



Expanded Non-Native Aquatic Species Management Plan Environmental Assessment

U.S. Department of the Interior
National Park Service

Grand Canyon National Park
Glen Canyon National Recreation Area
Intermountain Region



Public Scoping Meetings



Webinar, November 28, 2017
Page, AZ, December 6, 2017
Flagstaff, AZ, December 7, 2017
Phoenix, AZ, December 12, 2017

6:00-8:30 p.m. MST



Meeting Objectives

- Describe public scoping and how you can get involved
- Describe the purpose of and need for the Expanded Non-Native Aquatic Species Management Plan Environmental Assessment (EA) and its relationship to other processes
- Present NPS's preliminary draft alternatives for the plan
- Present EA timeline and steps to completion
- Provide you with an opportunity to ask questions about the project and provide input



Public Scoping

- Public scoping is a phase of the National Environmental Policy Act process intended to give the public the chance to comment on a proposed action, recommend alternatives, and identify and prioritize the resources and issues to be considered in the EA analysis
- We are particularly interested in your input on:
 - Information about the project area that the NPS should consider during the analysis
 - Information about how you use the project area and how the project might affect that use
 - Other projects or activities that might affect or be affected by the project
 - Resources and other impacts that should be considered
 - Other ideas, studies, data, or alternative ways of meeting project objectives



Public Scoping (Cont.)

- Scoping is the earliest, but not the last, opportunity for you to provide input on the EA
 - Periodic updates and new information will be provided on NPS's PEPC system (http://parkplanning.nps.gov/Expanded_Nonnative) throughout the project
 - You will be invited to participate in public meetings and provide comments on the EA when it is published
 - To sign up for email alerts, send email to Kirk LaGory at lagory@anl.gov



Expanded Non-Native Aquatic Species Management Plan Environmental Assessment



Background

- Several recent plans evaluated threats posed by non-native aquatic species, and identified control actions
 - Comprehensive Fisheries Management Plan (CFMP)
 - Provides guidance for managing fish within the Colorado River and tributaries from Glen Canyon Dam to Lake Mead
 - Long-Term Experimental and Management Plan (LTEMP)
 - Provides a framework for adaptively managing Glen Canyon Dam operations over the next 20 years. The LTEMP determined specific options for dam operations, non-flow actions, and appropriate experimental and management actions including non-native aquatic species control
- Since completion of these plans, increases in potentially harmful non-native species have been documented and there is a need to expand non-native aquatic species control to potentially more areas and more species to provide for long-term management of these species





Purpose of and Need for Action

- Purpose: The purpose of this action is to provide additional tools beyond what is available under the CFMP and the LTEMP, in order to allow the NPS to prevent, control, minimize, or eradicate potentially harmful non-native aquatic species, or the risk associated with their presence or expansion, in the action area
- Need: The need for this action is due to the increase of green sunfish and brown trout, and the potential expansion or invasion of other harmful non-native aquatic species that threaten downstream native aquatic species including listed species or the Lees Ferry recreational rainbow trout fishery. These non-native species have become an increasing threat due to changing conditions since the completion of the 2013 CFMP and the 2016 LTEMP. Existing measures may be inadequate to address potentially harmful non-natives.





Related Studies That Will Provide Input to the EA

- Brown trout white paper
 - Motion proposed by the trout fisherman and taken up by AMWG
 - Convened team of scientists to evaluate status and trends, risks to native fish and rainbow trout, root causes of observed increases, control strategies
 - Held workshop September 21 and 22 in Phoenix
 - Draft report available to public since September
<https://www.usbr.gov/uc/rm/amp/amwg/mtgs/17sep20/BT03.pdf>
 - Working on a final report now
- Engineering feasibility study of options for RM -12 slough modification
 - Being prepared by Reclamation
- Both reports will provide important new information to the EA





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Cooperating Agencies

- Arizona Game and Fish Department
- Bureau of Reclamation
- Colorado River Board of California
- Colorado River Commission of Nevada
- Pueblo of Zuni
- Southern Nevada Water Authority
- Upper Colorado River Commission
- U.S. Fish and Wildlife Service
- Utah Associated Municipal Power Systems
- Western Area Power Administration

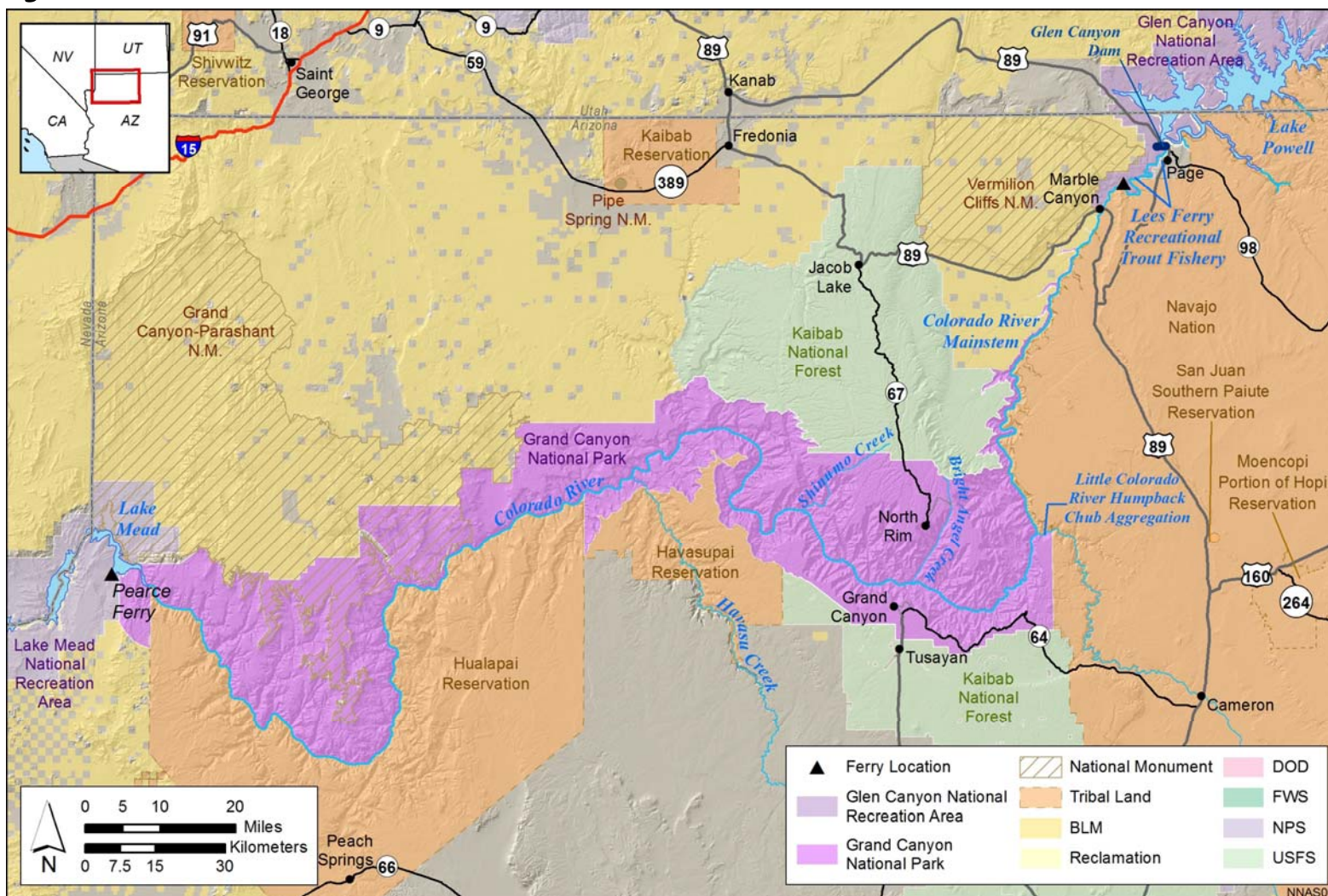




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Project Area



Public Scoping Meetings



Potentially Harmful Non-Native Aquatic Species

- Fish, aquatic plants, or aquatic invertebrate species that are not native to the action area that may pose a threat to native species (including federally or state-listed species) or may pose a threat to the Lees Ferry recreational rainbow trout fishery
- Common carp would not be targeted, but may be removed incidentally as part of other removal or monitoring efforts
- Management of rainbow trout would be consistent with that described in the CFMP and LTEMP
- New actions would be designed to minimize negative effects to the recreational fishery and continue to be consistent with the LTEMP goal to maintain “a healthy high-quality recreational rainbow trout fishery in GCNRA and reduce or eliminate downstream trout migration consistent with NPS fish management and ESA compliance.”

Species considered for control under the plan include, but are not limited to:

Fish	Invertebrates	Plants
Brown trout	Asian clam	Didymo
Catfish species	Quagga mussel	Eurasian watermilfoil
Black bass and sunfish species	Rusty crayfish	Hydrilla
Striped bass		
Cichlids		
Yellow perch and walleye		
Northern pike		
New carp species		



Potential Environmental Issues

- Issues are consequences of the proposed action. They may be harmful or beneficial, and are the focus of the analysis in the EA
- For this EA, the NPS has identified potential issues related to the following resources:
 - Geology, soils, and vegetation
 - Wildlife and species of concern
 - Fish, amphibians, aquatic invertebrates, and aquatic plants
 - Water resources, floodplains, and wetlands
 - Cultural and ethnographic resources
 - Tribal perspectives on resources
 - Socioeconomics and environmental justice
 - Human health and safety
 - Visitor use and experience
 - Wilderness
 - Soundscapes
- NPS will use public input gathered through the scoping process to determine which issues to analyze in the EA





Potential Non-Native Aquatic Species Control Actions

The following categories of control actions, with specific actions being considered in each include:

- **Mechanical controls:** physical removal of non-native aquatic species from habitats.
 - Long-term, intensive, repeated electrofishing and trapping
 - Mechanical disruption of spawning habitats
 - Concussive devices in small backwaters
 - Dredging or harvesting of non-native plants
- **Physical controls:** alteration of habitat or prevention of habitat use by non-native aquatic species
 - Long-term fish barriers such as weirs, exclusion screens, and nets that inhibit passage into small backwaters and limited tributary areas
 - Pumps and above-ground piping to deliver cooler water to keep backwater areas below warmwater fish spawning temperatures
 - Covering small areas to increase temperature, lower dissolved oxygen, or reduce sunlight
 - Modifications of RM -12 sloughs





Potential Non-Native Aquatic Species Control Actions (Cont.)

- **Biological controls:** introduction of organisms to control populations of non-native aquatic species
 - Introduce YY male brown trout or other non-native species to reduce breeding success over time by creating a skewed sex ratio
 - Introduce humpback chub or Colorado pikeminnow to the upper slough at RM -12 to prey on and compete with non-natives
 - Move local non-native common carp to the upper slough to overwhelm non-natives
- **Fishing or take changes:** changing harvest rates to increase removal of non-native aquatic species
 - Bounty system, tournaments, or other incentives for anglers to catch specific non-natives.
 - Coordination between federal and state agencies to explore education and/or catch-and-keep regulations for non-natives.





Potential Non-Native Aquatic Species Control Actions (Cont.)

- **Chemical controls:** limited application of chemicals to control populations of non-native aquatic species
 - Rapid response in limited number of years and in limited areas
 - For fishery renovation purposes prior to native species translocations or introductions only in tributary locations that have a natural barrier, such as Bright Angel Creek above “Split Rock Falls” or Shinumo Creek
 - As a last resort method to address potentially harmful non-natives in backwaters, low velocity areas, or sloughs, and prevent their distribution downstream after other methods have failed
 - For fish, only rotenone, other registered piscicides, or experimental chemicals allowed under federal and state regulations, such as ammonia, would be used
 - For plants or invertebrates, only approved chemicals would be used
- Chemical treatment would not occur in Ribbon Falls Creek, Deer Creek, or in the Little Colorado River Reach or in close proximity to known aggregations of federally listed endangered or threatened fish species.





Proposed Action and Alternative Concepts

- Alternatives have not been fully developed and we are soliciting input on initial alternative concepts during public scoping
- Four alternative concepts have been identified for consideration in the EA:
 - **No-action alternative (Alternative A)**
 - Continuation of existing actions and policies only
 - Actions described in CFMP
 - Actions described in LTEMP
 - **Most expanded control methods (Alternative B)—proposed action**
 - Most complete combination of mechanical, physical, biological, chemical, and fishing/take actions
 - **Moderately expanded control methods (Alternative C)**
 - More limited combination of mechanical, physical, biological, chemical, and fishing/take actions relative to Alternative B
 - **Least expanded control methods (Alternative D)**
 - Mechanical actions limited to those under Alternative A only, limited set of physical controls, full set of fishing/take actions, no biological or chemical control actions



Elements Common to All Action Alternatives

- Identify when and where different control actions could be taken
 - Decision tree or matrix including condition trigger levels
 - Preferred sequence of control actions: first resort, last resort
 - More than one control action could be applied at the same time
- Identify resources of concern that would be considered prior to determining action
- Monitoring and adaptive responses that would include:
 - Off-ramps that would be used to determine when control actions stop because of unacceptable adverse effects on resources
 - Mitigation actions that would be used to address adverse impacts on other resources
- All elements of the no-action alternative



No-action Alternative (Alternative A)

- Continued use of control actions that have been adopted by NPS and Reclamation under existing compliance documents

Comprehensive Fisheries Management Plan	Long-Term Experimental and Management Plan
Outreach	Mechanical removal of trout in Little Colorado River reach when triggered
Detection monitoring	Trout management flows (May through August) with the flexibility to apply to both rainbow and brown trout
Removal of incidental captures	Other experimental flows and actions allowed under the LTEMP record of decision
Source identification	
Targeted angling (non-commercial administrative permit)	
Emergency rapid response to detected expansion or new non-native species	
Comprehensive brown trout control (in Bright Angel Creek and GCNP source areas as identified)	
Adaptive management, outcomes, and triggers	
Beneficial use of non-native fish removed	



Comparison of Alternatives

Control Action	Alternative A (No-Action)	Alternative B	Alternative C	Alternative D
Mechanical Controls	Allowed under CFMP for rapid response targeting all non-natives and locations, and for comprehensive brown trout control in GCNP; under LTEMP as a long-term response for trout control in the LCR reach	Potential use of all control methods that are being considered	More selective mechanical removal of brown trout in Glen Canyon Reach, does not include concussive options for any species	Similar to Alternative A, but includes dredging or harvesting of non-native aquatic plants
Physical Controls	Operation of weir at Bright Angel Creek	Same as above	Similar to Alternative B, but RM-12 options do not include channelization, underground piping or filling upper slough	Same as Alternative C
Biological Controls	None	Same as above	RM-12 options do not include using common carp, or Colorado pikeminnow introduction in upper slough	None
Chemical Controls	None	Same as above	Same as Alternative B	None
Fishing/Take Changes	None	Same as above	Same as Alternative B	Same as Alternative B



EA Timeline

Date/Timeframe	Activity or Event
Nov. 15, 2017	Public scoping period begins
Nov. 28-Dec. 12, 2017	Public scoping meetings (6:00-8:30 pm MST) <ul style="list-style-type: none">• Webinar: Nov. 28• Meeting: Page, Dec. 6• Meeting: Flagstaff, Dec. 7• Meeting: Phoenix, Dec. 12 (Added)
Jan. 5, 2018	Public scoping period concludes (Extended)
Winter 2017/2018	NPS reviews public comments, analyzes impacts, incorporate findings of brown trout white paper and feasibility study, and prepares the EA
Spring/Summer 2018	EA available for 30-day public review and comment; public meetings held
Summer 2018	NPS reviews and analyzes comments, prepares errata, completes consultations with tribes and USFWS
Fall 2018	NPS issues decision document, as appropriate