

ON THE PATH TO RECOVERY

Upper Colorado River



Endangered Fish
Recovery Program

SPECIES STATUS UPDATE OF THE ENDANGERED FISHES OF THE COLORADO AND SAN JUAN RIVERS AND THEIR TRIBUTARIES

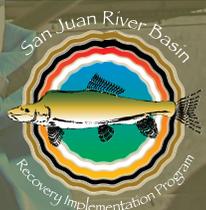
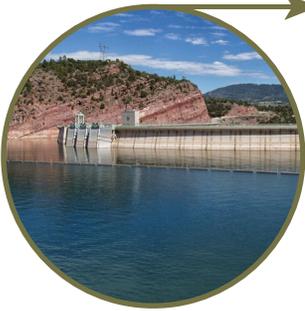


PHOTO COURTESY TOM CHART, USFWS

THE PATH: RECOVERY ELEMENTS



INSTREAM FLOW IDENTIFICATION & PROTECTION

The Bureau of Reclamation and Upper Basin water users manage releases from 10 reservoirs to provide spring and base flows to assist with endangered fish recovery in the Yampa, Duchesne, Green, Colorado, Gunnison and San Juan rivers. Endangered fish flow management occurs while respecting all existing water rights. New research has led to special, experimental releases to disrupt nonnative fish spawning and to provide critically important endangered fish habitat on river floodplains.



HABITAT RESTORATION

6 of 7 fish ladders have been constructed and 5 of 6 large irrigation canals have been screened or modified to reduce loss of endangered fish. In the Upper Basin, some 2,700 acres of restored floodplain habitat are managed to benefit endangered fish. On the San Juan, 2 out of 3 phases of habitat restoration have occurred to reconnect secondary channels to the river.



NONNATIVE FISH MANAGEMENT

In the Upper Basin, despite years of significant effort, the nonnative fish threat remains a big problem, but we have a plan. Our control strategy consists of removing nonnative smallmouth bass, northern pike and walleye from over 600 miles of river. Screens have been installed on 3 of 7 reservoir outlets to prevent escapement with 2 more pending. An escapement prevention plan has been developed for Ridges Basin Reservoir. In the San Juan River, channel catfish and other nonnative fish are removed from over 180 miles of river. In 2016 the San Juan Program will conduct a rigorous test to evaluate the effect of removal on both nonnative and endangered species.



PROPAGATION & STOCKING

Hatchery-produced, stocked fish form the foundation to reestablish naturally self-sustaining populations of razorback sucker and bonytail in the upper Colorado River system. The San Juan Program stocks razorback sucker and Colorado pikeminnow. Fish stocked by the recovery programs are as genetically diverse as possible. A significant number of stocked razorback sucker are reproducing in the wild. Natural recruitment remains low in the San Juan River although reproduction has been documented for 18 consecutive years.



RESEARCH & MONITORING

The recovery programs conduct research and monitoring to generate information on abundance, reproduction, growth, and survival of endangered fish in the wild. For example, researchers determined that annual survival of wild humpback chub at Blackrocks-Westwater has been steady at about 70% since 1998. Data is used to evaluate and adjust management actions and recovery strategies through adaptive management.

6^{of}7 **FISH LADDERS** have been constructed.

5^{of}6 **LARGE IRRIGATION CANALS** have been screened or modified.

3^{of}7 **RESERVOIR OUTLETS** have been screened to prevent nonnative fish escapement with 2 more pending.

COLORADO RIVER BASIN ENDANGERED FISH STATUS REPORT

COLORADO PIKEMINNOW

Lives 40+ years. Adults migrate 200+miles to specific spawning bars.

STATUS

'Endangered' since 1973. Recovery can occur upstream of Glen Canyon Dam.

GOOD NEWS

Populations in the Green and Colorado rivers are self-sustaining (never been stocked); a successful stocking program occurs in the San Juan River. This summer the largest year-class of young pikeminnow was produced in the Colorado River since sampling began 30 years ago.

GREATEST REMAINING THREAT

Persistent high densities of invasive predatory fish, which compete with, and prey on young Colorado pikeminnow are a problem in both Upper Colorado and San Juan rivers. Few stocked Colorado pikeminnow reach adulthood in the San Juan River and documented reproduction is limited. Habitat concerns in the San Juan River ecosystem include flow management, secondary channels, invasive riparian vegetation and the waterfall at Lake Powell.

WHAT WE'RE DOING ABOUT IT

Recovery Program partners have steadily increased invasive fish control efforts over the past decade.

CURRENT ACTION TOWARDS ULTIMATE REMOVAL FROM THE ESA

A population viability analysis (PVA) is underway for Colorado pikeminnow using all of our long-term monitoring information to model population persistence and the risk of extinction over varying timeframes.

TARGET TIMELINE TO COMPLETE THE PVA

12 months

WHAT'S NEXT

If the PVA indicates that Colorado pikeminnow are not in imminent danger of extinction, proceed with Federal rule-making to downlist the species.



PHOTO COURTESY UDMR

Colorado pikeminnow showing spawning tubercles on head.

HUMPBACK CHUB

Lives 40+years. All life stages found in short stretches of deep canyon habitat.

STATUS

'Endangered' since 1973. Recovery will require self-sustaining populations in the Green and Colorado river sub-basins in the Upper Basin and in the Lower Basin downstream of Glen Canyon Dam.

GOOD NEWS

Grand Canyon population has rebounded from ~5,000 adults in the year 2000 to nearly 11,000 adults currently. Upper Basin populations appear stable.

MAJOR ACCOMPLISHMENTS

Flow management and nonnative fish control actions appear to be on target and providing positive results.

GREATEST REMAINING THREAT

Lower Basin – prevention of a catastrophic contaminant spill in the Little Colorado River drainage and invasion of a novel nonnative predator. Upper Basin – researchers need to determine limitations to survival of young chub.

WHAT WE'RE DOING ABOUT IT

Control nonnative predators to improve survival of young chub. The Bureau of Reclamation adaptively manages Glen Canyon Dam

releases to support the needs of humpback chub and address issues associated with nonnative predators.

CURRENT ACTION TOWARDS ULTIMATE REMOVAL FROM THE ESA

Recovery Team convened in November and is conducting a Species Status Assessment to update and review species needs, current conditions, and species viability.

TARGET TIMELINE TO COMPLETE THE SSA

12 months.

WHAT'S NEXT

The SSA could lead directly to a re-classification to 'Threatened' status or revisions of the species recovery plan.



PHOTO COURTESY MELANIE FISCHER, USFWS

Humpback chub can live up to 40 years old.

COLORADO RIVER BASIN ENDANGERED FISH STATUS REPORT

RAZORBACK SUCKER

Lives 40+ years. River populations spawn during peak flows in the spring; larval razorback suckers need warm productive floodplain habitat to survive. This species can also complete its life cycle in reservoir inflow areas.

STATUS

'Endangered' since 1991. Recovery will require self-sustaining populations in the Upper and Lower Basins of the Colorado River.

GOOD NEWS

Self-sustaining population in Lake Mead in the Lower Basin. Razorback sucker are reproducing in many Upper Basin rivers.

MAJOR ACCOMPLISHMENTS

Hatchery stocking program is successful. Flows are managed to connect floodplain habitats which improves survival of young fish.

GREATEST REMAINING THREAT

Persistent high densities of invasive predatory fish, which prey on young razorback sucker. More floodplain connections are needed when young razorback sucker are present. Wild recruitment remains rare in the San Juan River.

WHAT WE'RE DOING ABOUT IT

Managing spring flows; controlling nonnative fish; and decreasing number of stocked fish to test self-sustainability of populations in the wild.

CURRENT ACTION TOWARDS ULTIMATE REMOVAL FROM THE ESA

A Species Status Assessment is underway to update and review species needs, current conditions, and species viability throughout its occupied range.

TARGET TIMELINE TO COMPLETE THE SSA

12 months; due date January 2017.

WHAT'S NEXT

The SSA could lead directly to a re-classification to 'Threatened' status or revisions of the species recovery plan.



An adult razorback sucker captured on the middle Green River.



A wild-produced juvenile razorback sucker from restored habitat at Stewart Lake, Utah.

BONYTAIL

Live 40+ years. Very near extinction in the late 1980's, requiring an aggressive stocking program.

STATUS

'Endangered' since 1980. Recovery will require self-sustaining populations in the Upper and Lower Basins of the Colorado River.

GOOD NEWS

We are starting to recapture more stocked fish.

MAJOR ACCOMPLISHMENTS

Both Upper and Lower Basin have fully developed hatcheries and have been stocking large numbers of healthy adults for a decade.

GREATEST REMAINING THREAT

Still unknown. Stocked fish are not surviving well.

WHAT WE'RE DOING ABOUT IT

Continue research to determine the most important limiting factor to survival in the wild.

CURRENT ACTION TOWARDS ULTIMATE REMOVAL FROM THE ESA

USFWS cannot consider removing this species from ESA protection until numbers increase in the wild.

WHAT'S NEXT

Continue to experiment with new hatchery techniques and stocking strategies to improve survival in the wild.



The average size of a hatchery raised bonytail is 10".

PHOTO COURTESY UDWR

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