United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

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To: Tom Sinclair, Project Leader

From: Dustin J. Myers, Fish Biologist

RE: Report of FY 2014WNTI Project Accomplishments: "Assessment of Whitewater-Baldy Complex Fire for Gila Trout; Phase Two."

For FY2013, New Mexico Fish and Wildlife Conservation Office (NMFWCO) submitted a proposal through the Western Native Trout Initiative (WNTI) for funding to conduct post-fire assessments of Gila trout streams impacted by the Whitewater-Baldy Complex Fire (WWB) of 2012. The original proposal requested $101, 000 over two years; however, given the sequestration/budget constraints WNTI allotted $53,000. The scope of work in 2013 was scaled in relation to this allotment and was completed in one year. During 2013, crews monitored 8 impacted recovery populations and assessed 5 potential streams that were impacted by the fire. The current status of the remaining populations and the extent of the post-fire impacts were still largely unknown and needed to be explored, so NMFWCO submitted a second WNTI proposal (Phase 2) for FY 2014 to complete the assessment of impacted streams. Assessments of streams within the fire perimeter identified as potential Gila trout recovery streams were also included in the scope of work. The proposal requested $75,160 and was partially funded at $48, 974.00 (due to limited funding) with a 2014 completion date. Access issues precluded work from Upper and Lower Big Dry and Whitewater creeks. Thus, these streams were removed from this assessment and will be completed at a later date, independent of the WNTI project. Assessments of Sacaton, Mineral, Upper White and McKnight creeks were conducted for compensation. "Phase two" is considered complete.

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Figure 1. Gila trout collected during post-fire assessments.

Post-fire monitoring crews consisted of personnel from U.S. Forest Service-Gila National Forest, New Mexico Department of Game and Fish, and the U.S. Fish and Wildlife Service. In total, crews monitored 5 recovery streams and 7 potential Gila trout streams impacted by WWB. Streams assessed that were occupied prior to the WWB include; Upper WFG River, Spruce Creek, Lower White Creek, McKnight Creek, and Upper White Creek. Potential Gila trout streams impacted by WWB were assessed and evaluated for Gila trout restoration. Potential streams include; Willow Creek (including Little Turkey Creek), Turkey Creek (including Manzanita Complex), South Fork Whitewater, West Fork Mogollon Creek, Rain Creek, Mineral Creek, and Sacaton Creek. The table below outlines the results from these assessments (Table 1).

Figure 2. Crews riding through the burn scar of the Whitewater-Baldy Fire during post-fire assessments.

Table 1. "Phase Two" recovery/potential streams assessed (FY 2014) and current status.

Streams	Recovery/Potential	Lineage	Status
Upper WFG	Recovery	Mixed	**Occupied**: Reproduction/ recruitment documented in Aug 2014 survey. Nonnative salmonids collected and genetic analysis conducted. Not augmented in 2014.
Spruce Creek	Remnant	Spruce	**Fishless.** Surveyed entire reach in June 2014. Watershed still recovering.

Lower White Creek	Recovery	Main Diamond	**Occupied**: Reproduction/ recruitment documented in Aug 2014. Nonnative salmonids collected and genetic analysis conducted. Not augmented in 2014.
McKnight Creek	Recovery	Main Diamond	**Fishless-**Heavily impacted in headwaters of north fork, scouring and bank cutting throughout drainage. Barrier needs repair.
Upper White Creek	Recovery	Whiskey	**Fishless-**Impacted but suitable habitat present. Repatriated with 5300 age-0 in Oct 2014.
Willow Creek	Potential	South Diamond	**Occupied by Gila trout.** Temporary gabion barrier completed in March 2014. Stocked 50 broodstock in May 2014. Surveyed in June 2014 collected Gila trout, desert and Sonora suckers, speckled dace, and 2 adult brown trout. Surveyed portions of the stream 2 more times in 2014 no browns collected. Stocked with 1500 age-0 and 180 age-1 in 2014.
Turkey Creek Manzanita Complex (Trib to Turkey Ck)	Potential	MD, SD, Spruce, or Whiskey	**Rainbow trout hybrids present;** Surveyed April 2013, Rainbow trout density low (0.0013 fish/meter) above Sycamore. Collected/removed 13 ind. from Sycamore to Miller spring. The Falls/Hotsprings should provide a barrier for trout. Surveyed in July 2014 collected 41 Adult hybrids and 149 young of year near Manzanita confluence. **Fishless;** Visually surveyed in 2011. Large 10m waterfall barrier present below main split. Surveyed in June 2014 from confluence to upper falls, No fish collected. Some potential for trout in the East Fork Manzanita.
South Fork Whitewater	Potential	MD, SD, Spruce, or Whiskey	**Brook trout present**; May 2014 survey collected 3 Brook trout in and near East Fork Whitewater. No barriers present to keep fish from moving into mainstem Whitewater Creek.
West Fork Mogollon Creek	Potential	MD, SD, or Whiskey	**Rainbow trout hybrids present;** Nonnative trout collected above trail crossing up to the box. Young of year observed. Rock barrier present 1/2 miles

			from mainstem confluence (needs evaluation) and stream dries below Bud's hole.
Rain Creek	Potential	MD, SD, or Whiskey	**Rainbow trout hybrids present;** Nonnative trout collected above trail crossing up to headwaters. Large waterfall barrier located on private land.
Mineral Creek	Potential	Spruce-proposed	**Fishless**; Stream raw, still recovering approx. 1 mile of marginal habitat. No barrier needed; lower portion of stream perennially dry above SF confluence.
Sacaton Creek	Potential	Whiskey-proposed	**Fishless**- Negligible impacts from WWB, watershed recovering from earlier fires but suitable habitat present (large step pools). Large concrete barrier present.

Following post-fire assessment protocol developed by the Gila Trout Recovery Team following the Whitewater-Baldy Fire, crews surveyed impacted recovery streams to determine Gila trout survival and abundance, habitat availability and quality, substrate composition, burn severity, aquatic macro-invertebrate abundance, discharge, genetic integrity, and water quality. Crews also deployed temperature data loggers and photo-stations to monitor each stream's recovery. Potential recovery streams were surveyed to determine fish survival, species composition, and distribution of nonnative salmonids. Habitat quality and quantity, aquatic macro-invertebrates, discharge, water quality, genetic tissues, and burn severity data was collected on each stream to determine if the stream is suitable for Gila trout re-introduction. Nonnative fish species, if present, were mechanically removed during surveys. Hal-Tec backpack electrofishing units were primarily used to conduct fish surveys during these assessments.

Figure 2. Crews obtaining genetic tissue from a Gila trout during post-fire assessments.

Due to the location and severity of the burn, it is likely that spring runoff and any significant rainfall events will continue to impact these watersheds and affect habitat suitability for some time. Some streams may require lengthy recovery periods to become suitable for Gila trout re-introduction due to extensive burning of canopy cover and vegetation in the watersheds. Results from these assessments provide insight on the current status of Gila trout and help to identify which potential recovery streams will be suitable for the restoration for Gila trout. This project will help to steer future Gila trout management objectives and activities for many years to come during this crucial time.

Table 2. Status of Funds for FY 2014 Gila WNTI Project- "Assessment of Whitewater-Baldy Complex Fire for Gila Trout; Phase Two." (As of Jan, 2015)

Funds Center	**Fund**	**WBS Element**	**Funded Program**	**Overall Budget**	**Total Obligations**	**Expenditures w/o Payroll**	**Balance w/o Payroll**
FF02FN3000	145F1611MD	FXFR133402NM4WN: WNTI FUNDS	FXFR133402NM4WN	$48, 974	$48,974	$48,974.00	$0.00