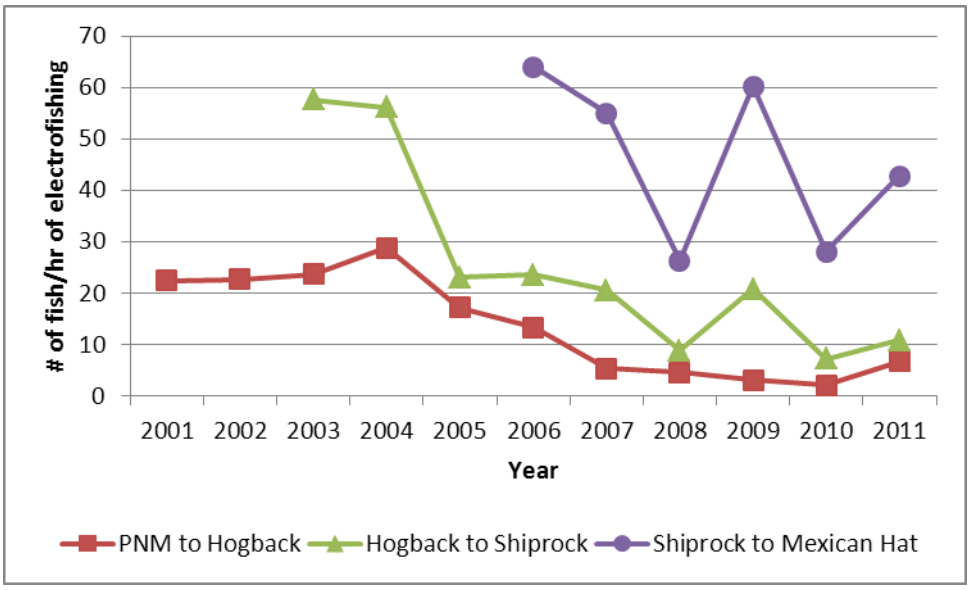


Figure 3. Channel catfish (CPUE; fish/hour) by individual removal section.

A mark and recapture study was initiated in 2011 to calculate exploitation rates and population estimates for channel catfish and common carp from Shiprock Bridge to Mexican Hat, UT. A total of 1,334 channel catfish and 20 common carp were collected and implanted with individual alphanumeric anchor tags during a trip from Shiprock Bridge to Mexican Hat, UT. Adult channel catfish, >300mm TL, comprised 69% of the total number of channel catfish tagged (N=917). The highest total exploitation rate by trip (13.6%) was observed during the first post-tagging trip. Total exploitation rates declined during the remaining three removal trips and averaged 2.3 %. The combined exploitation rate for all size classes and trips was 19.4 %. Total exploitation rates ranged from 10.3 % for juvenile channel catfish to 41.7 % for fish > 600 mm TL.

During the tagging trip, 917 adult channel catfish, ≥300 mm TL, were tagged. On the first removal trip in April/May, 919 adult fish were captured including 147 anchor tagged fish. The Lincoln-Peterson population estimate for adult channel catfish from Shiprock Bridge to Mexican Hat, UT, was 18,111 (95% CI = 15,220-21,002; CV=7.98%, SE=1,446). A total of 20 common carp were tagged during the mark pass. On the first removal trip, a total of 72 common carp were captured including five anchor tagged fish. The population estimate for common carp, >200 mm TL, was 255 (95% CI = 70-439; CV=36.21%, SE=92.2).In addition to the removal of nonnative fishes, NMFWCO collected data on distribution, abundance, growth and movement of Colorado pikeminnow and razorback sucker. A total of 1,748 Colorado pikeminnow ranging in size from 62-800 mm total length were collected, of which 17 were adult Colorado pikeminnow. The capture of 17 adult Colorado pikeminnow represents the highest number of adults collected in a single year and is encouraging evidence that stocked juvenile Colorado pikeminnow are surviving to adulthood in the San Juan River. A total of 1,576 razorback sucker ranging in size from 282-615 mm TL were collected in 2011 with 85 fish ≥ 500 mm total length. Eighty razorback sucker that were collected had been in the river 5+ years and three individuals had been in the river 10+ years.

Documentation of long term retention of adult razorback sucker suggests that suitable habitat and resources are available for survival of the species in the San Juan River. Data collected on these rare fishes was used to generate river-wide population estimates and movement patterns for both species were evaluated. This information is being utilized by the SJRIP to guide future management actions. These analyses would be difficult to complete if not for the data collected during nonnative removal trips. All data collected during this study are provided to the SJRIP and are used to assess progress toward recovery for the two endangered fishes.

Adult razorback sucker captured between PNM Weir and Shiprock Bridge in 2011.

FY 2012 Proposed Activates

- Continue intensive nonnative fish removal throughout 113.5 river miles of the San Juan River.
- Continue a mark/recapture study from Shiprock Bridge to Mexican Hat, UT, to generate population estimates and exploitation rates of channel catfish.
- Work with the SJRIP in the development of specific metrics (i.e. catch curves and Beverton-Holt models) to measure the efficacy of nonnative fish removal.
- Author a manuscript summarizing nonnative fish removal efforts for publication in peer reviewed literature.
- Continue to experiment with various stocking localities and holding times (including control vs. treatment groups) when releasing hatchery reared age-0 and age-1+ Colorado pikeminnow and razorback sucker.
- Assist the Service's Colorado River Project with annual sub-adult adult fish community monitoring.
- Continue its involvement in the Coordination Committee (Jim Brooks, chair) and Biology Committee (Jason E. Davis, member) of the San Juan River Basin Recovery Implementation Program.

Gila River Basin

The NMFWCO activities in the Gila River Basin embody the concept of cooperation through diverse partnerships and range-wide management approaches in dealing with environmental threats such as climate change, wildfires, and nonnative invasion for the recovery and conservation of Gila trout *Oncorhynchus gilae,* loach minnow *Tiaroga cobitis*, spikedace *Meda fulgida*, and headwater chub *Gila nigra*. Native species conservation and recovery of the Upper Gila River Basin in New Mexico are accomplished by cooperative efforts among NMFWCO, Mora National Fish Hatchery (NFH), Gila National Forest, New Mexico Department of Game and Fish (NMDGF) - Conservation Services Division, University of New Mexico, The Nature Conservancy and Trout Unlimited.

Gila Trout (Oncorhynchus gilae)

Population Monitoring

Main Diamond and South Diamond creeks were surveyed in April to assess Gila trout populations, and collect ovarian and seminal fluids for Cutthroat Trout Virus (CTV) testing. Ripe individuals were stripped of ovarian or seminal fluid for CTV testing at Dexter NFH&TC - Fish Heath Unit. Various size classes of fishes collected indicated that reproduction and recruitment occurred in both populations. In July, 235 Gila trout were collected from McKnight Creek, and size classes indicated reproduction and recruitment occurred in this population. Tissue samples and aquatic macroinvertebrates were collected. In April, renovated reaches of the upper West Fork Gila River (WFG) were surveyed to determine if any nonnative brown or rainbow trouts had breached the falls during high flow events. Six Gila trout were collected from "Barrier Falls" up to U.S. Forest Service (USFS) Trail 151 crossing near White Creek Cabin. No nonnative salmonids were observed or collected.

Mechanical Removal of Nonnative Fish

Nonnative fishes pose conservation threats to native fishes in the upper Gila River Basin, specifically to Gila trout, loach minnow *Tiaroga cobitis*, spikedace *Meda fulgida*, and headwater chub *Gila nigra*. Efforts to mechanically remove nonnative fishes were conducted on Black Canyon, McKenna and Little creeks, and lower West Fork Gila River within the Heartbar Wildlife Management Area (WMA) to improve the status of native fishes. Within the Heartbar WMA, the number of native species collected in 2011 is higher than when removal efforts were initiated in 2006 (Table 3).

Table 3. Total number of Native species collected from 2006-2011 during Nonnative Removal efforts on Heartbar WMA.

Heartbar WMA	*2006*	*2007*	*2008*	*2009*	*2010*	***2011***
Sonoran sucker	224	363	641	581	918	**1503**
Desert sucker	55	254	349	160	193	**805**
Headwater chub	32	38	46	46	79	**105**
Spikedace	0	0	20	5	65	**878**
Loach minnow	-	-	7	16	6	**99**
Speckled dace	0	19	59	12	118	**941**
Longfin dace	0	39	164	8	474	**1725**

Upper West Fork Gila Repatriation

The upper WFG is a complex system comprised of several headwater tributaries that encompasses 32.6 km of suitable habitat for Gila trout restoration. Repatriation of the upper WFG provides a unique opportunity to possibly regain or create unique genetic alleles by introducing multiple lineages within the same system allowing for natural genetic mixing. Renovation of the upper WFG was completed in June 2010 with the complete eradication of nonnative fish species from the watershed above "Barrier Falls" via rotenone. In October 2010, "wild" Gila trout collected from Main and South Diamond creeks were transported via helicopter and stocked into the upper WFG to begin the establishment of a self-sustaining metapopulation comprised of multi-lineages (Table 4). Presumably, a third lineage of Gila trout from Whiskey Creek can enter the watershed when adequate flow connects Whiskey Creek to the upper WFG or by fish swimming downstream over the barrier in Langstroth Creek (replicated from Whiskey Creek population).

Table 4. Lineage, source, number, age class, and disposition of Gila trout stocked into the upper WFG River.

Date	Lineage	Number	Age Class	Source	Reach stocked
10/12/2010	Main Diamond	250	Age 0-5	Main Diamond Creek	Lower White Creek
10/12/2010	South Diamond	350	Age 0-5	South Diamond Creek	Cub Creek

3rd Annual Lake Roberts Kids Fishing Derby

In June, the Mimbres Wilderness Ranger District in collaboration with NMFWCO, Mora NFH, and NMDGF, held the 3rd Annual Aldo Leopold Kid's Fishing Derby. Over 80 kids participated in event held at Lake Roberts, which coincided with the NMDGF designated "Free Fishing Day." Mora NFH stocked 230 retired broodstock ranging from 355-609 mm TL and weighing between 453 and 1814 grams. NMFWCO floy tagged 38 of these Gila trout and special prizes were awarded for any tagged Gila trout caught during the derby.

3rd Annual Lake Roberts Kids Fishing Derby.

Cutthroat Trout Virus (CTV) and Gila Trout Stockings

In April 2010, Dexter NFH&TC isolated CTV from the ovarian fluids of Main and South Diamond Gila trout broodstock collected during the spawn at Mora NFH. Although CTV is not identified as a pathogen of national or regional concern by the USFWS, the presence of CTV in captive stocks at Mora NFH prompted the suspension of stockings into recovery streams until the status of CTV in "wild" populations was known. In June 2011the Fish Health Unit at Dexter NFH&TC completed the analysis of ovarian and seminal fluids collected from "wild populations" in Main and South Diamond creeks. The results indicated both populations were CTV positive. Additionally, some individuals possessed antibodies for bacterial kidney disease (BKD), indicating some level of exposure to the disease in the past. Both Main and South Diamond populations have been used to establish and replicate wild populations, and develop captive bloodstocks at Mora NFH. Therefore, it is likely that many of the replicated "wild" populations of Gila trout are also CTV positive.

Since the down listing of Gila trout in August 2006, certain waters within the Gila basin have been designated as "recreational streams" allowing for take via angling under a special 4-D rule, thereby expanding recovery activities to include stocking and monitoring of "recreational" populations (US Federal Register 2006; FR Doc. 06-6215). Sapillo Creek, Willow Creek, Black Canyon (below the barrier), and the Gila River at the Forks were stocked with Gila trout surplus (Table 5). These areas had previously, but unknowingly, been stocked with CTV positive fish. The Gila Trout Recovery Team plans to discuss the implications of CTV on future Gila trout stockings and recovery activities.

Table 5. Stocking sites, date stocked, spawn year, and mean length of Main Diamond (MD) and South Diamond (SD) Gila trout to "recreational" streams during FY 2011.

Date	Location	# Stocked	Spawn Year	Lineage	Avg. Length
12/22/10	Sapillo Creek	200	2009	SD	213 mm
12/22/10	Gila River @ Forks	810	2009	SD	213 mm
12/29/10	Willow Creek	60	2008	SD	378 mm
12/29/10	Willow Creek	640	2009	SD	220 mm
1/25/11	Gila River @ Forks	1810	2010	MD	111 mm
1/31/11	Black Canyon below barrier	600	2010	SD	116 mm

Broodstock Collection

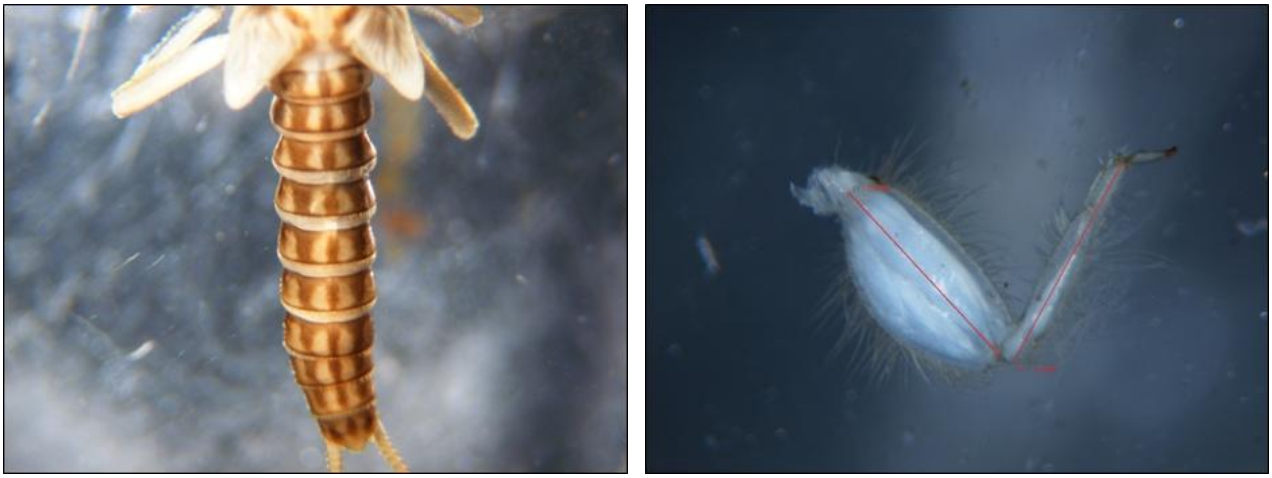
In August, multiple size classes of Gila trout were collected from Main Diamond Creek and transferred to Mora NFH to supplement broodstock production of Main Diamond lineage under the Gila Trout Broodstock Management Plan (2003). One hundred sixty-eight individuals were placed into the new naturalized rearing system in the Visitor's Center and used to propagate Gila trout for recovery efforts in New Mexico and Arizona.

Genetic and Macroinvertebrate Monitoring

The Gila Trout Recovery Plan-Third Revision recognizes the need to, *"continue to investigate the biology, ecology, life history, habitat, and genetics of the species that are important for the conservation of Gila trout (FWS 2003)."* Genetic and macroinvertebrate monitoring continues to be a standard part of NMFWCO recovery activities. Aquatic macroinvertebrates are fundamental food sources for Gila trout and collections were taken on the upper WFG, McKenna and McKnight creeks to characterize each community. Tissue samples were collected from Gila trout in McKnight and upper White creeks, Black and Sheep Corral canyons and hybrid trout in McKenna Creek to monitor the genetic integrity of these populations.

The NMFWCO has been working with the Texas Fish and Wildlife Conservation Office (TXFWCO) to enumerate and identify the benthic invertebrate samples taken from the Gila River Basin. Pete Diaz, from the TXFWCO, has been assisting NMFWCO in processing invertebrate samples from the Gila River to develop a baseline inventory of the macroinvertebrate community within streams that contain or may potentially contain pure Gila trout.

Upon completing the identification of the Gila basin samples, quality control of the data following TCEQ Surface Water procedures will be conducted. Thirty-eight samples have been completed and over 22,000 invertebrates from 61 families and over 114 genera have been identified. Many rare taxa have been identified including one candidate species *Isoperla jewetti* and potentially one more *Fallceon eatoni*, an identification requiring confirmation. Pictures were taken of the specimens and forwarded for verification of identifications.



Isoperla jewetti dorsal and tricoryhyphes hind leg with measurements

Fire, Drought and Fish Evacuation

Fire continues to be an imminent threat to Gila trout populations throughout their range and poses the greatest threat to local and regional extirpation of populations. Severe drought and wildfires impacted large portions of the Gila River drainage in New Mexico and Arizona. The Wallow Fire was the largest wildfire in Arizona's history burning 522,642 acres in Arizona and 15,407 in New Mexico, impacting several Gila trout populations in Arizona. The Miller Fire burned 88, 835 acres within the Gila National Forest and at times threatened several rare fish populations. The fire started near Miller Spring and burned through the headwaters of Turkey Creek. Post fire impacts via rain-caused flooding is believed to have eliminated non-native trout from the upper portion of the drainage, thereby creating another potential opportunity for Gila trout conservation. Lower down the Turkey Creek drainage, the severity of the burn prompted the evacuation of *Gila sp.* In total, 206 Gila chub *Gila intermedia* and 250 headwater chub *Gila nigra* were evacuated from the upper and lower reaches of Turkey Creek and transferred to Dexter NFH&TC for temporary holding and safekeeping. In May, drought conditions and channel drying in the Rio Mimbres forced the salvage and evacuation of federally threatened Chihuahua chub *Gila nigrescens*. Ten Chihuahua chub were salvaged and successfully transferred to Dexter NFH&TC for refuge and potential incorporation into the current broodstock program.

FY 2012 Proposed Activates

The NMFWCO will continue to monitor and augment existing Gila trout populations, survey potential recovery streams, mechanically remove nonnative fishes, collect "wild" fish for broodstock development, participate in public outreach, and collect tissues and monitor aquatic macroinvertebrate communities (Table 6). Due to the presence of CTV, recovery and recreational stockings are contingent upon decisions made by Gila Trout Recovery Team.

Table 6. Proposed Gila trout recovery activities and locations for FY 2012.

Activity	*Location(s)*
Population Monitoring	Big Dry, Langstroth Creek, Spruce Creek
"Wild" Fish Collection/Evacuation	Spruce Creek, Mogollon Creek
Nonnative Removal	McKenna Creek, Little Creek, Turkey Creek, Black Canyon, lower WFG River
Augmentation	Sheepcorral Canyon, Langstroth Creek, upper WFG River
Public Outreach	4th Annual Aldo Leopold Kid's Fishing Derby at Lake Roberts

Aquatic Invasive Species

Since 2005, NMFWCO's role in Aquatic Invasive Species (AIS) has evolved. Since the State of New Mexico has the legislative authority for management and enforcement of AIS, it was imperative that personnel from these agencies were trained in boat/trailer inspections and in the proper collection and preservation techniques of water samples. From 2007-2010, NMFWCO staff worked with federal and state natural resource partners as well as private marina owners to ensure that these trainings were completed. During FY 2011, NMFWCO's role in AIS monitoring consisted of participation with the New Mexico Aquatic Invasive Species Advisory Council (NMAISAC) and education and outreach. Additionally, NMFWCO staff volunteered to coordinate the collection and shipment of water samples from various water bodies within the State of New Mexico to BOR Denver laboratory for microscopic and Polymerase Chain Reaction (PCR) testing.

In 2011, NMFWCO was the designated repository of water samples collected by NMDGF personnel and, through a Cooperative Agreement with the University of New Mexico, Museum of Southwest Biology, these hazardous (samples are preserved in ethanol alcohol), samples were shipped to the BOR laboratory in Denver for PCR and microscopic analysis. Samples were tested by BOR personnel for zebra and quagga mussel genetic material (DNA) and visually examined using cross-polarization. Results from these analyses are currently being debated among federal and state partners.

Lastly, during FY 2011 we were able to hire a new staff level biologist to assume the AIS responsibilities for the office. This individual will continue to work with our partners in the prevention of zebra/quagga mussel introduction into New Mexico waters. The NMFWCO also purchased a portable decontamination unit that will be deployed as needed.

FY 2012 Proposed Activities

With the assistance of NMFWCO, the NMAISAC has been successful in bringing both state and federal partners together in a concerted effort to monitor water bodies in the State of New Mexico for the presence of zebra and quagga mussels. As these agencies continue to shoulder more of the monitoring work it is anticipated that NMFWCO will serve primarily in an advisory role to the NMAISAC. It is anticipated that future funding allocated to NMFWCO will be used to develop information and outreach materials and the dissemination of those materials. In coordination with Region 2 Aquatic Invasive Species Coordinator, NMFWCO will work at identifying funding sources that may assist the State of New Mexico's current and future monitoring efforts. Attendance and participation by NMFWCO staff with NMAISAC is expected to continue during FY 2012.

Staff from NMFWCO will have a presence at Navajo Lake State Park in the spring of 2012, 5 days a week, NMDGF can hire AIS technicians. This individual's responsibility at Navajo Lake State park will consist mainly with the dissemination of information to park visitors regarding the life history of zebra/quagga mussels, pathways for introduction, and the risks associated with establishment. Visual inspections of boats and trailers will also be conducted at this time. If a boat is determined to be suspect of carrying these invasive mussels, staff will advise the boater to refrain from launching and authorities with NMDGF and New Mexico State Parks will be notified.

Native American Trust Responsibilities

For more than twenty years, NMFWCO has been providing technical assistance to New Mexico tribes to develop and enhance native fish conservation and recreational fisheries on their homelands. The duties have ranged from lake/stream surveys, habitat assessments and improvements, fish passage, native fish conservation, non-native fish removal, educational outreach, and ESA collaboration. There are 22 tribes that lie within the state of New Mexico. As our tribal partners continued to expand their conservation efforts, enhance their recreational fisheries, and increase Native American Youth educational outreach programs, NMFWCO has continued to fulfill its Tribal-trust responsibilities.

Southwest Tribal Fisheries Commission

The NMFWCO personnel continued participation in Southwest Tribal Fisheries Commission (SWTFC) quarterly meetings and provided updates on fish distributions, training opportunities, ESA issues, and Tribal fisheries management plans. The purpose of SWTFC is to provide a coordinated tribal management group to guide recreational fisheries management and support for hatchery operations and native fish restoration. The development of SWTFC was in response to declining FWS hatchery operations and concomitant reductions in hatchery stockings for tribal and other recreational fisheries programs.

Technical Assistance and Field Activities

The NMFWCO staff participated on the Regional Review Team to evaluate and rank Tribal Wildlife Grant (TWG) proposals submitted by tribes/nations/pueblos within Region 2. Each peer reviewer had approximately one month to review the proposals before reconvening at the Regional Office in Albuquerque, NM, for ranking.

Two recreational fisheries management plans were completed for Jicarilla Apache Nation and Ohkay Owingeh (formerly San Juan Pueblo). The management plans identify key issues for the tribes and develop goals, objectives, and strategies for maintaining, enhancing, and conserving fishery resources. Emphasis is also placed on maintaining traditional and cultural values and beliefs.

The NMFWCO conducted lake fishery surveys to assess species composition, relative abundance, size structure, growth, and condition of fish on waters of pueblos of Acoma, Nambe and Laguna, Jicarilla Apache Nation, and Navajo Nation. Sampling methodology included the use of trammel and gill nets, and an electrofishing boat. All fish collected were identified to species, weighed to the nearest gram (g), measured for total (TL) and standard length (SL) to the nearest millimeter (mm), and returned to the reservoir. Length-weight data were used to evaluate body condition and growth rates of individual fish. These data were used to calculate Fulton's condition factor (K_{TL}), proportional stock density (PSD), relative stock density (RSD), and relative weight (Wr) for rainbow trout, channel catfish, and largemouth bass. In June 2011, NMFWCO, Pueblo of Laguna - Department of Natural Resources, and Middle Rio Grande Tribal Youth Conservation Corp repaired a fish passage crossing on the Rio Paguate. Monsoon rains in July 2010 had caused severe flash flooding in the canyon, eroded canyon draws, washed out the road to access the second fish passage crossing, and deposited large amounts of sediment onto the first fish passage crossing. Geoweb material (6-inch height) and two different sizes of rock (< 3 in diameter and 4 to 6 in diameter) were used to reconstruct the fish passage crossing.

Repaired fish passage crossing on the Rio Paguate.

Zuni bluehead sucker surveys were conducted at Zuni Pueblo during FY 2011. NMFWCO, NMDFG, and Zuni Pueblo Fish and Wildlife Department were limited to conducting visual surveys to determine the presence of Zuni bluehead suckers. The use of electrofishing gear was prohibited on Zuni Indian Reservation as a result of the ongoing controversial usage of electrofishing in traditional/cultural sites located within the Grand Canyon National Park.

Nonnative Fish Removal

The NMFWCO staff initiated mechanical removal efforts on North and South lakes located on Isleta Pueblo – Lakes and Recreation. Target species included gizzard shad, goldfish, golden shiner, and common carp. NMFWCO also assisted Jicarilla Apache Game and Fish Department with removal efforts of bluegill and largemouth bass in Mundo Lake. The bluegill and largemouth populations have increased over the past two to three years and populations have stunted. The increase in abundance of both species has impacted growth of rainbow trout and brown trout. However, high water conductivities (>1,900 µS/cm) in Mundo Lake effected mechanical removal efforts, and staff from both agencies will be seeking other alternatives such biological control methods (e.g., introduction of tiger muskie).

Recreational Fisheries Programs

In 2011, construction at Alchesay NFH was initiated to repair the main pipeline. In order to meet tribal trust responsibilities with our New Mexico tribal partners, 80,000 rainbow trout were transferred to Mescalero Tribal Fish Hatchery for grow-out. The Mescalero Apache Tribal Fish Hatchery reared rainbow trout until catchable size was attained. Afterward, staff and trucks from Alchesay-Williams Creek NFH distributed rainbow trout to tribes in New Mexico and Arizona. Inks Dam NFH, Uvalde NFH, and Dexter NFH&TC distributed approximately 32,000 channel catfish (8 to 10 inches) from May through July, 2011, to the Navajo Nation, Pueblo of Zuni, Pueblo of Zia, Ohkay Owingeh, and Jicarilla Apache Tribe. Prior to distribution, NMFWCO inspected all loads of catfish before being stocked into tribal waters to avoid accidental introduction of non-target fishes. Channel catfish and rainbow trout distributed by federal hatcheries have continued to enhance recreational fishing opportunities for both tribal members and non-tribal individuals, and fulfill Indian Fiduciary Trust responsibilities.

The NMFWCO and BIA staff met with tribal administration and natural resources department personnel from Jemez Pueblo to discuss the reopening of Holy Ghost Recreational Area. Topics of discussion included the feasibility of re-opening the site, identification of the fisheries (e.g., put-take fisheries, coldwater fisheries, warm water fisheries), evaluation of water quality, fisheries management plan, completion of Intra-Service Section 7, removal of cattails, type of fish requested to be stocked, and modifications to ponds (i.e., water depth, cover, etc.).

Rio Grande Silvery Minnow

The Tribal Subgroup was formed in April 2003, as part of the RGSM Recovery Team, to allow tribes/pueblos along the Rio Grande to have an active voice regarding the development of the revised RGSM Recovery Plan and to discuss their concerns regarding issues effecting Tribal sovereignty such as water rights, impacts of the ESA, and government-to-government consultation. The Tribal Subgroup was composed of representatives from the northern and the southern pueblos. Participating agencies and Pueblos involved include: NMFWCO; BIA, Regional Office; BIA, Northern Pueblos Agency; BIA, Southern Pueblos Agency; Pueblo of Isleta; Pueblo of Sandia; Pueblo of Santa Ana; Kewa (formerly Pueblo of Santo Domingo); Santa Clara Pueblo; and Ohkay Owingeh (formerly Pueblo of San Juan).

Since the completion of the RGSM Recovery Plan, the Tribal Subgroup has expanded into the Tribal Endangered Species Act (ESA) Working Group. The Tribal ESA Working Group meets bi-annually with Service personnel to discuss potential ESA impacts or concerns that may have an effect Tribal sovereignty or management of natural resources on Tribal lands. Participants have included representatives from Tribal environmental/natural resources departments from the 22 Native American Tribes in the state of New Mexico. In 2011, two meetings were held at the New Mexico Ecological Service Field Office (NMESFO). Topics of discussions included: Mexican Wolf Recovery Program, Southwestern willow flycatcher and critical habitat; Jemez salamander, endangered species multi-district litigation, Partners Program, Zuni bluehead sucker, and RGSM recovery program update. During these meetings, Tribes/Pueblos were informed by NMESFO that other potential reaches on the Rio Grande and Pecos River were being evaluated for possible introduction of RGSM. Staff from NMESFO and NMFWCO had multiple informal consultation meetings with the natural resource/environmental departments from San Felipe Pueblo, Kewa, and Cochiti Pueblo to discuss "Section 10J Experimental Populations, ESA" relating to the reintroduction of RGSM into the Cochiti Reach.

In collaboration with the Pueblo of Isleta and the Pueblo of Sandia, NMFWCO staff continued to conduct monthly monitoring to evaluate abundance and distribution of silvery minnow at designated sampling sites along the Rio Grande.

Native American Education Program

The NMFWCO participated in three youth practicums: the New Mexico Forestry Camp on June 9 at Seven Springs State Fish Hatchery; 2011 Tribal Youth Environmental Summer Camp at Nambe Pueblo on June 15; and Southwest Region – 15th Annual Native American Fish and Wildlife Youth Practicum at Hermosa Ranch on June 22. Students were divided into small groups, approximately five students per workstation. NMFWCO staff presented information on employment opportunities with FWS, usage/safety/principles of electrofishing (i.e., backpack and electrofishing boat), and collection and identification of aquatic macro-invertebrates. After students completed an electrofishing pass with NMFWCO staff, students were taught how to identify fish species, weigh and measure fish, observe for the presence of parasites, and how to tag fish with a FLOY tag and PIT-tag to monitor individual growth and movements patterns.

New Mexico Forestry Camp students and instructors.

The NMFWCO staff participated in a community outreach program on Cochiti Pueblo on July 29, 2011. The event was open to the community with a special emphasis on education and career opportunities to youth. A display booth was set up with educational factsheets on careers with FWS, Tribal Youth Conservation Corps (TYCC) programs, and STEP/SCEP programs. "Conserving America's Fisheries," Rio Grande cutthroat trout management, and other miscellaneous handouts were also provided. In addition, games ("Where in New Mexico Game"), sampling gear (Smith Root LR Model 24 electrofisher), and equipment (measuring boards and scales) were shown to the public. Both youth and adults stopped by the display booth to check out the shocker or play the games.

Staff from NMFWCO and NMDGF instructed an 8-hour course on pesticides at the 26th Annual Native Fish and Wildlife Society, Southwest Regional Conference on July 25, 2011, at Buffalo Thunder Resort. Participants were updated on usage of pesticides, pesticide types, laws, environmental requirements, calculations, and water quality issues. At the conclusion of the course, students were able to renew their pesticide certification license.

Beginning in September 2011, NMFWCO and Pueblo of Tesuque staff began working with high school students, ages 15 to 17 years old, from Santa Fe Indian School on an outdoor classroom project on Aspen Ranch, at the Pueblo of Tesuque. SFIS Science and Math teachers, built into their state curriculum, with the assistance of NMFWCO and Pueblo of Tesuque staff, activities including collection and identification of aquatic invertebrates and plants; GIS mapping; stream habitat classification; and fish identification/population estimates using backpack electrofishing units.

SFIS students applying what they learned in class regarding fish identification/population estimates.

The NMFWCO staff worked with Cochiti Pueblo staff in an after school program on the Santa Fe River. Participants included both adults and youth, ranging from 10 to 18 years of age. Activities on Santa Fe River included stream survey, stream habitat classification, fish identification, oral history of Cochiti Pueblo, and cultural/traditional importance of the Santa Fe River site to the Cochiti Pueblo community. The long-term plan is to develop an outdoor educational classroom for the community and to restore native fish and plants/habitat on the Santa Fe River.

Cochiti Pueblo community members learning and assisting NMFWCO and Cochiti Pueblo staff in restoring native fish and habitat on the Santa Fe River.

Tribal Youth Conservation Corp Program

In November 2010, at Washington D.C. during National Native American Heritage month, Native American Youth Conservation Corps and Student Temporary Employments programs from White Mountain Apache Tribe, Salish-Kootenai, and Mescalero Apache Tribe were recognized for their accomplishments and successful engagement wildlife and fisheries conservation work on their homelands. During these ceremonies, students from each program were allowed to share their work experiences and talk about their future goals. NMFWCO was also recognized for its contributions, dedication, and efforts in supporting tribal youth programs.

The NMFWCO oversaw three TYCC programs - Mescalero TYCC, Middle Rio Grande TYCC, and Santa Clara Pueblo TYCC. Two programs, Middle Rio Grande TYCC and Santa Clara Pueblo TYCC were in their first year. The Mescalero TYCC was entering its fifth year of existence. Prior to the start of Middle Rio Grande TYCC and Santa Clara Pueblo TYCC programs, NMFWCO consulted and collaborated with Isleta Lakes & Recreation, and Environmental and Natural Resources departments from Isleta Pueblo, Sandia Pueblo, and Santa Ana Pueblo to discuss/develop summer work projects on each reservation. Six students participated in Middle Rio Grande TYCC, four students participated in Santa Clara Pueblo TYCC, and fourteen students participated in Mescalero TYCC. The tribal youth at each program engaged in a variety of projects ranging from daily hatchery operations and maintenance, trail construction, stream and riparian restoration, wildlife surveys using radio-telemetry, air/soil/water quality monitoring, fish passage, fish surveys, preparation of turkey feathers for distribution to the tribal community, pole planting, nonnative vegetation removal, fish distribution, environmental education/awareness, and GPS/GIS. Programs started on June 6, 2011, and concluded on July 29, 2011.

Middle Rio Grande TYCC cooling off in the Rio Grande after a day of fish surveying.

Rio Grande Cutthroat

The NMFWCO participated in Rio Grande cutthroat trout (RGCT) Working Group meetings, the annual Range-Wide RGCT meeting, and meetings of the RGCT Strategic Working Group. The RGCT Strategic Plan is a collaborative effort with FWS, USFS - Colorado and New Mexico, NMDGF, Jicarilla Apache Nation, and Mescalero Apache Tribe to develop range-wide management strategies and partnerships for the conservation of RGCT against environmental threats such as climate change, natural disasters, and nonnative invasion.

Santa Clara Pueblo and NMFWCO continued to work collaboratively on RGCT restoration into the headwaters of Santa Clara Creek Drainage. In October 2010, staff from NMFWCO, Santa Clara Pueblo Office of Environmental Affairs, and Santa Clara Pueblo Forestry Department applied the piscicide rotenone to eradicate nonnative trout in the Santa Clara Creek headwaters.

Aquatic invertebrates were collected prior to, after, and 6 months after treatment to monitor the recovery of the aquatic community. Approximately, 900 non-native trout were removed from the system. Afterward, electrofishing surveys were done after the treatment and again in May 2011 to determine if the headwaters were "fishless." Electrofishing confirmed the treatment was a success and the headwaters were fishless. RGCT were scheduled to be introduced in October 2011. Unfortunately, Los Conchas Fire impacted the entire RGCT restoration project. The fire burned at the headwaters and around the streams. Post-fire flooding events in August/September altered the stream channel/stream habitat, wiped out the entire fisheries community, and deposited lot amounts of sediment in each pond. The RGCT project has now been postponed until further notice. Rehabilitation work in the Santa Clara Creek Drainage is now underway.

Spillway on Santa Clara Creek damaged by post fire flooding.

In July, NMFWCO and Jicarilla Apache Tribal Game and Fish Department (GFD) evaluated and assessed the Willow Creek Drainage. Genetic results in 2010 concluded rainbow trout were hybridizing with RGCT. Jicarilla Apache Tribal GFD has proposed renovating the entire Willow Creek Drainage, approximately 15 miles of stream and 4-5 lakes for potential reintroduction of RGCT.

The NMFWCO, Mescalero Apache Tribe (Fish Hatchery and Natural Resources Department), FS, and New Mexico State University (NMSU) convened on March 3, 2011, at the Mescalero Apache Tribal-Natural Resources Department to discuss goals, objectives, and tasks for restoring RGCT into the Rio Ruidoso Drainage. Participants included USFS, NMSU, Mescalero Apache Tribe (i.e., fish hatchery and natural resources department). Personnel from NMSU and NMFWCO continued field work in the Rio Ruidoso. NMSU was contracted by Mescalero Apache Tribe to assess habitat suitability and characterize habitat availability, species presence, assess invertebrate community, and implant trout to monitor movement patters. Funds for the projects were provided by a TWG and Western Native Trout Initiative Grant.

FY 2012 Proposed Activities

Conservation and recovery efforts scheduled for FY 2012 include; monitoring Rio Grande silvery minnow on Pueblo of Isleta and Pueblo of Sandia, conducting annual lake surveys on Pueblo of Zuni, Pueblo of Nambe, Mescalero Apache Tribe, Pueblo of Acoma, Pueblo of Laguna, and Jicarilla Apache Indian Reservation; repairing fish passage crossing on Rio Paguate; and assessing the Rio Ruidoso Drainage for the reestablishment of Rio Grande cutthroat trout.

The NMFWCO will continue its participation with the New Mexico Forestry Camp; Southwest Region-Native American Fish and Wildlife Society Youth Practicum; Tribal Youth Environmental Summer Camp at Dulce, NM; the 27th Annual Southwest Region Native American Fish and Wildlife Conference; education efforts with both Cochiti and Tesuque Pueblos; and the TYCC programs at Mescalero Apache Tribe, Santa Clara Pueblo, and Middle Rio Grande Pueblos (Isleta Pueblo, Sandia Pueblo, and Santa Ana Pueblo). Staff will continue to coordinate with Alchesay-Williams Creek NFH Complex, Inks Dam NFH, and Uvalde NFH on annual fish distribution to New Mexico Tribes.

International Affairs

Cooperative Mexico Fisheries Issues

Since 1995, NMFWCO personnel have participated in a variety of Mexico fish surveys and meetings for the purposes of characterization of native species distribution and status, threats, and possible management actions to remove or minimize threats. This has included both work on shared species, i.e. Yaqui fishes, and initiation of conservation efforts for others, such as a variety of native trout and catfishes in the Sierra Madre Occidental. Close working relationships have been built with numerous Mexican scientists, State personnel, and NGOs, notably the World Wildlife Fund. Field based efforts for native species conservation in Mexico have been altered by ongoing conflict in many interior regions of Mexico due to Mexican government drug interdiction activities. As a consequence field survey efforts have been either halted or restricted in timing and location. Most of our efforts to date have concentrated in the State of Chihuahua. We continue to work closely with peers at the Universidad de Sonora, Hermosillo, Mexico, on native fishes inventory, monitoring, threats assessment and reporting results to appropriate Mexican federal and State agencies.

Map of Mexico Illustrating the extensive Region 2 "Borderlands"

Canada-Mexico-U.S. Trilateral Committee for Wildlife and Ecosystem Conservation and Management

Personnel from NMFWCO did not participate in the 13th Annual Meeting of the Canada-Mexico-U.S. Trilateral Committee for Wildlife and Ecosystem Conservation and. However, management information was provided on conservation of native trout of the Sierra Madre Occidental to the 'Species of Common Concern Working Table.' Additional communication with the Sonoran Joint Venture coordinator in the Tucson, AZ, office enabled continued cooperation on related issues in the northern Sierra Madre Occidental.

International Conservation Strategic Planning Initiative

The FWS's Division of International Affairs (IA) came to the regions during FY 2010 to solicit input into the International Conservation Strategic Planning Initiative. This initiative is intended to clearly and comprehensively address Service roles and responsibilities for international conservation programs and efforts. We participated in the Region 2 Focus Group Session in Phoenix, AZ, on April 13, 2010. This session included an overview of the planning process and use of breakout to respond to five questions designed to elicit answers that would facilitate definition of the Service's role in the future.

It was noted in session discussions that Region 2 has extensive borderlands responsibilities, yet there is the need for a centralized and prominent role for international conservation of shared natural resources.

Unfortunately, the strategic planning process seemed to stall out during FY 2011. Regions were asked to follow a template provided by IA to input desired planning objectives, actions and background information. This was not the expectations of Regional attendees at the Phoenix meeting. Due to minimal advance notice and higher priorities, no information was provided on the Strategic Plan.

FY 2012 Proposed Activities

Basic fish community surveys may be resumed, but will be evaluated on a case by case basis. State of Sonora holds best potential for unimpeded sampling efforts. Continuation of cooperative management activities with ejidos will be difficult to continue. NMFWCO personnel will continue to participate in the Bi-national Truchas Mexicanas activities relative to taxonomy of Mexican native trout. Additionally, cooperation with publication of native catfish literature and dissemination of technical information to the Mexican Government will continue in an effort to inform rural development programs about the threats posed by escapement of non-native channel catfish to rivers occupied by native forms in the Sierra Madre Occidental.

Partnerships and Accountability

National Fish Habitat Action Plan

Under the National Fish Habitat Action Plan (NFHAP), there are a number of partnerships and the WNTI is the focus of current NMFWCO involvement in NFHAP activities. The WNTI is comprised of 12 western states, tribes, other federal agencies, and public and private non-governmental organizations. The basic objectives of WNTI is to facilitate implementation of conservation actions by establishing collaborative conservation efforts for native trout across the western side through a joint venture Strategic Plan involving interagency efforts and partnerships. WNTI is one of several joint ventures identified as an implementation tool for the National Fish Habitat Initiative.

During FY 2011, NMFWCO staff coordinated the direct production and input of FONS proposals for Gila trout and Rio Grande cutthroat trout and coordinated with Arizona Fish and Wildlife Conservation Office on proposals for Arizona-based Gila trout restoration activities. No new proposals were received for FY 2011. Proposals inputted into FONS format in FY 2010 were modified or removed, and re-ranked according to priority. All proposals for Arizona and New Mexico Gila trout projects and New Mexico RGCT projects were then used to build a spreadsheet for final Region 2 ranking. We were in successful in obtaining funds for two projects: 1) renovation of a barrier to protect RGCT in Tanques Creek, and 2) Rio Ruidoso Watershed native trout restoration.

National Fish Passage Program

In FY 2011, NMFWCO managed and implemented five fish passage projects in New Mexico. We finalized a project with NMDGF located on Barker Wildlife Area. These funds were used by NMDGF to install two low water stream crossings on Ponil Creek. Ponil Creek is home to a reestablished population of RGCT, and low water stream crossing protects clear, cold water stream habitats. The fish passage project with NMDGF located at Pickering Ditch Diversion on La Plata River is under review by FWS engineers. The engineers are evaluating the newly built diversion structure for compatibility for a fish passageway. Unfortunately, the Ponil Creek at Philmont Scout Ranch project was cancelled because of non-performance. We issued a non-performance decision based on two years without a performance report from Philmont Scout Ranch.

We initiated two projects in FY 2011 that have not yet been implemented. These projects are located on Carson National Forest, on Costilla Creek and McCrystal Creek; both are stream and wetland renovations intended to improve fish passage for Rio Grande cutthroat trout. An interagency agreement with the Carson National Forest will provide funds to restore wetlands located on tributaries on Costilla Creek. Restoration of wetland function will improve quantity and quality of tributary discharge into Costilla Creek, thus increasing connectivity of mainstem habitats. We initiated a grant agreement with Quivira Coalition to repair a faulty diversion head gate, and replace two low water stream crossings on McCrystal Creek. We anticipate that these stream improvements will assist in, and enhance restoration of stream habitat function occurring throughout the Comanche Creek drainage.

We funded an agreement with the Regents of the University of New Mexico, Museum of Southwestern Biology (MSB) Division of Fishes to curate fishes deposited at, and curated by MSB generated by NMFWCO collections. We first funded this agreement in 2009.

Service Asset Maintenance Management System (SAMMS)

Beginning in FY 2006, NMFWCO was tasked with entering maintenance orders on personal property into the SAMMS database. In 2011, due to the conversion to Financial Business Management System (FBMS), we were not required to enter maintenance records in to the SAMMS database, however hard copies were still kept for office records. A total of $6,699 was spent during FY 2011 for vehicle maintenance and repair. The NMFWCO staff spent 50 hours on maintenance activities. These numbers do not represent all maintenance actions; only those that were submitted to the office's SAMMS coordinator.

Fisheries Operational Needs System (FONS)

FONS proposals are submitted on an annual basis in order to address additional operating needs for satisfactory performances of Fisheries Program directives. Proposals submitted address listed species recovery, nonnative species control, native species conservation, recreational fisheries management, and cooperation with private landowners. Since the initiation of FONS, only fish passage, NFHAP and AIS proposals submitted by NMFWCO have received funding.

Numerous high priority proposals that satisfy a variety of GPRA objectives continue to be unfunded for this or any other conservation (non-hatchery) office in the Fisheries Program. Notably, unfunded native trout conservation and use of nonnative fish transplanted from wild environments satisfy numerous objectives relative to listed species recovery, habitat improvement, nonnative species interactions, and tribal fisheries management and trust responsibilities.

Annual reporting of FY 2011 Accomplishments in FIS is located in Appendix B.

Leadership in Science and Technology

Science and technology form the foundation of successful fish and aquatic resource conservation and are used to structure and implement monitoring and evaluation programs that are critical to determine the success of management actions. The NMFWCO is committed to following established principles of sound science.

Providing Statistical and Biological Expertise

In all river basins throughout New Mexico, NMFWCO is involved in management of trust species and native fish populations by providing statistical and biological expertise. Specifically in FY 2011, we continue to be involved in development of monitoring goals and management of federally endangered RGSM in the Rio Grande, federally threatened Pecos bluntnose shiner in the Pecos River, and federally threatened Arkansas River shiner in the Canadian River. For the RGSM, staff continued to assist NMESFO and other partners in the Middle Rio Grande Endangered Species Collaborative Program in the development of management goals, evaluation of annual recovery criteria progress, use of catch-per-unit-effort as a metric for monitoring fish populations, development of a Population Viability Analysis, and providing biological expertise in the development of the new Biological Opinion in 2013.

For the Pecos bluntnose shiner, staff continued to provide invaluable analysis and biological expertise on sampling strategies for population monitoring. For the Arkansas River shiner, staff continues to collaborate with other FWS offices and New Mexico state partners in developing a new sampling plan and strategies to best monitor these populations.

Critique of Sampling Methods for Wadeable Streams

In 2010, Widmer et al. (2010) compared catch-per-effort single-pass seining to closed-system, multi-pass removal method population estimates. Their findings suggested single-pass catch-per-effort (CPUE) was not effective for generating species lists or monitoring abundance and distribution of even common species in the Pecos River, NM, decreasing the value of the more than 20 year data set collected by NMFWCO staff in the Pecos River. If true, new or additional methods for monitoring fish abundance and distribution in the Rio Grande, Pecos, and Canadian rivers would need to be considered. However, removal estimates require approximately 16 times the effort of single-pass catch data.

The NMFWCO staff published a comment on the article, highlighting flaws in data analyses and interpretations found in Widmer et al. (2010). NMFWCO staff showed detection probabilities for Pecos River fishes were much higher than reported, and total species lists accumulated much faster, casting doubt on published detection probabilities. Additionally NMFWCO data showed almost identical fish communities between the two studies, in spite of very large differences in effort and area covered. Due to misinterpretation of data and poorly collected single-pass data, NMFWCO staff showed many conclusions drawn by Widmer et al. (2010) were invalid, and that single-pass CPUE was an acceptable metric for monitoring abundance and distribution of Pecos bluntnose shiner, as well as other small-bodied fishes, in the Pecos River.

Piscicide Use and Fisheries Management

The primary roles of NMFWCO in piscicide use in fisheries management in Region 2 are field application projects for fish population restoration activities and to provide piscicide use-related training. The NMFWCO Project Leader is one of four instructors for the National Conservation Training Center (NCTC) course, "*Rotenone and Antimycin Use in Fisheries Management*", FIS 2132. Duties for participation in this training include not only course instruction, but course development and revision that requires annual planning meetings and time allotted to integrate course revision requirements into the syllabus.

Use of piscicides is regulated by the Federal Insecticide, Fungicide, Rodenticide Act. This act requires product registration with the Environmental Protection Agency (EPA) and only two products, antimycin and rotenone, are registered piscicides relevant to NMFWCO uses. Currently both piscicides are being re-registered and NMFWCO staff has assisted with development of use manuals, considered integral to pesticide label requirements. EPA delegates enforcement authority to the states and for New Mexico, the State Department of Agriculture is responsible, including permitting for pesticide applicators. Currently five NMFWCO personnel are permitted by the State of New Mexico to apply piscicides.

No piscicide application projects were conducted during FY 2011, but two instructor-related activities did occur. All NCTC class instructors attended a meeting at NCTC on March 1-3, 2011, for the purpose of updating and revising the curriculum for FIS-2132. A one day refresher course was taught on July 25, 2011, in conjunction with the Annual Meeting of the Southwest Region, Native American Fish and Wildlife Society. Over 20 tribal, State and Federal biologists and technicians attended the training and were awarded six continuing education credits for recertification with the New Mexico Department of Agriculture.

Much of our efforts regarding piscicide use continue to center on educating the public about the value of piscicides as a fishery management tool and the efforts employed to avoid human health impacts and also to minimize impacts to non-target organisms in treatment projects. Nonetheless, many members of the public continue to believe that we permanently and substantially pollute streams.

Information and Education

Public Outreach

The goal of FWS and the "Connecting People with Nature" vision is to provide communities with enjoyable and meaningful experiences related to the outdoors. To meet this goal, in FY 2011 NMFWCO implemented an outreach program to further interact with the community and provide public educational opportunities. Outreach events targeted local schools and community members of all ages within the greater Albuquerque area. Additionally, NMFWCO highlights field projects throughout New Mexico and hopes to encourage an overall interest in natural resources.

Table 5. The public outreach events for FY 2011.

Date	*Participants*	*Group/Location*	*Activity*
March	3 Students	Pack 12 Cub Scouts (Webelos 1)	Staff led a nature walk at the Rio Grande Nature Center, aiding in identifying wildlife and discussing the Rio Grande aquatic ecosystem. The outing assisted the Cub Scouts in obtaining their Naturalist Achievement Pin.
April	General Public	Earth Day at Albuquerque BioPark	Staff assisted Regional Office personnel. Staff met and greeted public and provided posters, pamphlets, and coloring books related to the environment.
May	Tribal Community	Sandia Environmental Fair	Staff set-up a booth consisting of two 10-gallon aquariums with Rio Grande fish (i.e. Rio Grande silvery minnow, red shiner, longnose dace, flathead chub), interactive activities, and hand outs (pamphlets and coloring books).
May	General Public	Endangered Species Day at Albuquerque BioPark	Staff assisted Regional Office personnel. Staff met and greeted public and provided posters, pamphlets, and coloring books related to endangered species, birds, and natural resources.
May	General Public	Migratory Bird Day at Albuquerque BioPark	Staff assisted Regional Office personnel. Staff met and greeted public while providing posters, pamphlets, and coloring books related to the environment and migratory birds.
May	69 Students	Native American Community Academy at Pueblo of Sandia	Staff provided assistance to the Pueblo of Sandia and the Southwestern Indian Polytechnic Institute, who hosted the Natural Resources Field Day. Staff helped students with seining in the Rio Grande and fish identification. Discussion included topics such as fish monitoring, data use in resource management, and fish biology.
June	22 Students	Nature Odyssey Camp at Cochiti Lake	Staff aided students with identification of warm-water fishes including mosquito fish, sunfish, and red shiners. Discussion included RGSM monitoring in the Rio Grande and threatened and endangered fishes of New Mexico.

June	10 Students	Native American Community Academy at Rio Grande Silvery Minnow Sanctuary	Staff discussed the purpose and function of the RGSM sanctuary. Students were then rotated through activities including: seining the Rio Grande, weighing and measuring fish, and data recording. Additional discussion included RGSM monitoring in the Rio Grande and threatened and endangered fishes of New Mexico.
July	6 Students	Nature Quest Program at Sevilleta National Wildlife Refuge	Sevilleta National Wildlife Refuge sponsored the program hosting six students from the Fishing Buddies and Youth Conservation Conference programs located in Chicago, Illinois. Staff demonstrated and helped students seine and identify fish in the Rio Grande. Discussion included RGSM monitoring in the Rio Grande and threatened and endangered fishes of New Mexico.
July	General Public	After the Smoke Clears: Fire Healing for Adults and Kids at Pajarito Environmental Education Center	The event was held for local residents to learn how the landscape recovers after fires. Staff set-up a stream table to demonstrate stream hydrology functions.
August	Tribal Community	Santa Ana Environmental Fair	Staff set-up a booth consisting of two 10-gallon aquariums with Rio Grande fishes (i.e. RGSM, red shiner, longnose dace, flathead chub), interactive activities, and hand outs (pamphlets and coloring books).

FY 2012 Proposed Activities

The NMFWCO staff continues to look for opportunities to participate in public outreach activities. In addition, NMFWCO intends to develop and implement the Native Fish in the Classroom project during FY 2012.

Technical Publications

The NMFWCO reported on a variety of station activities in technical agency reports and plans, symposium proceedings manuscripts, abstracts and presentations in technical meetings, individual trip reports, interagency meetings, and in media produced articles.

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Davenport, S. R., J.F. Mull and C. W. Hoagstrom. In press. Attempted consumption of a dangerous, riparian ant (Camponotus vicinus) by a threatened, fluvial minnow (Notropis simus pecosensis). Southwestern Naturalist.

Technical Reports

Davenport, S.R. 2011. Status and trends of Pecos bluntnose shiner Notropis simus pecosensis, Pecos River, New Mexico. Final Report to the U.S. Bureau of Reclamation. Contract # 04-AA402212

Davis, J.E., B.R. Duran, B.R., and E. Teller Sr. 2011. Nonnative species monitoring and control in the upper/middle San Juan River: 2011. Progress Report for the San Juan River Recovery Implementation Program. Final Report submitted to U.S. Fish and Wildlife Service, Albuquerque, NM.

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Remshardt, W.J. 2011. Rio Grande silvery minnow augmentation in the Middle Rio Grande, New Mexico. 2009 Annual Report submitted to U.S. Bureau of Reclamation, Albuquerque, NM. 51 pp.

Remshardt, W.J. and T.P. Archdeacon. 2011. Investigating the use of passive implantable transmitter tags on the Rio Grande silvery minnow (Hybognathus amarus): Phase II, Movement of PIT-tagged Rio Grande silvery minnow and use of Alameda fish passage structure. Annual Report submitted to U.S. Bureau of Reclamation, Albuquerque, NM. 23 pp.

Remshardt, W.J. and T.P. Archdeacon. 2011. Rio Grande silvery minnow rescue and salvage. 2010 Annual Report submitted to U.S. Bureau of Reclamation, Albuquerque, NM. 51 pp. (http://www.mrgesa.com/LinkClick.aspx?fileticket=pXe8X58Ke0s%3d&tabid=273&mid=679).

Technical Presentations at Meetings and Symposia

Brooks, J. E. U.S. Fish and Wildlife Service Update. Southwest Tribal Fisheries Commission, Quarterly Meeting, April 7, 2011, New Mexico Fish and Wildlife Conservation Office, Albuquerque, NM.

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Kitcheyan, D. C. U.S. Fish and Wildlife Service Update. Southwest Tribal Fisheries Commission, Quarterly Meeting, January 23, 2010, Bureau of Indian Affairs, Albuquerque, NM.

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Appendix B. FY 2011 Accomplishments

U.S. Fish & Wildlife Service

Fisheries Information System

FY 2011 Accomplishments

22330-A-005 - Restoration of Rio Grande Cutthroat Trout

Objective	Restore declining fish and other aquatic resource populations before they require listing under the Endangered Species Act.
Primary Benefited Species	Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)
Primary Benefited Population	Santa Clara Creek
Plans	Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Jicarilla Apache Nation Tribal Recreational Fisheries Management Plan for Santa Clara Pueblo
Keyword	Restoration
Partners	Bureau of Indian Affairs ($5000) Dexter National Fish Hatchery & Technology Center ($2000) Mescalero Apache Tribe ($15000) New Mexico Department of Game and Fish ($100000) Pueblo of Santa Clara ($10000) Southwest Tribal Fisheries Commission ($1000) Taos Pueblo ($100)

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	6

Accomplishment Summary

FY2011: Continued to provide technical assistance to Mescalero Apache Tribe, Jicarilla Apache, Santa Clara Pueblo, and Laguna Pueblo to asses fish populations, habitat, and discuss reintroduction efforts of RGCT. Seven streams, totaling approximately 45 miles were surveyed. Completed 2 fish passage crossings on Rio Paguate. Participated in 2 RGCT working group meetings and range-wide meeting in Montrose, Colorado. Participated with development of RGCT conservation strategy.

Description

The *importance* to the Resource:
Rio Grande cutthroat trout are one of only two native trouts in NM and also reflect the health status of high country stream watersheds in northern New Mexico.

The *problem*:
Hybridization with nonnative trout and habitat destruction due to grazing, logging, and home building all contribute to reduced range.

The *objective*:
The objective of this project is to both expand occupied range and to repopulate streams once holding native trout

The *method*:
Cooperative management efforts with tribes, states and other federal agencies used to implement conservation activities such as nonnative species removal, stocking with native trout, habitat improvement and protection.

Further description:
Rio Grande cutthroat are a popular recreational fish in New Mexico and southern Colorado. Active Federal Aid in Restoration programs with both states fund activities on public lands. FWS involvement has been in an advisory role and as mandated responsibilities for species listing. Recently, FWS has been petitioned to

Total number of miles of in-stream and shoreline habitat assessed	45
Number of miles re-opened to fish passage - FWMA	1.5
Total number of population assessments completed	7
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	10
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	10
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	10
Number of training session to support Tribal fish & wildlife conservation	4
Number of consultations conducted to support Tribal fish & wildlife conservation	6

list the Rio Grande cutthroat trout under the ESA. In 2008, another assessment was completed and found that the Rio Grande cutthroat trout warranted listing as endangered throughout all of its range due to the threat of habitat loss due to climate change but precluded by higher priority actions. The lack of involvement by FWS in on-the-ground management activities, particularly in coordinating activities on Tribal lands with public lands actions, has hindered coordinated efforts. This project will provide funding and personnel to provide a collaborative effort between Tribal and public land conservation activities, bring additional technical expertise from FWS to public lands activities, and increase on-the-ground conservation efforts.

Pictures

Caption: High Mountain Lake
Credit: Chris Kitcheyan, USFWS
Description: High mountain lake within the Willow Creek Drainage.

Caption: Rio Grande cutthroat trout
Credit: Chris Kitcheyan, USFWS
Description: Rio Grande cutthroat trout collected in Willow Creek

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Caption: Willow Creek

Credit: Chris Kitcheyan, USFWS
Description: Site for potential fish barrier on Willow Creek

330-A-047 - McCrystal Creek Watershed Restoration

Objective	Maintain diverse, self-sustaining fish and other aquatic resource populations.
Primary Benefited Species	Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)
Primary Benefited Population	South Ponil Creek [Candidate]
Plans	Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Jicarilla Apache Nation
Keyword	Fish Passage
Partners	Sierra Club($9000) Trout Unlimited($9000) Western Native Trout Initiative

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	2
Total number of miles of in-stream and shoreline habitat assessed	6
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	4
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	4
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	4

Accomplishment Summary

FY2011: NMFWCO met with personnel from Carson National Forest to discuss the restoration of McCrystal Creek watershed restoration. Complications from forest fires delayed on-site visits and evaluations including surface flow intermittence. Inter-agency agreement with the USFS was completed and restoration work scheduled to begin in FY 2012.

Description

The *importance* to the Resource:
Recent surveys have verified presence of RGCT and federal and state biologists have identified ways to improve instream conditions for fish on McCrystal Creek. Increased connectivity through removing barriers and increasing flows will increase population size of RGCT.

The *problem*:
A faulty U.S. Forest Service owned irrigation headgate leaks water before it is deliverd to a wildlife management area, two culverts impede fish movement, and erosion has caused the creek to leave its natural channel and flow down a road, decreasing instream habitat quality.

The *objective*:
The objective is to increase RGCT population size through instream renovation. Renovation of the upper Canadian River watershed within the Valle Vidal has increased RGCT population size in other streams through barrier removal and habitat restoration. McCrystal Creek's connection makes it ideal for continued restoration of the watershed.

The *method*:
The faulty irrigation headgate will be replaced, and less water will be diverted producing more stream flow in McCrystal. Culverts will be replaced with low water stream crossings and stream channel restoration will return flow to the natural channel. Increased dispersal, connectivity and stream discharge will act to

increase RGCT population size

Pictures

Caption: McCrystal Creek Headgate
Credit: USFWS
Description: Old headgate that will be replaced by fish passage compatible headgate.

Caption: McCrystal Creek Headgate
Credit: George Long (USFS)
Description: Dilapidated head gate on McCrystal Creek. McCrystal Creek suffering from long term drought early 2011

22330-A-043 - Rio Ruidoso Watershed Native Trout Restoration Project per WNTI management priorities.

Objective	Restore declining fish and other aquatic resource populations before they require listing under the Endangered Species Act.
Primary Benefited Species	Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)
Primary Benefited Population	Rio Grande Basin, NM-3
Plans	Tribal Recreational Fisheries Management Plan for Mescalero Apache Reservation Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Jicarilla Apache Nation

Accomplishment Summary
FY2011: Consulted with Mescalero Apache Tribe, BIA, USFS, NMSU to establish partnerships to restore 17 stream miles for Rio Grande cutthroat trout (RGCT) and re-open 10,000 acres of protected habitat; provided environmental education and training to Tribal YCC, develop policy recommendations to protect and enhance RGCT populations, and promote tribal cooperation and partnerships through WNIT. Collected 600 nonnative trout and tagged 300 trout to monitor movement. Fire restrictions prohibited further work.

Description
The *importance* to the Resource:
Rio Grande cutthroat trout is believed to have occupied Rio Ruidoso watershed for time immemorial. Identifying and protecting native trout populations on tribal lands from encroachment and hybridization of nonnative salmonids, and habitat degradation decreases potential listing under ESA and affecting the economic development on tribal lands.

Keyword Restoration

Partners Leadership Lincoln
Mescalero Apache Tribe($90000)
New Mexico Department of Game and Fish
New Mexico State University
Southwest Tribal Fisheries Commission
Trout Unlimited
Western Native Trout Initiative

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	7
Total number of miles of in-stream and shoreline habitat assessed	16
Total number of population assessments completed	7
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	5
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	5
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	5
Number of training session to support Tribal fish & wildlife conservation	7
Number of consultations conducted to support Tribal fish & wildlife conservation	4

The *problem*:
Habitat degradation and introduction of nonnative salmonids have reduced the distribution of Rio Grande cutthroat trout populations. Suspected pure populations of cutthroat trout populations are often confined to headwater streams but their genetic purity remains unknown.

The *objective*:
The objective of this proposal is to restore 16.0 miles of stream for Rio Grande cutthroat trout to the Middle Fork of Rio Ruidoso and monitor population dynamics over a 3-year duration.

The *method*:
Inventory South Fork, Middle Fork, and North Fork to asses fish community, fish habitat, and develop management actions. Potentially transport cutthroat trout to MTFH, and test for genetic purity. If necessary, eradicate nonnative and hybrid salmonids with piscicide and introduce Rio Grande cutthroat trout. Monitor population over a three year period.

Further description:
On the Middle Fork of the Rio rids, a waterfall barrier exists but modifications must be done to protect and secure a population of Rio Grande cutthroat trout from nonnative salmonid encroachment. Mescalero Apache Tribe plans to expand their conservation efforts to restore native cutthroat trout within the entire drainage. The genetic purity and population size of trout above the fish barrier has yet to be determined. In addition, the suitability of habitat to sustain a viable population must be determined. This stream reach occurs entirely within Mescalero Apache Indian Reservation boundaries. Mescalero Apache Tribe has collaborated with New Mexico State University to evaluate fish movement distribution. Approximately 300 fish have been floy tagged and follow up surveys are scheduled for the next year. NEPA compliance is being developed by Mescalero Apache Natural Resources Department and tribal council has endorsed the project but the approval of a tribal resolution is pending. Intra-Service Section 7 and pesticide use application have not been completed. However fire restrictions have prevented further work from being completed. This project satisfies the WNTI's goal of funding and implementing collaborative restoration efforts.

Pictures

Caption: South Fork on Mescalero Apache Tribe
Credit: Chris Kitcheyan, USFWS
Description: The uppermost site on the South Fork.

22330-A-045 - Middle Rio Grande Tribal Youth Conservation Corp (TYCC) activities along the Middle Rio Grande Reach

Objective	Recognize and promote the Service's distinct obligations toward Tribes within the Fisheries Program.
Primary Benefited Species	Rio Grande silvery minnow (*Hybognathus amarus*)
Primary Benefited Population	Middle Rio Grande Basin NM-2 [Endangered]
Plans	The Service's Native American Policy
Keyword	Tribal
Partners	Bureau of Indian Affairs Isleta Pueblo Sandia Pueblo Santa Ana Pueblo

Accomplishments
2011 performance measures

Number of habitat assessments completed (not acres)	6
Total number of miles of in-stream and shoreline habitat assessed	1
Number of miles re-opened to fish passage - FWMA	1.5
Total number of population assessments completed	4
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	3
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	3

Accomplishment Summary
FY2011: Six Tribal YCC were employed from June 6 through August 5, 2011. Tribal YCC worked on Pueblo of Isleta, Pueblo of Santa Ana, and Pueblo of Sandia on various environmental projects. Projects included fencing project, landscaping, aquatic vegetation removal, radio-tracking, fish sampling techniques, bosque vegetation removal, planting trees and grasses, and fish passage project on Rio Paguate. Tribal YCC were informed of Pueblo culture and Pueblo management of natural resources.

Description
The *importance* to the Resource:
Educating Native American youth is not only important to the mission of FWS but important to Tribal leaders and elders. Through implementation of a Tribal YCC program, Native American youth will be exposed to resource conservation and management on Tribal lands along Rio Grande reach and receive hands-on work experience and education.
The *problem*:
As urbanization continues, the Native American youth of today are often not exposed to Mother-Earth and her surroundings. The lack of connection with the outdoors may directly influence resource managers ability to conduct necessary conservation actions due to a perceived lack of interest, knowledge, and/or leverage.
The *objective*:
The objective of this program is to expose Native American youth to ongoing resource

Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	3
Number of activities conducted to support the management and control of aquatic invasive species (Fisheries)	4
Number of activities conducted to support the management and control of aquatic invasive species (FWMA)	4
Number of training session to support Tribal fish & wildlife conservation	12
Number of consultations conducted to support Tribal fish & wildlife conservation	8

conservation issues on three different Pueblos within the Middle Rio Grande Reach. Through this program, individuals will gain important skills and knowledge related to resource conservation, management, and education.

The *method*:

Consult and coordinate with Natural Resources Departments on Isleta Pueblo, Sandia Pueblo, and Santa Ana Pueblo to develop work projects and expose youth to different management techniques utilized on each Pueblo. Recruit and employ six Native American youth to fulfill the proposed work projects proposed by each Pueblo over an 8-week period.

Further description:

Over a 8-week duration, 6 Native American youth (3 from Santa Ana Pueblo, 1 from Isleta Pueblo, and 2 from Navajo Nation) worked on the Pueblo of Sandia, Pueblo of Santa Ana, and Pueblo of Isleta worked on various projects on each Pueblo. Such projects included landscaping, radio tracking, fish sampling, fencing project for the benefit of wildlife, water quality, and planting trees in the bosque. In addition, students spent an hour a day learning about the purpose of their tasks and goals for each project they worked. The youth were informed about Pueblo cultures and the significance of natural resources to each Pueblo.

Pictures

Caption: Middle Rio Grande TYCC Enrollee's
Credit: Chris Kitcheyan, USFWS
Description: Four enrolles who participated in the Middle Rio Grande TYCC program (2 students from Isleta Pueblo and 2 from Santa Ana Pueblo).

Caption: Middle Rio Grande TYCC enrollees seining for minnows

Credit: Chris Kitcheyan, USFWS
Description: Middle Rio Grande TYCC enrollees seining for Rio Grande silvery on the Rio Grande.

Caption: Middle Rio Grande TYCC enrollees visiting the eagle avairy
Credit: Chris Kitcheyan, USFWS
Description: TYCC enrollees looking at the bald and golden eagles at the Zuni Avairy.

22330-A-006 - Development of Fishery Management Plans on Native American Reservations in New Mexico

Objective	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.
Primary Benefited Species	Rainbow, Steelhead, Redband trout (*Oncorhynchus mykiss*)
Primary Benefited Population	Not specified
Plans	Tribal Recreational Fisheries Management Plan for Nambe Pueblo Tribal Fisheries Management Plan for Pueblo of Laguna Tribal Recreational Fisheries Management Plan for Santa Clara Pueblo
Keyword	Tribal
Partners	Bureau of Indian Affairs ($1000) Jicarilla Apache Nation($5000) Mescalero Apache Tribe Ohkay Owingeh (formerly San Juan Pueblo)($1000) Pueblo of Laguna($1000) Pueblo of Nambe($1000) Pueblo of Santa Clara($2000)

Accomplishment Summary
FY2011: Consulted with 5 remaining New Mexico Tribes/Pueblos individually and during 3 Southwest Tribal Fisheries Commission meeting about updating tribal fisheries management plans (FMP). Completed and finalized FMPs for Ohkay Owingeh and Jicarilla Apache Nation completed FMP. Draft FMP was being developed for Nambe Pueblo but put on hold due to 2011 Pacheco Fire.

Description
The *importance* to the Resource:
Effective use of FWS hatchery fish and protection of tribal resources ensure conservation of all resources
The *problem*:
Maintenance of quality recreational angling programs and protection of rare native species can often conflict with one another
The *objective*:
The objective of this project is, through planning, to ensure that consumptive and non-consumptive uses alike are protected
The *method*:
Planning
Further description:
This project will improve fishery management on Native American reservations and pueblos in New Mexico by identifying goals/ objectives for tribal fishery programs. Thousands of acres of land and miles of stream occur on reservations in New Mexico, and these lands

Pueblo of Zuni
Sandia Pueblo($1000)
Southwest Tribal Fisheries Commission($100)

Accomplishments

2011 performance measures

Total number of population assessments completed	6
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	3
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	3
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	3
Number of risk assessments conducted to evaluate potentially invasive aquatic species - annual	1
Number of training session to support Tribal fish & wildlife conservation	2
Number of consultations conducted to support Tribal fish & wildlife conservation	6

contain valuable habitat for native fish as well as providing substantial economic benefits to tribes and also surrounding communities off the reservations through angling. Execution of the project will entail working will with the tribes to update and/or develop fishery management plans to identify short and long-term goals directing fishery management in a more consistent, efficient, and beneficial manner. Coordination meetings will be conducted between the USFWS and tribes to identify goals for the fishery program and to identify areas of concern. Plans will then be developed by the USFWS in conjunction with the tribes and other adjacent land owners/managers (e.g., US Forest Service). Evaluation of hatchery products relative to specific objectives and goals as outlined in management plans and the Region 2 Stocking Policy will be emphasized.

22330-A-048 - NFPP - Regional support for engineering and technical assistance

Objective Expand the use of Fisheries Program expertise to avoid, minimize, or mitigate impacts of habitat alteration on fish and other aquatic species.

Primary Benefited Species Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)

Primary Benefited Population Rio Grande Basin, NM-3

Plans Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Jicarilla

Accomplishment Summary

FY2011: FARC - Region 2 provided NMFWCO with $25,000 for engineering and technical support associated with priority fish passage projects. Funds were provided to R2 Division of Engineering (DOE) for assistance specific to the Pickering Ditch fish passage project. Engineering plans and drawings were completed and provided by DOE to NMFWCO and cooperating partners.

Description

The *importance* to the Resource:
Funds will be spent providing technical engineering support to multiple National Fish Passage Program projects in New Mexico.

The *problem*:
Lack of engineering technical support has delayed implementation of NFPP projects. Most contractors have experience in other fields, and providing technical expertise to them on fish passage design will increase NFPP

	Apache Nation 2006 Fish Passage Implementation Plan (obsolete after 2006)
Keyword	Fish Passage

Accomplishments
2011 performance measures
This project has not yet specified any performance measures this fiscal year

implementation time.
The *objective*:
The objective of providing these funds is to build technical expertise within the engineering department of USFWS Region 2 in fish passage design and construction, which will hasten the completion of NFPP in New Mexico.
The *method*:
Region 2 engineering department has provided construction designs and plans for at least one fish passage project in New Mexico to date. They were able to work directly with the contractor, and these designs will be used to construct the fish passage way

22330-A-046 - NFPP: Fish passage on Costilla Creek drainage, Valle Vidal, New Mexico

Objective	Restore declining fish and other aquatic resource populations before they require listing under the Endangered Species Act.
Primary Benefited Species	Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)
Primary Benefited Population	Costilla Creek
Plans	Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Jicarilla Apache Nation
Keyword	Fish Passage
Partners	New Mexico Department of Game and Fish Quivira Coalition($8500) Trout Unlimited($9000) Turner Enterprises, Inc. U. S. Forest Service

Accomplishments
2011 performance measures

Number of habitat assessments completed (not acres)	1

Accomplishment Summary
FY2011: Two site visits were completed during FY 2011 to identify specific wetlands for restoration efforts. Several sites were identified at the confluence of montane tributaries where wetlands are currently degraded. NMFWCO met with the Quivera Coalition to discuss contracting requirements. Project is scheduled for completion during FY 2012.

Description
The *importance* to the Resource:
A pure population of Rio Grande Cutthroat trout and other native fish will have access to an additional 3.5 miles of stream habitat.
The *problem*:
Culverts block upstream access by either completly resticting flow or are perched so that fish movement can occur only at substantially high flows.
The *objective*:
Improve status of pure population of Rio Grande cutthroat trout in Costilla Creek, by increasing length of occupied stream
The *method*:
Reconfiguring or removing culverts at road crossings.
Further description:
This project is in conjunction with ongoing native fish renovation in the Costilla Creek watershed.

Total number of miles of in-stream and shoreline habitat assessed	5
Number of wetland acreas restored/enhanced	5

Pictures

Caption: Comanche Creek
Credit: USFWS
Description: Degraded reach of Comanche Creek prone to seasonal drying

22330-A-012 - Pecos bluntnose shiner conservation

Objective Recover fish and other aquatic resource populations protected under the Endangered Species Act.

Primary Benefited Species Bluntnose shiner (*Notropis simus*)

Primary Benefited Population Not specified

Plans Pecos Bluntnose Shiner Recovery Plan

Keyword Monitoring and Assessment

Partners
Bitter Lake National Wildlife Refuge
Bureau of Land Management
Carlsbad Irrigation District
New Mexico Department of Game and Fish
New Mexico Interstate Stream Commission
U.S. Army Corps of Engineers
U.S. Bureau of Reclamation

Accomplishments

2011 performance measures

Total number of miles of in-stream and shoreline habitat assessed	281
Total number of population assessments completed	12
Number of Recovery Plan tasks implemented by the Fisheries Program-F	8

Accomplishment Summary

FY2011: In 2011, Pecos bluntnose shiner population monitoring was conducted monthly at 14 sites as directed by current 10 year Biological Opinion. Status and trends data for Pecos bluntnose shiner was provided to multiple agencies. Activities included data management and analysis, specimen processing and curation, and dispersal of electronic data files to cooperators. Pecos bluntnose shiner status and trends was presented to the funding agency: U.S. Bureau of Reclamation, Albuquerque Area Office.

Description

The *importance* to the Resource:
Pecos bluntnose shiner status is a reflection of river health to people. Pecos River fish community monitoring provides status of endemic fish.

The *problem*:
Habitat fragmentation and desiccation caused by water development for human uses

The *objective*:
The objective of this project is to monitor Pecos River fish population status relative to federal reservoir operations.

The *method*:
Standardized, long term fish community monitoring

Further description:
The Pecos River is heavily impacted by water management to satisfy agricultural, interstate compact deliveries and flood control purposes. Provision of current population data for Pecos

Number of Recovery Plan tasks implemented by the Fisheries Program-H	8
Number of Recovery Plan tasks implemented by the Fisheries Program-W	8
Number of risk assessments conducted to evaluate potentially invasive aquatic species - annual	2
Number of surveys conducted for aquatic invasive species baseline/trend information for aquatic invasive species	2
Number of acres of wetland habitat assessed	60
Number of instream miles enhanced	1.5

bluntnose shiner is critical to planning efforts for consumptive demands and satisfaction of NEPA requirements for coordinating species protection and resource use. The objective of this project is to provide current data on Pecos bluntnose shiner population status. Intensive seining 6 times per year at 15 sites employed. 12-15 sites are monitored by seining. Specimens are preserved for lab identification, and curated at University of New Mexico Collection of Fishes.

Pictures

Caption: Block net to separate fish from habitat improvement project at Bitter Lake National Wildlife Refuge
Credit: Steve Davenport, USFWS
Description: Block net deployed during habitat improvement project at BLNWR that reconnected an abandoned oxbow, thereby increasing habitat complexity.

Caption: Brantley Dam, Pecos River, Eddy Co., NM
Credit: Jim Brooks, USFWS
Description: Lower reservoir control dam to satisfy Pecos River Compact entitlements and store/deliver irrigation water.

Caption: Pecos bluntnose shiner
Credit: Stephen Davenport, USFWS
Description: Adult Pecos bluntnose shiner, Pecos River New Mexico

Caption: Sallee Ranch Sampling Site, Pecos River
Credit: Jim Brooks, USFWS
Description: Complex habitat in farmlands reach on the Pecos River, Chaves Co., east of Dexter, NM.

22330-A-001 - Gila trout recovery

Objective	Recover fish and other aquatic resource populations protected under the Endangered Species Act.
Primary Benefited Species	Gila trout (*Oncorhynchus gilae*)
Primary Benefited Population	Gila trout - Big Dry Creek [Threatened]
Plans	Gila Trout Recovery Plan
Keyword	Recovery
Partners	New Mexico Department of Game and Fish($75000) Trout Unlimited($5000) University of New Mexico ($10000) U. S. Forest Service($75000)

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	9
Total number of miles of in-stream and shoreline habitat assessed	20
Total number of population assessments completed	7
Number of Recovery Plan tasks implemented by the Fisheries Program-F	11
Number of Recovery Plan tasks implemented by the Fisheries Program-H	11
Number of Recovery Plan tasks implemented by the Fisheries Program-W	11

Accomplishment Summary

FY2011: Gila trout recovery activities focused on monitoring existing Gila trout populations, mechanically removing nonnative fish species from occupied streams & future renovations, collecting baseline information on aquatic macroinvertebrate communities, assisting with Mora NFH's Gila trout spawn, stocking/ augmenting recovery & recreational Gila trout populations, stocking/participating in the 3rd annual Aldo Leopold Kids Fishing Derby & hosting the annual Gila Trout Recovery Team Meeting.

Description

The *importance* to the Resource:
Native trout management in Gila Wilderness. Only species of trout native to the upper Gila River Basin.
The *problem*:
Reduced distribution due to historical stocking, expansion of nonnative trouts and wildfire impacts to occupied streams
The *objective*:
The objective of this project is to restore Gila trout to streams that have been treated to remove nonnative trouts and to streams where populations were eliminated by post-wildfire impacts
The *method*:
Streams are selected that have physical barriers to upstream movement of nonnative trout, piscicide is applied to stream if nonnatives are present, fish propagated at Mora NFHTC or wild fish translocated are used to repopulate recovery streams; wildfire impacts are monitored and fish restocked when stream recovery is adequate to support trout

Number of activities conducted to support the management and control of aquatic invasive species (Fisheries)	6
Number of activities conducted to support the management and control of aquatic invasive species (FWMA)	6
Number of surveys conducted for aquatic invasive species baseline/trend information for aquatic invasive species	5
Number of invasive species partnerships established and maintained	3
Number of Fishing activities and/or events targeting children only	1

Further description:
Gila trout are reduced to a small fragment of their historical range. Impacts associated with the introduction and establishment of nonnative salmonid species is the primary concern. This project will assist in recovery of Gila trout through expansion of range. The objective of this project is to increase the distribution of Gila trout within the Gila River Basin and to eliminate sportfish recreational programs that rely upon nonnative salmonids. Recovery streams were selected that were within historical range and had physical barriers present. Piscicide is applied to these streams to remove nonnative salmonids. Captively propagated Gila trout are introduced after successful elimination of nonnatives. Field collection of wild Gila trout are conducted to provide for genetic broodstock management guidelines. NMFWCO completes detailed assessments of the environmental impacts of potential projects in a Intra-Service Section 7 Evaluation Form and also a Pesticide Use Proposal. NMESFO completed a Biological Opinion allowing the projects to proceed. In cooperation with Mora NFH, NMFWCO stocked/assisted the USFS.-Mimbres Ranger District with the 3rd annual Aldo Leopold Kids Fishing Derby on June 4th 2011 held at Lake Roberts.

Pictures

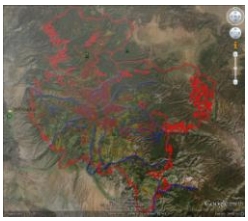
Caption: 3rd Annual Aldo Leopold Kid's Fishing Derby Awards Ceremony
Credit: Angela Carrillo - USFWS
Description: NMFWCO project leader Jim Brooks awarding prizes to the winners of the 3rd Annual Aldo Leopold Kid's Fishing Derby

Caption: Barrier on lower Langstroth Creek
Credit: Jim Brooks, USFWS
Description: Above this barrier resides the

replicate population for Whiskey Creek lineage.

Caption: Gila Trout
Credit: Dustin Myers USFWS
Description: Gila trout in Little Creek

Caption: Net full of Spruce Creek Gila Trout
Credit: Jim Brooks, USFS
Description: A net full of Gila trout collected in Spruce Creek and destined for transplant to Ash Creek in Arizona and broodstock development at Mora NFH.



Caption: Perimeter of Whitewater-Baldy Fire and stream locations.
Credit: Jerry Monzingo, USFS
Description: This satellite photo shows the total fire perimeter and streams either occupied by or planned for recovery of Gila trout.

Caption: Father and son with 17" Gila trout caught during the Aldo Leopold Kid's Fishing Derby
Credit: Dustin Myers USWFS
Description: Gila trout caught during the 3rd Annual Aldo Leopold Kids Fishing Derby.

Caption: Whiskey Creek Evacuation collections
Credit: Jim Brooks, USFWS
Description: Collecting Gila trout in severely burned Whiskey Creek for evacuation to holding facilities at NMFWCO.

22330-A-004 - Rio Grande Silvery Minnow Recovery

Objective	Recover fish and other aquatic resource populations protected under the Endangered Species Act.
Primary Benefited Species	Rio Grande silvery minnow (*Hybognathus amarus*)
Primary Benefited Population	Middle Rio Grande Basin NM-2 [Endangered]
Plans	Rio Grande silvery minnow Genetics Management and Propagation Plan Rio Grande silvery minnow Augmentation Plan Rio Grande silvery minnow - Big Bend Implementation and Monitoring Plan Rio Grande Silvery Minnow Recovery Plan
Keyword	Recovery
Partners	Albuquerque-Bernalillo County Water Utility Authority Big Bend National Park Service Bosque del Apache National Wildlife Refuge City of Albuquerque Dexter Fish Health Unit Dexter National Fish Hatchery & Technology Center Isleta Pueblo($5000) New Mexico Department of Game and Fish New Mexico Interstate Stream Commission Sandia Pueblo

Accomplishment Summary
FY2011: Stocked 139,746 Rio Grande silvery minnow into Middle Rio Grande, New Mexico (November 2010). Conducted monthly monitoring at 7 sites within Pueblo boundaries to collect information on survival, movement, and habitat use. Released 488,444 fish into Big Bend, Texas (October 2010) for reintroduction. Conducted salvage on 38 miles of dry river. Conducted egg monitoring in irrigation systems. Released 6,557 PIT tagged fish to monitor fish passage. Continued pre-operation tests for RGSM Sanctuary.

Description
The *importance* to the Resource:
Rio Grande silvery minnow status reflects the health of the middle Rio Grande, a resource relied upon by many people
The *problem*:
Rio Grande silvery minnow are endangered by habitat dessication and fragmentation which is the result of intensive water management and other human impacts.

The *objective*:
The objective of this project is to support maintenance of the wild population until water management activities are no longer in conflict with natural resources conservation
The *method*:
Intensive research and monitoring is conducted to provide data on successful methods for stocking fish, fate of stocked fish, habitat use patterns, and identify remediation activities. Salvage activities are implemented to alleviate the effects of river drying.
Further description:

Texas Parks and Wildlife Department
University of New Mexico
U.S. Army Corps of Engineers
U.S. Bureau of Reclamation

Accomplishments

2011 performance measures

Total number of miles of in-stream and shoreline habitat assessed	370
Total number of population assessments completed	2
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	9
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	9
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	9
Number of Recovery Plan tasks implemented by the Fisheries Program-F	7
Number of Recovery Plan tasks implemented by the Fisheries Program-H	7
Number of Recovery Plan tasks implemented by the Fisheries Program-W	7
Number of training session to support Tribal fish & wildlife conservation	1
Number of consultations conducted to support Tribal fish & wildlife conservation	2
Number of School Tour activities and/or events targeting adults only	1
Number of School Tour activities and/or events for adults and children	1

Rio Grande silvery minnow are threatened with extirpation by water management practices. Propagation efforts are required actions to prevent extinction. Intensive field surveys by seine and passive egg monitoring were conducted by the New Mexico Fish and Wildlife Conservation Office and its partners. Captive propagation is conducted at Dexter NFH&TC and the City of Albuquerque's BioPark. The primary objective of this project is to support the population of Rio Grande silvery minnow in all three sub-reaches of the Middle Rio Grande, New Mexico and reintroduced population in Big Bend. Propagated fish are released under varying conditions, batches individually marked, and post-stocking monitoring conducted to determine successful methods, dispersal patterns, and habitats occupied.

Pictures

Caption: Augmentation Program Milestone
Credit: Jason Remshardt, USFWS
Description: Senator Pete Dominici, Congresswoman Heather Wilson and Congressman Tom Udall take part in the release the 1,000,000th Rio Grande silvery minnow into the Rio Grande near Albuquerque, New Mexico.

Caption: Big Bend Reintroduction
Credit: Aimee Roberson, USFWS
Description: Biologists and volunteers release Rio Grande silvery minnow in Big Bend National Park, Texas.

Caption: Interior Secretary Salazar attending

Big Bend release of Rio Grande silvery minnow
Credit: USFWS
Description: Interior Secretary Ken Salazar, along with partner Robert Edwards, University of Texas-Pan American and Jason Remshardt, NMFWCO at the 2011 release of Rio Grande silvery minnow to the Rio Grande. Location: Big Bend National Park

Caption:
Rio Grande Silvery Minnow monitoring
Credit:
Jason Remshardt, USFWS
Description:
New Mexico Fishery Resources Office biologists sorting monitoring for released Rio Grande silvery minnow

22330-A-037 - Restoration of Rio Grande Cutthroat trout in the headwaters of Santa Clara Creek per WNTI priorities

Objective	Maintain diverse, self-sustaining fish and other aquatic resource populations.
Primary Benefited Species	Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)
Primary Benefited Population	Rio Grande Basin, NM-3
Plans	Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, Jicarilla Apache Nation Tribal Recreational Fisheries Management Plan for Santa Clara Pueblo
Keyword	Native Species

Accomplishment Summary
FY2011: In October 2010, five miles of Santa Clara Creek was chemically treated with rotenone. Two electrofishing surveys were conducted after stream renovation in October 2010 and May 2011, no fish were presence. Spillway renovation at pond #4 was scheduled to begin in June 2011. Santa Clara Pueblo and New Mexico Department of Game and Fish signed MOU specifying the number of RGCT donated to the Pueblo. In June 2011 Conchas Fire impacted the entire headwaters and halted all field work.

Description
The *importance* to the Resource:
Rio Grande cutthroat trout have inhabited Santa Clara Creek for time immemorial. The species is religiously and culturally significant to the Pueblo. Securing populations of Rio Grande cutthroat trout and protecting them from nonnative salmonids and habitat degradation decreases the likelihood of listing under ESA and affecting Pueblo lifestyle.

Partners Bureau of Indian Affairs ($5000)
Jicarilla Apache Nation($1000)
New Mexico Department of Game and Fish($1000)
Pueblo of Santa Clara($5000)
Southwest Tribal Fisheries Commission
Trout Unlimited

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	6
Total number of miles of in-stream and shoreline habitat assessed	5
Total number of in-stream/shoreline miles restored in U.S.	5
Total number of population assessments completed	6
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	6
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	6
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	6
Number of training session to support Tribal fish & wildlife conservation	6
Number of consultations conducted to support Tribal fish & wildlife conservation	6

The *problem*:
Establishment and maintenance of a nonnative salmonid recreational angling program has eliminated Rio Grande cutthroat trout throughout most of its historical range in Santa Clara Creek.

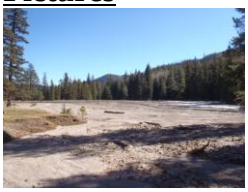
The *objective*:
This project would provide for an additional 5 miles of stream habitat for Rio Grande Cutthroat trout if nonnative and hybrid salmonids are removed. In addition, the project would also allow the establishment of a native trout recreational fisheries in pond #4 and the headwater streams in the Santa Clara Creek Drainage.

The *method*:
Spillway structure at pond #4 Barrier construction will prevent future hybridization. Stream habitats will be treated with piscicide to remove nonnative salmonids, and pure Rio Grande cutthroat trout introduced after treatment completion. Rio Grande cutthroat trout were to be collected by New Mexcio Department of Game and Fish from a donor stream.

Further description:
Santa Clara Creek occurs entirely on Santa Clara Pueblo and the tribal council has endorsed restoration of native cutthroat trout. This project satisfies the WNTI Joint Venture's goal of building, funding, and implementing collaborative conservation efforts. This is consistent with the Service's Fisheries Program Vision for the Future and the Native American Policy of FWS. The objective of this project is to mesh native species conservation with tribal recreational angling. Genetic analysis concluded the Santa Clara Creek population was hybridized with rainbow trout. Santa Clara Pueblo and NMDGF developed and signed a MOU outlining tasks and numbers of fish to be donated to the Pueblo. Headwaters of the Santa Clara Creek Drainage were chemically treated with rotenone to remove all non-native trout. Follow-up surveys conducted twice after chemical treatment revealed no fish in the headwaters. Unfortunately 2011 Conchas Fire impacted the entire Santa Clara Creek Drainage. Headwaters were burned and post-fire flooding deposited large amounts sediment and ash into all four ponds. All restoration

efforts such construction of the spillway structure and the introduction RGCT have ceased until further notice.

Pictures



Caption: Pond #3 filled with Sediment
Credit: Chris Kitcheyan - USFWS
Description: Pond #3 filled with large amounts of sediment, rock and debris during Las Conchas post-fire floodings.

Caption: Spillway at Pond #4
Credit: Chris Kitcheyan - USFWS
Description: Post-fire flooding eroded and altered the spillway at Pond #4.

22330-A-042 - Renovation of Barrier to Protect RG Cutthroat Trout in Tio Grande Creek per WNTI Priorities

Objective	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.
Primary Benefited Species	Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)
Primary Benefited Population	Rio Grande Basin, NM-3
Plans	Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout among Colorado Division of Wildlife, New Mexico Department of Game and Fish, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau

Accomplishment Summary
FY2011: Preliminary engineering designs completed for Tanques Creek. Decision made to add the engineering design and construction to a companion project on Tio Grande. Work scheduled to be completed during FY 2012.

Description
The *importance* to the Resource:
Without continued efforts to conserve Rio Grande cutthroat trout, threats posed by nonnative species and habitat degradation may place this species in jeopardy; Rio Grande cutthroat trout is a candidate species under ESA.
The *problem*:
Historical fisheries management programs have emphasized use of nonnative salmonids to the detriment of natives through hybridization, predation, and competition impacts. In addition, land use practices by public agency and private landowners have contributed to habitat degradation.

	of Land Management, Jicarilla Apache Nation
Keyword	Fish Passage
Partners	New Mexico Department of Game and Fish($5000) Trout Unlimited U. S. Forest Service($5000)

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	2
Total number of miles of in-stream and shoreline habitat assessed	3
Total number of population assessments completed	1
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	3
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	3
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	3

The *objective*:
This project would replace a dilapidated barrier in Tio Grande Creek with a permanent structure and increase security of a core conservation population of Rio Grande cutthroat trout.

The *method*:
The existing barrier will be removed and a permanent structure installed. If existing barrier is not replaced, non-native trout will obtain access to currently occupied habitat. This barrier will help to protect a core conservation population of Rio Grande cutthroat trout to be used as a donor population for population expansion projects.

Further description:
The Tio Grande Creek watershed is predominantly owned by Carson National Forest. Tio Grande contains a small, isolated population of Rio Grande cutthroat trout that is vital to range-wide recovery efforts. Protection of this habitat from non-native trout encroachment has been identified as a priority by project partners. All environmental compliance to construct the original barrier is complete. Additional environmental compliance and archaeological permits are expected to be obtained in 2009. Additional support to cooperators is required to ensure timely completion of the project which satisfies WNTI's goal of supporting collaborative conservation efforts.

22330-A-011 - Nonnative Species Control and Monitoring on the San Juan River

Objective	Recover fish and other aquatic resource populations protected under the Endangered Species Act.
Primary Benefited Species	Colorado pikeminnow (*Ptychocheilus lucius*)
Primary Benefited Population	San Juan River Basin NM-2 [Endangered]
Plans	San Juan River Basin Recovery Implementation Program Long-range Plan Razorback Sucker Recovery Plan

Accomplishment Summary
FY2011: Multiple-pass electrofishing resulted in the removal of over 12,000 nonnative channel catfish and common carp from 113 river miles of the San Juan River occupied by the federally listed Colorado pikeminnow and razorback sucker. In addition, these efforts have resulted in the recapture of over 1,000 Colorado pikeminnow and 1,500 razorback sucker in 2011. NFWCO was the lead agency for the stocking of these endangered fishes under the guidance of the SJRIP.

Description

The *importance* to the Resource:
Establishment on nonnative fish have been

	Colorado pikeminnow recovery goals, Amendment and supplement to the Colorado squawfish Recovery Plan
Keyword	Nonindigenous
Partners	American Southwest Ichthyological Reseachers, L.L.C. Bureau of Indian Affairs ($10000) Dexter National Fish Hatchery & Technology Center Ecological Services Mr. and Mrs. Buck Wheeler; Hogback, NM Navajo Nation Department of Fish and Wildlife($2000) New Mexico Department of Game and Fish U.S. Bureau of Reclamation Utah Division of Wildlife Resources Uvalde National Fish Hatchery

Accomplishments

2011 performance measures

Total number of population assessments completed	21
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	7
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	7
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	7
Number of Recovery Plan tasks implemented by the Fisheries Program-F	2
Number of Recovery Plan tasks implemented by the Fisheries Program-H	2
Number of Recovery Plan tasks implemented by the Fisheries Program-W	2
Number of activities conducted to support the management and control of aquatic invasive species (Fisheries)	9

recognized as one factor in the decline of native fishes.

The *problem*:

Channel catfish and common carp in the San Juan River may affect native aquatic communities through trophic interactions (direct predation, competition for resources), spatial interactions and through habitat alteration.

The *objective*:

Evaluate distribution and abundance patterns of nonnative fishes to determine effects of mechanical removal on native fishes.

The *method*:

Multi-pass raft mounted electrofishing

Further description:

Nonnative species have been introduced into the San Juan River basin for a variety of reasons related primarily to sport fishing. Control of nonnatives is identified as a major component to endangered species recovery for Colorado River fishes. The objective of this project is to reduce the abundance of nonnative species, thereby reducing negative interactions with native species. Nonnative species were removed from San Juan River habitats by raft-mounted electrofishing.

In addition to nonnative fish removal, NMFWCO recently acquired full responsibility for all augmentation efforts related to Colorado pikeminnow and razorback sucker. With the assistance of partners, NMFWCO annually stocks 400, 00 age-0 Colorado pikeminnow and 12,000 razorback sucker. Various stocking methodologies including acclimatization of fish to a variety of conditions (i.e. river flow, temperatures, settling of blood chemistry post transport) are being utilized in an attempt to increase retention of stocked fish.

Pictures

Caption: Channel catfish
Credit: USFWS
Description: Large predatory channel catfish removed during nonnative fish removal trip on

Number of activities conducted to support the management and control of aquatic invasive species (FWMA)	9
Number of surveys conducted for aquatic invasive species baseline/trend information for aquatic invasive species	9
Number of Drop In activities and/or events for adults and children	5

the San Juan River

Caption: Colorado pikeminnow
Credit: USFWS
Description: The 4th largest Colorado pikeminnow collected on the San Juan River since 1996.

Caption: Colorado pikeminnow with channel catfish lodged in mouth
Credit: D. Weston Furr, USFWS
Description: Example of negative interactions between nonnative channel catfish and native Colorado pikeminnow, San Juan River.

Caption: Colorado pikeminnow with channel catfish lodged in mouth
Credit: Jason E. Davis, USFWS
Description: Age 1 Colorado pikeminnow with juvenile channel catfish lodged in mouth. Channel catifsh was removed and Colorado pikeminnow released alive.

Caption: Processing fish collected during nonnative fish removal on the San Juan River
Credit: USFWS
Description: Standard setup for processing both nonnative and native fishes collected during nonnative fish removal project on the San Juan River, NM.

Caption: razorback sucker
Credit: USFWS
Description: NMFWCO biologist with an adult razorback sucker collected on the San Juan River

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Caption: Recaptured channel catfish
Credit: USFWS
Description: Recaptured channel catfish. Channel catfish are tagged with anchor tags for population estimation and determination of exploitation rates

22330-A-038 - NFPP training and collaboration workshops for partners and stakeholders in New Mexico.

Objective	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.
Primary Benefited Species	Cutthroat trout (*Oncorhynchus clarkii*)
Primary Benefited Population	Cutthroat trout
Plans	2006 Fish Passage Implementation Plan (obsolete after 2006)
Keyword	Fish Passage
Partners	Jicarilla Apache Nation($500) Mescalero Apache Tribe($500) New Mexico Department of Game and Fish($500) Pueblo of Laguna($500) Pueblo of Nambe($500)

Accomplishment Summary
FY2011: Information on the National Fish Passage program was made available to multiple partners in 2011. An informational presentation was presented to the Native American Fish and Wildlife Society in July, and we contacted multiple non-tribal partners in federal and state agencies. We also provided information to one private landowner.

Description
The *importance* to the Resource:
To provide training and information on the National Fish Passage Program to USFWS partners, especially Native American Tribes, agencies or private landowners that do not have knowledge of the program
The *problem*:
Many Native American Tribes and other USFWS partners did not have adequate knowledge of NFPP to develop projects on their property.
The *objective*:
Identify partners within New Mexico that have high priority for NFPP projects. These partners were selected because their properties had

Pueblo of Santa Clara($500)
Pueblo of Zuni($500)
Rio Grande Pueblos($500)
Trout Unlimited
Turner Enterprises, Inc.
U. S. Forest Service($2500)

Accomplishments

2011 performance measures

Number of consultations conducted to support Tribal fish & wildlife conservation	2

barriers to fish passage that could be removed.

The *method*:

We will hold meetings with focal groups to develop partners to address fish passage projects. These meetings will be held for focal groups, who will be provided information on the NFPP, so they can develop projects to remove barriers to fish passage.

22330-A-022 - Recreational Fisheries Management and Technical Assistance to Tribes

Objective Provide support to States, Tribes, and other partners to identify and meet shared or complementary recreational fishing and aquatic education and outreach objectives.

Primary Benefited Species Rainbow, Steelhead, Redband trout (*Oncorhynchus mykiss*)

Primary Benefited Population Not specified

Plans
Tribal Recreational Fisheries Management Plan for Mescalero Apache Reservation
Tribal Fisheries Management Plan for Pueblo of Laguna
Tribal Fisheries Management Plan for Sandia Pueblo
Tribal Recreational Fisheries Management Plan for Santa Clara Pueblo
Tribal Recreational Fisheries Management Plan for Nambe Pueblo

Keyword Tribal

Partners
Acoma Pueblo($1000)
Alchesay and Williams Creek NFH Complex($5000)
Bureau of Indian Affairs ($1000)
Dexter Fish Health Unit($100)
Ecological Services
Inks Dam National Fish Hatchery($5000)
Jicarilla Apache Nation($1000)
Mescalero Apache Tribe($1000)

Accomplishment Summary

FY2011: Provided technical assistance to 11 tribes; completed 2 draft FMPs and finalized 1 FMP. Conducted 11 lake surveys on 4 reservations. Inspected 4 hatchery loads for non-target organisms. Participated in 2 Native American youth programs to demonstrate sampling techniques. Completed 1 fish passage project. Participated in 4 SWTFC meetings and gave 3 presentations at SW NAFWS conference. Supervised 3 Tribal YCC programs at Santa Clara Pueblo, Middle Rio Grande, and Mescalero.

Description

The *importance* to the Resource:

Insure the integrity and quality of tribal recreational programs without impacting native fish communities.

The *problem*:

Accidental stocking of non-target fish may impact the presence and abundance of native fish as well the tribal recreational fish program.

The *objective*:

Provide recreational angling opportunities and guidance to tribes, while avoiding impacts to native species.

The *method*:

Conduct fall and spring surveys to evaluate the fish community and in conjunction conduct creel surveys to evaluate angler pressure and catch and harvest rates to estimate projected stocking numbers of fish. Continue to inspect hatchery trucks for the presence of non-target fish and initiate removal efforts to eradicate non-target fish.

Further description:

Numerous tribes in New Mexico require

Navajo Nation($1000)
Pueblo of Laguna($1000)
Pueblo of Nambe($1000)
Pueblo of Santa Clara($1000)
Pueblo of Zuni($1000)
Sandia Pueblo($5000)
Santa Ana Pueblo($5000)
Southwest Tribal Fisheries Commission($1000)
Taos Pueblo($1000)

Accomplishments

2011 performance measures

Number of habitat assessments completed (not acres)	8
Total number of miles of in-stream and shoreline habitat assessed	45
Number of miles re-opened to fish passage - FWMA	1.5
Total number of population assessments completed	15
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	12
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	12
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	12
Number of risk assessments conducted to evaluate potentially invasive aquatic species - annual	1
Number of surveys conducted for aquatic invasive species baseline/trend information for aquatic invasive species	1
Number of training session to support Tribal fish & wildlife conservation	6
Number of consultations conducted to support Tribal fish & wildlife conservation	14
Number of technical assistance/coordination activities conducted (AIS)	1
Number of School Curriculum activities and/or events targeting children only	3

technical assistance in the proper management of fisheries on their land. Avoidance of negative interactions between recreational and native fisheries programs is very important to many tribes as well as to Service biologists. Recreational angling demands require intelligent tinkering when stocking nonnative species. The objective of this project was to provide recreational angling opportunities and guidance to tribes, while avoiding impacts to native species. Adherence to management plans and check of hatchery shipments from Texas to avoid stocking of non-target organisms found in warm water hatchery shipments is required. Routine monitoring of creel data collected by tribal officials is accomplished to monitor effect of stocking numbers on angler harvest.

Pictures

Caption: Navajo River on Jicarilla Apache Nation
Credit: USFWS
Description: Staff from Jicarilla Apache Game and Fish Department and NMFWCO surveying the Navajo River for roundtail chub.

Caption: NMFWCO Biologist holding grass car
Credit: Chris Kitcheyan, USFWS
Description: NMFWCO biologists captured two grass carp while attempting to remove shad from Isleta Lake.

Caption: Seining Black Soil Springs
Credit: USFWS-NMFWCO
Description: Staff from Navajo Nation Game

Number of Fishing activities and/or events targeting children only	6
Number of Fishing activities and/or events for adults and children	2

& Fish Department and NMFWCO surveying a pool for the presence of bluehead suckers.

Caption: Setting experimental gill nets
Credit: Chris Kitcheyan, USFWS
Description: Staff from Zuni Fish and Wildlife Department setting an experimental gill net in Ojo Caliente.

22330-A-024 - NFPP: Increase Fish Passage to 1.5 miles of Paguate Creek, Pueblo of Laguna

Objective	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.
Primary Benefited Species	Cutthroat trout (*Oncorhynchus clarkii*)
Primary Benefited Population	Cutthroat trout
Plans	Tribal Fisheries Management Plan for Pueblo of Laguna The Service's Native American Policy
Keyword	Fish Passage
Partners	Bureau of Indian Affairs Paguate Village Pueblo of Laguna($3500)

Accomplishments
2011 performance measures

Number of habitat assessments completed (not acres)	4
Total number of miles of in-stream and shoreline habitat assessed	5
Total number of in-stream/shoreline miles restored in U.S.	1.5
Total number of fish passage barriers removed or bypassed	2

Accomplishment Summary
FY2011: 2010 monsoon rains caused severe flooding, erosion to both fish passage crossings, and impacted the fish population within the 1.5 mile stream reach on the Rio Paguate. Fish surveys conducted in spring 2011 revealed only 3 trout, ranging from 211mm to 273mm. Both stream crossings were reconstructed and repaired using larger geoweb material, larger rock (cobble), and a top layer of gravel was placed on top of the structure to enhance stability.

Description
The *problem*:
Monsoon storms and flash flooding events in June 2010 caused severe erosion and damage to the main access road and two fish passage structures that were constructed in 2009. Large amounts of sediment were deposited and geoweb material was exposed out of the streambed.
The *objective*:
Reconstruct and repair the two fish passage crossings to eliminate or reduce the amount of sediment deposition impacting cutthroat trout growth and survival in the Rio Paguate. Conduct follow-up fish surveys to evaluate the fish community after the two fish passage structures have been repaired.
Further description:
Fish passage is an important aspect of maintaining healthy fish populations in stream headwater reaches. Paguate Creek is segmented into tribal, state, and private lands. Cutthroat trout (subspecies unknown) occupy Paguate

Number of miles re-opened to fish passage - FWMA	1.5
Total number of population assessments completed	2
Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	4
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	4
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	4
Number of training session to support Tribal fish & wildlife conservation	2
Number of consultations conducted to support Tribal fish & wildlife conservation	6

Creek, but are restricted to downstream reaches only. Spawning habitat has been impacted by sediment transport and deposition caused by the unimproved stream crossings. The objective of this proposal is to reconstruct and repair the two road crossings to allow fish passage to upstream reaches and to reduce sedimentation caused by motorized vehicles. Two fish passage crossings will be reconstructed using web material (Go-Web) anchored to stream bottom. Work was completed in conjunction with Pueblo of Laguna-Department of Natural Resources and Middle Rio Grande Tribal Youth Conservation Corp.

Pictures

Caption: Placement of geoweb material on Rio Paguate
Credit: Chris Kitcheyan, USFWS-NMFWCO
Description: 6-inch geoweb material place on the streambed on the Rio Paguate, along with 4 to 6-inch size rock.

Caption: Placement of large boulders
Credit: Chris Kitcheyan, USFWS
Description: Large boulders were placed along the stream and geoweb reduce erosion and stablize the stream bank.

Caption: Upstream stream low-water crossing
Credit: Chris Kitcheyan, USFWS
Description: Completion of the upstream low-

water crossing on the Rio Paguate.

22330-A-013 - Aquatic nuisance species

Objective	Prevent new introductions of aquatic nuisance species.
Primary Benefited Species	Multiple Species
Primary Benefited Population	Not specified
Plans	100th Meridian Initiative ANS Task Force Strategic Plan
Keyword	Aquatic Invasive Species
Partners	New Mexico Department of Environment New Mexico Department of Game and Fish New Mexico State Parks Division University of New Mexico U.S. Army Corps of Engineers U.S. Bureau of Reclamation

Accomplishments

2011 performance measures

Number of all tasks implemented, as prescribed in Fishery Management Plans (Fisheries PART)	1
Number of all tasks implemented, as prescribed in Fishery Management Plans (NFHS)	1
Number of all tasks implemented, as prescribed in Fishery Management Plans (FWMA)	1
Number of activities conducted to support the management and control of aquatic invasive species (Fisheries)	4
Number of activities conducted to support the management and control of aquatic invasive species (FWMA)	4
Number of risk assessments conducted to evaluate potentially invasive aquatic species - annual	1
Number of invasive species partnerships established and maintained	10

Accomplishment Summary

FY2011: New Mexico FWCO's involvement with AIS in 2011 primarily focused on providing technical assistance to the New Mexico Aquatic Invasive Species Advisory Council. A new employee has been assigned AIS duties at NMFWCO and much or our efforts have focused on the training of this individual including becoming certified as a Level I and II Boat and Decontamination Inspector. A portable decontamination unit was purchased to assist partners with decontamination of vessels when needed.

Description

The *importance* to the Resource:

The prevention of the spread and establishment of aquatic invasive species (AIS) is critical to maintaining healthy native aquatic communities.

The *problem*:

New Zealand mudsnail and zebra mussel have had detrimental effects both biologically and economically where established. The prevention of introductions and timely response measures are critical to maintaining healthy native aquatic communities.

The *objective*:

Support of partners in the prevention and establishment of AIS in waters of the desert southwest.

The *method*:

Conduct boat trailer inspections for the identification of AIS and conduct boater surveys to determine possible means of introduction. Provide public outreach materials to recreationalists and have a presence at areas deemed to be at high risk for AIS introduction.

Further description:

Exotic species threaten existing native and desirable aquatic resources in the American Southwest. Lake bound traffic for out of state boaters provide for the potential invasions of exotic invertebrates. The objective of this project is to provide field technicians and cooperating agencies with identification expertise for New Zealand mudsnails and zebra mussles. Handouts containing information on

AIS program and target species will be provided to cooperators and technicians, routine monitoring devices using artificial substrate will be deployed, and routine inspection of boats at New Mexico State parks will be conducted.

Pictures

Caption: Boat inspection
Credit: USFWS
Description: Routine boat and trailer inspections are conducted to prevent the introduction of ANS into New Mexico waterbodies

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Caption: Plankton tow net sample
Credit: USFWS
Description: Water samples are analyzed to determine the presence of mussel veligers.

Caption: Qugga mussel on houseboat, Navajo Lake State Park
Credit: USFWS
Description: Houseboat infested with quagga mussel. Training of State Park personnel and private marine owners enabled the identification prior to launching at Navajo Lake State Park.

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