COLORADO RIVER RECOVERY PROGRAM **Project No.: 154**
FY 2010 PROPOSED SCOPE-OF-WORK FOR:
Native fish monitoring and Nonnative fish monitoring and control in the lower Green River and tributaries within the Uintah and Ouray Indian Reservation, Utah.

Lead Agency: Ute Indian Tribe

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Category:
__ Ongoing project
X Ongoing-revised project
_ Requested new project
__ Unsolicited proposal

Expected Funding Sources:
X_ Annual funds
__ Capital funds
X_ Other (In Kind)

I. Title of Proposal:

Native Fish Monitoring and Nonnative Fish Monitoring and Control in the lower Green River and tributaries within the Uintah and Ouray Indian Reservation, Utah.

II. Relationship to RIPRAP:

GENERAL RECOVERY PROGRAM SUPPORT ACTION PLAN

III. Reduce negative impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).

III.A. Reduce negative interactions between nonnative and endangered fishes.

III.A.2. Identify and implement viable active control measures.

GREEN RIVER ACTION PLAN: MAINSTEM

III. Reduce impacts of nonnative fishes and sportfish management activities (nonnative and sportfish management).

III.A. Reduce negative impacts to endangered fishes from sportfish management activities.

III.A.4. Develop and implement control programs for nonnative fishes in river reaches occupied by the endangered fishes, to identify required levels of control. Each control activity will be evaluated for effectiveness, and then continued as needed.

III. Study Background/Rationale and Hypotheses:

The Upper Colorado River Endangered Fish Recovery Program has implemented a control strategy for nonnative fishes and considers predator control essential to the recovery of four endangered Colorado River fishes: Colorado pikeminnow *(Ptychocheilus lucius)*, Razorback sucker *(Xyrauchen texanus)*, Humpback chub *(Gila cypah)*, and Bonytail *(Gila elegans)*.

Since 2000, smallmouth bass *(Micropterus dolomieu*), a non native, invasive predator species, abundance has dramatically increased in the Duchesne River Drainage, within the Ute Indian Tribal Boundaries (CRFP, 2003). As a result, a recommendation for Smallmouth bass mechanical removal in the Green River and its associated tributaries was supported in 2004. The ensuing removal activities have added valuable knowledge of Smallmouth bass control efforts in large river environments. Furthermore, Haines and Modde (2006) recognized the importance of increasing control efforts at higher levels of exploitation for effective removal of Smallmouth bass in the Green River drainage. As a result of this new information, and the associated fiscal and personnel limitations emergent of implementing new exploitation rates, a reallocation of effort to specific concentration areas was employed. Consequently, the control effort in the Green River in Desolation and Gray Canyons were reallocated to the Echo Park/Split Mountain reach. Additionally, the non native fish control effort in the Duchesne River was abandoned in 2004.

In recent history, Desolation Canyon (Green River) and the Duchesne River have shown evidence of increased Smallmouth bass population densities (Badame and Modde, personal communication, 2007, Ute Indian Tribe). A realistic potential for re-established smallmouth bass populations or expansion of existing populations merits monitoring and/or control of Smallmouth bass in the Green River and its associated tributaries (Duchesne and White Rivers) within the Ute Indian Tribe, Uintah and Ouray Reservation.

The main objective of this project is to monitor and/or control Smallmouth bass populations in the lower Green River and its associated tributaries within the Ute Indian Tribe, Uintah and Ouray Reservation. Sampling methods that may be employed in this study may include continuous raft electro-fishing, backpack electro-fishing, canoe/barge electro-fishing and electric seining.

In 2008, sampling was reinitiated in the Green River (Desolation Canyon) and the Duchesne River to determine if Smallmouth bass catch rates warranted increased removal efforts. Catch rates (CPUE) of Smallmouth bass in Desolation Canyon were found to be relatively low; however, catch rates (CPUE) in the Duchesne River were higher than previous documentation. Removal efforts in 20010 will focus on the Duchesne River and the White River.

IV. Study Goals, Objectives, End Product:

Goal: Monitor and control Smallmouth bass in the Duchesne, White and Green Rivers, and their associated tributaries, within the Ute Indian Tribe, Uintah and Ouray Reservation, and to investigate native fish species community composition within the Duchesne River and White River.

Objectives:

1. Monitor adult and juvenile smallmouth bass to determine extent of control needed in the Duchesne River.

2. Remove smallmouth bass in the Duchesne River from Myton Bridge (RM 42) to the confluence with the Green River (RM 0), within the Ute Indian Tribe, Uintah and Ouray Reservation.

3. Sample adult and juvenile native fish to determine native fish composition within the Duchesne River.

Deliverables: An annual report will be submitted to provide information on:

Objective 1 & 2: Numbers of Smallmouth bass removed will be summarized as detailed below: Adult and juvenile Smallmouth bass catch rates, total catch-per-unit-effort (CPUE), length frequency histograms, total numbers captured for target species, and estimates of high concentration locations will be verified (Statistical, Empirical).

Objective 3: Total catch-per-unit-effort (CPUE), CPUE by designated mile, length frequency histograms, total numbers captured

for each species, and estimates of high concentration reaches will be verified (Statistical, Empirical).

V. Study Area

The study area is located on: the Green River from Sand Wash (RM 215.3) to Swasey's Rapid boat ramp (RM 129.8) (85.5 river miles); from Ouray (RM 235) to Sand Wash (RM 215.3); the Duchesne River from Myton Bridge (RM 42) to the confluence of the Green River (RM 0); and the White River from the BLM put in (RM 40) to the confluence of the Green River (RM 0).

VI. Study Methods/Approach

Fish community composition studies and Smallmouth bass removal and monitoring may be investigated using electrofishing rafts, an electrofishing barge and/or an electric seine.

One high flow electrofishing pass will be conducted in high flow conditions, on the Duchesne River. Two electrofishing rafts will simultaneously electrofish each shoreline of the river, each focusing primarily on smallmouth bass habitat. The number of young of year (YOY) smallmouth captured will be used to estimate growth rates and potential recruitment sites. Age 2 fish will be documented and analyzed to determine YOY over-winter survival. All smallmouth bass captured will be removed.

Additionally, two (2) designated miles will be determined for each reach (4 total reaches) within the 42 RM section of the Duchesne River. A total of eight (8) designated miles will be surveyed within the 42 RM section of the Duchesne River. The shorelines of each designated mile will be electrofished to collect all fish species. All fish collected within the designated miles will be documented and analyzed to determine native fish community composition. All native fish will be returned live to the river.

All non native, exotic fish species captured will be removed, including, Green sunfish (*Lepomis cyanellus*), Bbluegill (*Lepomis macrochirus*) , Black Crappie (*Pomoxis nigromaculatus*), Largemouth bass (*Micropterus salmoides*), Northern pike (*Esox lucius*), Walleye (*Sander vitreus*), Grass carp (*Ctenopharyngodon idella*), Gizzard shad (*Dorosoma cepedianum*), and Burbot (*Lota lota)*. All nonnative, exotic fish species removed will be euthanized and deposited on the river bank away from public sight. In the event of endangered fish capture, endangered fish species be revived according to Recovery Program protocols and released back into the river. All capture data will be recorded using electronic data loggers.

Field crews will primarily consist of personnel from the Ute Indian Tribe and the USFWS.

VII. Task Description and Schedule

Task 1. Conduct one, high flow, removal and monitoring survey for Smallmouth bass on the Duchesne River between Myton Bridge and the confluence with the Green River in June 2010.

Conduct one, high flow, removal and monitoring survey for Smallmouth bass on the White River between Myton Bridge and the confluence with the Green River in June 2010.

Task 2. Conduct one, high flow, native fish species community composition survey on the Duchesne River between Myton Bridge and the confluence with the Green River in June 2010.
Conduct one, high flow, native fish species community composition survey on the White River between the Eron put-in and the confluence with the Green River in June 2010.

Task 3. Conduct one, low flow, native fish species community composition survey on the Duchesne River between Myton Bridge and the confluence with the Green River in June 2010.

Task 4. Ute Indian Tribe: Data entry, data analysis, and report writing – October/November 2010

VIII. FY2010 Budget:

Tasks 1, 2, 3, 4- Ute Indian Tribe (In-Kind Services)	**Total Cost**
Labor (Biologist and Technicians)	
Equipment (Two electrofishing rafts, gear, and equipment)	
Total	**$20,000.00**

Tasks 1, 2, 3 - USFWS

Position	Per/Hr	Per/day	Per/wk	Number	Weeks	
Biologist GS 11	39.83	318.64	2,549.12	3	7,647	
Fish Technician GS-5		140	700	2	1,400	
Fish Technician GS-5		140	700	2	1,400	
Fish Technician GS-5		140	700	2	1,400	
Sub Total						$11,847

Equipment	Model	Units	#/Unit	Cost/Unit	
Floy Tags	Medium	5	100	100	500
Floy Cataraft Pontoons/ Freight	16 feet long, 27 inch wide	2	2	2,840	4,694

	150
Sub Total	$5,344
Total	**$17,191**

Deliverables/Due Dates: Recovery Program annual progress report: November 2010

IX. Program Budget Summary

USFWS	$17,191.00
In-kind	
Ute Indian Tribe	$20,000.00
FY 2010 Total	**$37,191.00**