

# Lees Ferry Recreational Trout Fishery Management Recommendations: The Voice of Lees Ferry Anglers, Guides, and Businesses.

by

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# A Collaborative Planning Process

- These recommendations were developed collaboratively among recreational anglers, including:
  - Arizona Trout Unlimited;
  - Arizona Sportsmen for Wildlife Conservation;
  - Arizona Flycasting Club
  - Anglers United
  - International Federation of Fly Fishers;
  - Northern Arizona Flycasters
  - Theodore Roosevelt Conservation Partnership.
- In consultation with the Arizona Game and Fish Department, the U.S. Geological Survey Grand Canyon Monitoring and Research Center, and Lees Ferry guides.

# NPS Fishery Management Plan

## Glen Canyon Recreation Area Desired Conditions

- Opportunities for anglers to have a memorable experience.
- Habitat that supports a rainbow trout population with a size structure indicative of a stable population.

## GCD AMP Desired Future Conditions

- Establish a high-quality sustainable recreational trout fishery in the river corridor in GCNRA, while minimizing emigration of non-native fishes.
- Operate Glen Canyon Dam (GCD) to achieve the greatest benefit to the trout fishery in GCNRA without causing excessive detriment to other resources.



# Goals

Goal 1. Maintain and enhance a wild (self-sustaining) Blue Ribbon rainbow trout fishery consistent with the protection and recovery of the native aquatic community in Grand Canyon National Park.

- Stable RBT population (e.g., on an annual basis, 20-80% of the RBT population will be less than 6 inches).
- Maintain angler catch rates of at least 10 fish/day >14 inches w/ catch rate greater than 1 fish/hr
- Provide an angler catch rate of at least 1 fish/day >20 inches

Goal 2. Provide a dependable, high-quality recreational trout fishery that sustains economic support for local businesses and Coconino County.

- Lees Ferry fishery contributed in excess of \$16.8 million to the State's economy and supported 251 jobs in Arizona (Fedler 2014).

# Major Threats

- Impaired aquatic food base
- Flow regimes
- RBT population that exceeds the river's carrying capacity
- Invasive species and disease
- Drought and climate change
- Status of endangered fishes down river



# Recommendation 1: Aquatic Food Base Enhancement through Translocations and “Bug Flows”

- The current food base is composed of a relatively few varieties of invertebrates, all of which are small and limits trout growth to preferred sizes
- The EPT index (may, caddis and stone flies) for the Lee Ferry reach is zero, which limits trout growth and may also impacts the growth of other fishes, such as humpback chub
- “Bug Flows” combined with EPT translocations may enhance recruitment and survival of a healthy and robust EPT population.



# Recommendation 2: Dam Operations

- **Dam operations:** Maintain the current MLFF release pattern. Some modification of the current flow regime may be needed to support the establishment of a more diverse and stable food base.
- **Spring high flows.** Use high flow releases in the spring as a way to improve the aquatic food base and enhance trout spawning and recruitment, when needed.
- **Trout Management Flows.** Carefully test trout management flows as a means to control the density of young trout and possibly benefit humpback chub. As an alternative to TMFs, mechanical removal may be used to reduce young trout densities in the reach
- **Minimum flows.** Avoid minimum flows below 8000 cfs especially when water temperatures are high and food production is low.
- **Fall HFEs:** Implement fall high flows per the 2011 Environmental Assessment and as part of an experimental design to further evaluate trout response in both Lees Ferry and Marble Canyon, as well as food base and other resources.
- **Equalization Flows:** Examine the impact of sustained periods of high flows and assess whether it is feasible to provide greater flexibility in meeting annual delivery requirements from Lake Powell to Lake Mead.

# Recommendation 3: Water Temperature Control

- Recent studies indicate that amount of water in Lake Powell will likely decrease in the future as a result of increased water demands and climate change.
- Lower Lake Powell levels will result in warmer water releases from dam which would seriously impact the Lees Ferry trout fishery and lead to an invasions of cool and warm water fishes into Grand Canyons National Park.
- Implement a water temperature control device that has the capacity to release both cold and warm water from the Glen Canyon Dam.

# Recommendation 4: Trout Stocking

- Stocking used only when there is a catastrophic fisheries failure.
- Complete re-stocking protocols and the necessary environmental compliance to allow for stocking.
- Stock with non reproducing rainbow trout and/or with trout translocated from Marble Canyon.
- Allow for immediate emergency stocking in response to a catastrophic fisheries failure. (Emergency stocking falls outside the guidelines of the CFMP).



# Recommendation 5: Low dissolved oxygen

- Fish kills have been documented on at least two occasions due to the low amounts of dissolved oxygen being released from the dam.
- Action plan should be developed by the Bureau of Reclamation to reduce or avoid the potential effects to aquatic resources when low DO conditions emerge.
- In addition, dissolved oxygen levels should be made publically available at Glen Canyon Dam in addition to at the Lees Ferry gage.

# Recommendation 6: Monitoring and Measurement of Trigger Parameters

- Maintain a robust monitoring program to assess the status of the resource and determine when various triggers are met
  - Trout size, condition and abundance
  - Angler catch and satisfaction
  - Invasive species
  - Water quality and quantity
  - Periodic monitoring of channel geomorphology
  - Periodic monitoring of riparian vegetation



# Recommendation 7: Riparian Vegetation

- Restore native riparian vegetation in the Lees Ferry reach.
- Assess the feasibility of using dead tamarisk to enhance aquatic productivity and fish habitat in the Lees Ferry reach.



# Summary and Conclusions

- Proactive effort to identify actions to maintain/enhance the trout fishery w/o impacting native fish downriver
- Recommendations effectively balance Colorado River resource values below Glen Canyon Dam
- Tier off the NPS Fishery Plan and GCD AMP Desired Future conditions
- Plan will guide input to the EIS and Fish and Wildlife Coordination Act Report
- Draft available for review by May 1; finalize by June 15.



# Questions?

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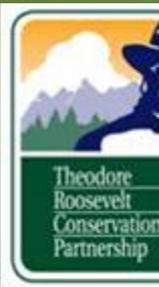


Photo by: George Andrejko