

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
February 19-20, 2014

Agenda Item

National Park Service Comprehensive Fisheries Management Plan

Action Requested

Information only

Presenters

Martha Hahn, Chief of Science and Resource Management, Grand Canyon National Park

Previous Action Taken

N/A

Relevant Science

More information about the NPS Comprehensive Fisheries Management Plan can be found here:
<http://www.nps.gov/grca/naturescience/fish.htm>

Background Information

The National Park Service Comprehensive Fisheries Management Plan (CFMP) Environmental Assessment (EA) for waters between Glen Canyon Dam and Lake Mead within Grand Canyon National Park (Grand Canyon) and Glen Canyon National Recreation Area (Glen Canyon) was completed in May 2013 and a Finding of No Significant Impact released on December 10, 2013.

The goals of the plan include maintaining a highly valued recreational rainbow trout fishery within Glen Canyon downstream of Glen Canyon Dam, and restoring and maintaining a native fish community, including endangered humpback chub and razorback sucker, downstream in Grand Canyon over the next 20 years.

The Comprehensive Fisheries Management Plan was developed in coordination with tribal governments, the Arizona Game and Fish Department and U.S. Fish and Wildlife Service. In addition, the NPS collaborated with the Bureau of Reclamation to incorporate conservation measures required to offset or mitigate impacts from Glen Canyon Dam.

Alternative 2 of the EA was approved in the FONSI, which will be implemented over the next 20 years, and provides fisheries management goals and objectives for specific waters within both NPS units as well as a comprehensive “toolbox” of fisheries management strategies, that includes:

- Experimental stocking of sterile (non-spawning) rainbow trout in Lees Ferry in the event the fishery declines below identified numbers;
- Translocations (i.e., moving fish from one location to another) of endangered humpback chub from the Little Colorado River to other Colorado River tributaries; nonnative fish control in specific areas such as Bright Angel Creek;

NPS Comprehensive Fisheries Management Plan, continued

- Prevention, detection, and control of nonnative fish and aquatic invasive species;
- Beneficial use of all nonnative fish removed; and,
- Extirpated species reintroduction feasibility studies.

A handout will be provided that outlines the goals and management strategies of the plan and an update on implementation of current projects will be presented.

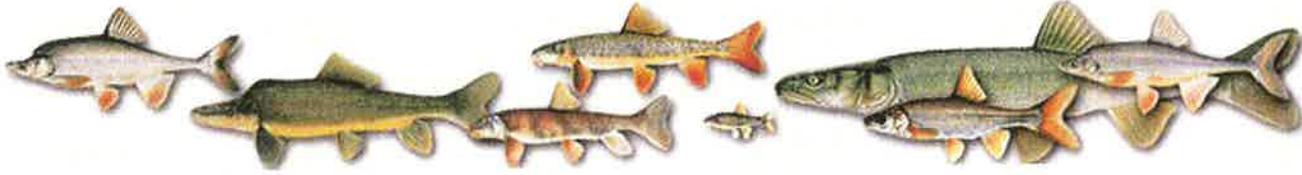
Grand Canyon Glen Canyon

National Park Service
U.S. Department of the Interior

Grand Canyon National Park and
Glen Canyon National Recreation
Area



Comprehensive Fisheries Management Plan



Fish native to Grand Canyon, from left to right: humpback chub, razorback sucker, bluehead sucker, flannelmouth sucker, speckled dace, and the three extirpated species: Colorado pikeminnow, roundtail chub, and bonytail. *Illustrations by Joe Tomelleri*

Background

In Grand Canyon National Park and Glen Canyon National Recreation Area, native fish had adapted to a Colorado River that carried huge amounts of sediment, varied in water flow, and featured seasonal water temperatures ranging from warm to near freezing. With the introduction of nonnative fish species and the construction of Glen Canyon Dam in 1963, native fish are challenged to adapt these changes in their habitat or home.

Three of the native fish—bonytail, roundtail chub, and Colorado pikeminnow—have lost their struggle to adapt and are extirpated, or no longer live in this area. Two others, humpback chub and razorback sucker, are endangered. Nonnative fish have found their place here as well; a recreational trout fishery has been established below the dam in Glen Canyon. In light of existing and potential threats, a comprehensive fisheries management plan was completed in 2013 for fisheries in the Colorado River and its tributaries between Glen Canyon Dam and Lake Mead.

Threats

Threats remain to both the native fish community in Grand Canyon, as well as to the recreational fishery in Glen Canyon. Disease, uncertainties in climate and drought, the potential for new introductions or increasing exotic species, and chemical spills or other

accidents that may occur outside the parks remain a concern. Further, existing nonnative fish species, including rainbow and brown trout, catfish, bass, and others prey on or compete for resources with native fish in Grand Canyon.

Goals of the Plan for Grand Canyon National Park

1. Meet or exceed population and demographic goals for existing endangered fish species, maintain self-sustaining populations, and restore distribution of those species to the extent practicable.
2. Maintain or enhance viable populations of existing native fish, and restore native fish communities and habitat to the extent practicable.
3. Where possible and appropriate, restore self-sustaining populations of extirpated fish species, including Colorado pikeminnow, razorback sucker, bonytail, and roundtail chub without impacting existing endangered species.
4. Foster meaningful tribal relations and intergrate tribal knowledge and perspectives into park management decisions and practices.
5. Prevent further introductions of nonnative (exotic) aquatic species, and remove, when possible, or otherwise contain individuals or populations of already established nonnative species.

Glen Canyon National Recreation Area Goals for the Colorado and Paria Rivers

1. Maintain a highly valued recreational rainbow trout fishery with minimal emigration of rainbow trout downstream to Grand Canyon National Park.
2. To the extent possible, restore and maintain healthy, ecologically integrated, self-sustaining native fish communities and habitat.
3. Foster meaningful tribal relations and integrate tribal knowledge and perspectives into park management decisions and practices.
4. Prevent further introductions of nonnative (exotic) aquatic species.

Management Strategies

To meet these goals, an adaptive management approach will be implemented, which includes identifying uncertainties and assumptions about the biology of the species or the ecosystem; monitoring the effects of management actions; and adapting future actions based on new knowledge gained from applied research and monitoring. Some management actions in the plan may only be implemented if monitoring data indicate specific outcomes have occurred.

Management actions that will be implemented under the comprehensive fisheries management plan during the next 20 years include:

- Translocation of endangered humpback chub from the Little Colorado River to other Colorado River tributaries; nonnative fish control in specific areas such as Bright Angel Creek;
- Razorback sucker augmentation and adaptive management, including release of sonic-tagged razorback suckers below Lava Falls Rapids;
- Experimental stocking sterile rainbow trout in Glen Canyon, if triggered;
- Extirpated species reintroduction feasibility studies; and
- Nonnative fish and aquatic invasive species introduction prevention, detection, and control, including:
 - Removal of high-risk, nonnative species captured during monitoring: brown trout, catfish, bass, sunfish, walleye, and others
 - Studies identifying the source of nonnative fish
 - Targeted angling trips to remove nonnative fish
 - Emergency control response to expansions or new introductions of nonnative species
 - Comprehensive brown trout control
 - Feasibility study for the use of chemical fish control methods
 - Beneficial use of nonnative fish removed

Partners

Part of the mission of the National Park Service is to preserve and protect native species found in national parks. To meet these commitments the National Park Service works with the Arizona Game and Fish Department, tribal governments, and the US Fish and Wildlife Service.

In addition, the National Park Service cooperates with the Bureau of Reclamation to implement conservation measures required by the US Fish and Wildlife Service to offset or mitigate impacts from Glen Canyon Dam.

Additional Information

To view the environmental assessment, finding of no significant impact (FONSI), and scoping materials for the comprehensive fish management plan visit:

<http://parkplanning.nps.gov/projectHome.cfm?parkID=65&projectID=35150>