

**CORRESPONDENCE RECEIVED FROM THE PUBLIC ON THE SCOPE OF THE
EXPANDED NON-NATIVE AQUATIC SPECIES MANAGEMENT PLAN
ENVIRONMENTAL ASSESSMENT**

Note to Reader: The comments contained in this Appendix were entered into and exported from an online comment database. Greetings, salutations, and concluding thank you statements have been removed, except in letters provided as attachments to comments. In some cases, the comment system translated commenter input into stray characters that were undecipherable; we have attempted to represent those comments as accurately as possible, but in some cases, ambiguity concerning the commenter's intent remains.

1

There should be a high catch limit (10 or more) or unlimited catch limit on Rainbow Trout and Brown Trout. Also, the NPS should recognize Navajo Nation's boundaries to include the mid river point of the Colorado River where the Navajo Nation boundary meets with the Colorado River.

2

I write this on behalf of the Desert Fly Casters, an Arizona Angling Club headquartered in the Phoenix Metropolitan area, and an affiliate of the Fly Fishers International. As such, we are a formal part of the organization that sponsors the Recreational Fishing Representatives to the Glen Canyon Dam Adaptive Management Program. We are several hundred members strong, and many of our members have long been frequent anglers on the Lees Ferry Rainbow Trout Fishery. Anglers from the Phoenix area surely make up a major portion of those who visit and care about the Lees Ferry fishery.

We have noted the request, as copied below, asking for an extension of the proposed comment period and for an additional public meeting in the Phoenix area for the subject EA. That request has been sent to you by those GCDAMP representatives, John Jordan, John Hamill and Joe Miller, and we want to strongly add our voice to that request. In the past, Our organization and individual members have commented on the CFMP EA and on the LTEMP EIS, and we certainly want to comment on this proposed action by the NPS. But we feel that the present comment period and the proposed public meeting locations as now scheduled do not provide us a reasonable opportunity to participate in that process.

We specifically ask that the comment period be extended by 30 days, and that a public meeting be scheduled in the Phoenix area so that we may equitably participate in this public process. Please advise us that you will accommodate that request, and of the additional date and location of the additional meeting.

3

As President of the Grand Canyon Chapter of Trout Unlimited I have two comments.

1. We would like the comment period to be extended beyond the holiday period. Many of our members, officers and board members are out of the area and we would like time to meet and discuss this proposal.

2. We think you should also have a meeting in the Phoenix area. While meetings in Flagstaff and Page are great many of the anglers that come to Lee's Ferry are from the Phoenix Metro area. If you have a meeting in Phoenix it would also allow people from Tucson to attend.

4

The Non-native Aquatic Species EA Scoping has arrived and brings with it a couple of requests. Those of us representing a coalition of Trout Unlimited, International Federation of Fly Fishers, community fishing clubs, individual anglers, and recreational fishing for the GCDAMP believe that it is in the best interest of the EA to extend the participation period by thirty days to a total of sixty days and to add an additional public open house. These requests are relevant to shaping a final preferred alternative. Preferred Alternative B, in its present form, has elements that border on unacceptable and have the likely hood of being highly contentious and strongly opposed by the angling community both procedurally and politically. Those elements need to be confronted and resolved for a successful EA.

The thirty day public scoping period is hardly adequate with a starting date from the date of public announcement, spread over a holiday period, and without the reviewed final product of the brown trout workshop integrated in to the alternatives. There has been a pattern in the past of announcing November/December thirty day commenting periods that while serving Federal agency purposes does not serve the impacted parties. With that in mind a total sixty day scoping period is requested, which should also provide for the finalized brown trout white paper to help shape a preferred alternative.

The public scoping webinar and two open houses are good steps for engaging the public. However, webinars as informative as they may be are inadequate for meaningful interaction at a productive level. Having an open house in Page is commendable and provides a participation opportunity for the Marble Canyon community and businesses that are most dependent on the Lees Ferry trout fishery and will be most affected by the EA. While a Flagstaff meeting is also desirable the base for affected anglers is in and around Phoenix. The intent of the scoping period should be to obtain meaningful and constructive comment leading towards an informed alternative decision that will be acceptable across the broadest spectrum possible. It would be unfortunate if there was the perception that not having a Phoenix open house was intentional rather than an over site. With that in mind a Phoenix area public open house meeting is requested.

5

It has come to our attention that the new Non-native Species Management Plan and EA Scoping process only has two meetings scheduled in northern Arizona and a 30 day comment period. One behalf of myself and the entire business community of Marble Canyon-Lees Ferry, we urge consideration to expand these public meeting to include other areas of the state as well as extend

the comment period to at least 60 or 90 days. Lees Ferry is a trout fishing recreation destination for people from all over the state of Arizona (as well as nationally) and to limit the public meetings to the geographic northern part of the state and to a 30 day comment period is going to exclude many who wish their voices to be heard. A longer comment period and meetings in Phoenix (and perhaps Tucson) are appropriate for a fair opportunity for public comment and involvement.

6

The Payson Flycasters and Gila Trout Chapter of Trout Unlimited also encourage you as did John Jordon, John Hamill and Joe Miller to extend the EA Scoping period from 30 to 60 days and add a public open house on the matter in the Phoenix area.

7

We represent the Sun City Grand Fishing Club. We are a group of 100+ men and women who enjoysport fishing mostly around Arizona. Our members live in Surprise Arizona, in the Phoenix metro area. We have monitored the study process of the Lees Ferry fishery for many years and our members enjoy fishing there, often doing overnight trips which include spending money on lodging and hiring guides. In recent years as the fishing has been less consistent our trips have diminished, whether that is caused by the high flow events or whatever, it has impacted our use and enjoyment of this fine resource. We look forward to improved conditions for fishing at Lees Ferry.

We are informed the new Non-native Aquatic Species EA Scoping has arrived and only allows for a 30 day comment period. At this time of year when many of our members are traveling, this hardly allows for our input. We also note there are meetings in Page and Flagstaff which is good, but nothing in the Phoenix area where a significant number of the Lees Ferry sport fishers live. We would request that more time be allowed for comment and that you have a public meeting in the Phoenix area which we will attend.

8

I am in receipt of a copy of the "Expanded Non-native Aquatic Species Management Plan in GlenCanyon National Recreation Area and Grand Canyon National Park below Glen Canyon Dam AnEnvironmental Assessment. Having read through this document, please consider the following:

1) Public meetings in Page and Flagstaff are fine for the folks who live in that area. However, most Arizona residents are in Phoenix and Tucson, well south of either Flagstaff or Page. For people in Tucson, travel to Flagstaff is nearly a 600-mile round trip and will require an overnight stay. Those in Phoenix are somewhat closer (350-mile round trip), but still a long car ride, and perhaps without the overnight stay. Since you are asking for public input and most of the public are in Phoenix and Tucson, why not schedule an additional public meeting in the Phoenix area to accommodate those in the population centers of the State? A webinar, while informative, is not the same as face-to-face, two-way conversation.

2) The 30-day public scoping period seems inadequate, especially if another public meeting can be incorporated into the process. In fact, the scoping period will have ended by the time the

white paper from the brown trout workshop, held in Phoenix September 21-22, is available for review. Perhaps extending the scoping period by an additional 30 days will allow for receipt and review of this document, and to incorporate any findings into the remedial action plan.

The NPS preferred plan, Preferred Alternate B, will certainly generate interest and comment from the angling community, most of whom live in central and southern Arizona. I believe it is in the best interests all concerned if the EA process involves as much of the public as is practicable, and sufficient time can be dedicated to the process to make sure that happens.

9

I am writing to you on behalf of the White Mountain Lakes Foundation and all its 120 plus members regarding the planned meeting on the NPS Non-Native Aquatic Species Management Plan.

We feel the short period allotted to review the plan is not adequate to fully comprehend the proposal. Lee's Ferry is way too important to all fishermen to not give it the full attention it deserves. I am not sure that Lee's Ferry will ever be the fishery it was back in the 70's and 80's but it must be at least given a chance to rebound fully and become the fishery it was in the past. Too many anglers are concerned here. In a day where too many important subjects are handled behind closed doors or without adequate representation and discussion on both sides....let's make sure this is given a fair chance for consideration from all stakeholders.

We propose a thirty day extension to the EA and an open house so fishermen can voice their concerns and opinions. Let the public show the NPS how important this plan is to them.

10

As President of the Grand Canyon Chapter of Trout Unlimited I have two comments.

1. We would like the comment period to be extended beyond the holiday period. Many of our members, officers and board members are out of the area and we would like time to meet and discuss this proposal.
 2. We think you should also have a meeting in the Phoenix area. While meetings in Flagstaff and Page are great many of the anglers that come to Lee's Ferry are from the Phoenix Metro area. If you have a meeting in Phoenix it would also allow people from Tucson to attend.
-

11

Arizona Sportsmen for Wildlife Conservation would echo the request from John Jordon, John Hamill and Joe Miller. Please extend the EA Scoping period from 30 to 60 days and add a public open house on the matter in the Phoenix area.

Thank you for considering our request!

12

The Arizona Wildlife Federation (AWF), is a non-profit organization with over 10,000 members and supporters that is dedicated to educating, inspiring, and assisting individuals and organizations to value, conserve, enhance, manage, and protect Arizona wildlife and its habitat. I

am writing to request that the public comment period be extended by a minimum of 30 days on the National Park Service's (NPS) Environmental Assessment (EA) for an Expanded Non-native Aquatic Species Management Plan in Grand Canyon National Park and Glen Canyon National Recreation Area below Glen Canyon Dam. We also request that that the NPS host an additional public open house in Phoenix, Arizona. These requests are relevant to commenting on the scope of the EA and shaping a proposed alternative.

In September 2017 the NPS helped organize a Brown Trout Workshop specifically to inform the scope and direction of brown trout control and management in the Colorado River below Glen Canyon Dam. The final workshop report will not be finalized and available to inform our comments on the appropriate scope of the EA until December 2017 or January 2018. As such, scoping should be delayed until the results of the workshop are finalized and available to stakeholders and the public for review.

The proposed 30-day public comment period also includes a major holiday period which limits the public's ability to attend public meetings and provide meaningful written comments. A 30-day extension would allow for more meaningful public participation and provide time to review the final brown trout workshop report.

The public scoping webinar and two open houses are good steps for engaging the public. However, webinars while informative are inadequate for meaningful interaction at a productive level. Having an open house in Page, AZ is commendable and provides a participation opportunity for the Marble Canyon community and businesses who are most dependent on the Lees Ferry trout fishery and will be most affected by the EA. While a Flagstaff meeting is also desirable, the base for affected anglers is in and around Phoenix. With that in mind a Phoenix area public open house meeting is requested.

13

Text of E-mail: The Zane Grey Chapter of Trout Unlimited received your below email notice of the National Park Service Expanded Non-native Aquatic Species Management Plan and EA, and requests an extension of public scoping period, and an expansion of the public hearing venues to include the Phoenix metropolitan area.

Please see the attached letter outlining our reasons for this request.

Text of attached letter:

We just received notice of the public scoping period for the National Parks Service Expanded Non-native Environmental Assessment.

We were surprised and disappointed to find the notice has such limited time, limited scope, and limited public meeting venues. We also noticed the comment period ends before the findings from the brown trout workshop are included.

The Zane Grey Chapter of Trout Unlimited, along with community fishing clubs, individual anglers, and recreational fishing for the Glen Canyon Dam Adaptive Management Program GCDAMP respectfully request the following:

1. Extend the participation period from thirty-days to sixty-days;
2. Add additional public open houses in the Phoenix metropolitan area; and,
3. Include the findings from the final brown trout white paper.

The thirty-day public scoping period is inadequate for a number of reasons. First the starting date of the public announcement spreads over a holiday period. A November/December thirty day commenting periods may serve Federal agency purposes; however, it does not serve the impacted parties. Second, the timeline unilaterally excludes the reviewed final product of the brown trout workshop integrated into the alternatives. Finally, the public scoping open houses do not include the largest concentration of Arizona anglers. We therefore request a total sixty-day scoping period, and Phoenix area public open houses which will also allow inclusion of the finalized brown trout white paper, and give the public the additional commenting time.

These requests are relevant to shaping a final preferred alternative. Preferred Alternative B, in its present form, contains unacceptable elements and could be highly contentious and strongly opposed by the angling community both procedurally and politically. These potential contentious elements need addressing and resolution for a successful Environmental Assessment.

We applaud the public scoping webinar and two open houses as good first-steps for engaging the public. However, webinars are inadequate for meaningful interaction at a productive level. The Page open house is commendable and provides a participation opportunity for the Marble Canyon community and businesses most dependent on the Lees Ferry trout fishery, and most affected by the Environmental Assessment. The Flagstaff meeting is also desirable; however, the base for the largest number of affected anglers is in the Phoenix metropolitan area.

The scoping period intent should be obtaining meaningful and constructive comment leading towards an informed alternative decision acceptable across the broadest possible spectrum. Unfortunately, not having a Phoenix open house gives the perception of intentional omission rather than an oversight. We therefore request a Phoenix area public open house meeting.

We sincerely hope you will agree to our requests so we may continue an open and meaningful dialogue regarding the GCDAMP and the National Parks Service Expanded Non-native Environmental Assessment.

14

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E-mail: 11-17-2017 4:19 pm

Thank you for your prompt response. As an added note the present scoping end date of 12/14 following only a few days after the 12/6 & 7 public presentations hardly provides for meaningful written comment from those presentations. While it is an opportunity to check of the box that there has been public scoping it may be lacking as an indicator of reaching for public comment and suggestions. Looking forward to the decision on both requests.

15

This is a really good decision on the part of the Park Service. The opportunity for constructive angler engagement and participation, to the extent possible within the EA boundaries, is the best prospect for an acceptable fishery management driven preferred alternative. Within the constraints of the limited information provided in the scoping notice there are serious angler concerns with certain elements of the alternatives. It will be beneficial to all concerned if there is open and informed discussion throughout the EA process that includes the most affected parties. If you are among the presenters coming to Phoenix, perhaps there will be time for some separate discussion.

16

As a life long sportsman and native of the state of Arizona, I can say for certain that we have lost several of the best fisheries in this state at the mercy of the NPS and experiments in the Grand Canyon. In fact, its arguable that Lee's Ferry and some of its tributaries were some of the best quality fisheries in the entire west at one point. Unfortunately, they are gone at the hands of scientific experiments and the out right slaughter of wild trout populations in the Colorado River, Lee's Ferry and its tributaries.

The Grand Canyon is a made man environment, cold water river. It should be treated in that manner. The chub is an important species and native fish certainly have an important role in the watershed however they simply have not adapted to the non-native environment, the man made river that exists in the Grand Canyon in this day in age. These adaptive management policies that NPS is putting in place to try to restore the chub are not a logical approach to the problem. Chub fry cannot survive the chilled temperatures of the Colorado.

The removal and killing of brown trout and rainbow trout through the Grand Canyon is a complete waste of resources, budget and cash. The brown trout are not the problem, they are becoming the scapegoat. The problem is the water temperature of the Colorado, that is fact. Brown trout consume such a small quantity of chub. Chub have far greater enemies and problems such as tapeworm and water temperatures.

The constant experimentation and adaptive management of the Colorado River and its tributaries throughout the Grand Canyon and Lee's Ferry has ruined the fishery. The economic value of this fishery is enormous and should be considered. The trout, both brown trout and rainbow trout should be left wild, free and able to sustain populations without unnecessary slaughter and directives aimed at wiping out their populations.

I ask that the NPS and AZG&F take into account the importance of wild, self sustaining brown and rainbow trout fisheries in the Grand Canyon. These fish are not the main problem behind the low population of chub that exist. Save the trout, save the chub. I believe in looking at other avenues to resurrect the chub populations and STOP attacking the trout.

17

Unfortunately, I am not able to attend one Phoenix area public meeting regarding this issue.

In lieu of attending ,I would like you to know of my concerns and that of many of my angler acquaintances regarding the potential mechanical removal of brown trout in the Lees Ferry area of the Colorado River. Based on my understanding of the issue, there is little or no science that supports this proposed action to protect important species 60 miles downstream.

I am an avid angler and a lover of the outdoors. I am also a firm believer in a sound approach to identifying real problems in the environment, researching and identifying potential solutions and selecting solutions appropriate to the problem &.if there is a real one. In this case the consideration of mechanical removal of brown trout in Lees Ferry as a portion of the proposed solution has serious implications for the rainbow trout fishery in this area.

Potential solutions such as allowing or encouraging brown trout catch and take in Lees Ferry and/or mechanical removal of brown trout in downstream areas seem to be logical, more viable and likely to work in the long term. They are also potentially less costly to NPS and to people/businesses that live, work and play at Lees Ferry.

This fishery has taken a real hit over the past several years and looks to be coming back to some degree. The mechanical recovery approach in Lees Ferry can do nothing but potentially devastate what has been and should be a true blue river rainbow trout fishery.

18

In over five years of fishing in the Lees Ferry stretch I have never caught a brown trout, nor have any of the dozens of other anglers with whom I'm acquainted.

I would urge that Alternative A be fully and completely pursued before any additional alternatives are entertained. Alternative D should be the next one entertained, but only after "A" has proven ineffective. Under no circumstances should mechanical interference with spawning areas used by brown trout be initiated because of the danger to rainbow trout spawning areas.

In general a wait and see approach should be adopted, at least for the next couple of years, until there are enough brown trout present to generate sufficient data to plan for their control, if indeed control of this desirable angling species is warranted at all.

19

My primary concern is sustaining the quality rainbow trout fishery at Lee's Ferry. There are precious few quality cold water fisheries in the Southwest....and cold water fisheries overall in the U.S. are in decline. Glen Canyon Dam exists...it is a fact, and the resultant tailwater environment should be managed as the quality cold water fishery that it now is. We should not be trying to return the river to a natural state that is no longer natural.

20

Just want to say my two cents. I am a Arizonan and 26 years old. I am a avid fly fisherman and am proud to call some of our small creek and rivers, amazing waters. One of my favorites is Lees Ferry, in Glen Canyon. This fishery is one of my favorite places on earth due to the fish and the scenery. Getting back on point. I would like to see this place turned into a manageable Brown trout fishery. I don't see the point in wasting tax dollar to eradicate a fish that you will never get entirely rid of. These fish thrive in the Colorado River system and we all know they're way south of the canyon. You cant kill the whole river.. survival of the fittest comes to mind. I don't know the exact numbers of browns but I'd say there is a 50:1 ration of browns to rainbows. We know there are possibly brown trout sized bows in this water so why target only one specie? The rainbows eat more of the aquatic insects which in my mind, would make me think they're killing the natives. Sure browns are more aggressive but that's what it takes to survive. Advertising and managing Lees into a brown trout fishery would bring a ton of new revenue to the area. Every person that fishes loves big browns over little bows. On a final note. I hate seeing what you guys have done to the brown trout here. It's not right.

21

Thank you very much for taking the time to present the NPS's Public Scoping Meeting this past December 12th. I found it very informative and very interesting.

It appears to me the NPS has an impossible job. On the one hand they are responsible for protecting and restoring non-native aquatic species in their native habitat, a habitat that in no way resembles their environs of years previous, no small part due to the construction of the Glenn Canyon Dam; and on the other hand the NPS is trying to maintain, and or restore, a world class Rainbow Trout fishery in the area of Lees Ferry. In many respects these two goals seem mutually exclusive.

Seeing how this is such a daunting task I believe the NPS should have all the tools at their disposal that will give them the best chance to achieve their goals. Although this might put me at odds with other self-serving fly fisherman at the meeting who only seemed to care about their beloved trout fishery and not the bigger picture, like the environment in general, I am in favor of Alternative B of the Expanded Non-Native Management Plan.

That being said, I have some caveats. Open communication with the public is essential, particularly before implementing some of the more aggressive measures of fish population control, such as the chemical killing of fish. Yes, you should have access to all the tools you desire, but how and when you use them should be open to public discussion.

I have a few other take aways from last night's meeting:

I am very much looking forward to reading the Brown Trout white paper. It seems this will go a long way towards defining the Brown Trout problem and determining what if anything needs to be done to control their population.

I found it very interesting how far some of the tagged trout migrated, even as far as Bright Angel Creek. I think tagging of fish should be continued and increased. This seems to be a great way to find out if non-native fish are indeed significantly migrating down river from Lees Ferry.

Not knowing a lot of the details, I think I would be against the construction of any pipe systems, or significant barriers to control fish populations. Knowing what I know about government funding, I can see where money might be made available initially to construct these things, but down the road this money can dry up and we are left with a bunch of useless junk in our river.

In all honesty, I think the meeting could've been run better. I would've been interested in learning the differences in philosophies between the Grand Canyon National Park and the Glenn Canyon National Recreation Area. It seems the latter allows for the stocking of Rainbow Trout and the former doesn't. Seeing how the two entities are adjoining this must be a very tricky situation.

I also would've liked to have heard a presentation from the fish biologist, I forget her name, who was at the meeting. Many of the questions were deferred to her and I think she could've told us more about the fish species involved. She seemed extremely knowledgeable.

22

When thinking about Lee's Ferry it is vital to remember that once the Glen Canyon Dam was completed, the ecology of the river was altered for as long as it remains standing. In that light, it is equally important to consider that native fishes are likely not suited to the cold water temperatures being released from the dam. It is utterly foolish to look at the trout population as an invasive species. The invasion happened when the dam was completed and the water temperature changed forever. Trout, unlike the warm water species downriver, thrive in the cold water and provide endless hours of enjoyment to fishermen from Arizona and across the globe.

Acknowledging that the river changed forever when the damn was built suggest that the pristine and cold water flowing above Lee's Ferry should be managed as a trout fishery and nothing else.

All efforts to eliminate any species of trout in this section of river should be suspended immediately and for the foreseeable future. There is plenty of room on the river for watercraft enthusiasts and fishermen alike. I urge those in a decision making role to consider that this section of river is unique and should be managed for recreational use by human beings and not for the benefit or species of fish that do not thrive in cold water.

23

Save the trout! Trout lives matter!

24

Please stop the war on trout! This is sacred ground for trout and trout fisherman and the species best fit for the area, that provide the greatest good for the greatest amount of species, should be considered first. Thanks!

25

Please refrain from eliminating trout from the Lee's Ferry fishery. Too many places in this country are now "drying up" to dedicated & other fisherman.

26

I am opposed to the Non-native Aquatic Species Management of Glen Canyon National Recreation Area and Grand Canyon National Park below the Glen Canyon Dam.
I am opposed to the expansion of the Non-native Aquatic Species Management of Glen Canyon National Recreation Area and Grand Canyon National Park below the Glen Canyon Dam.

I am opposed to this ridiculous program, and the waste of millions and millions of dollars of taxpayer money.

I am opposed the preference for native species over non-native species without any consideration as to the merits of the particular species in question.

I am a proponent of Rainbow trout; in preference to any other freshwater species (native or non-native).

I am a proponent of Brown trout; second only to Rainbow trout.

I am opposed to a misguided and enormously expensive attempt to eradicate superior non-native species (Rainbow trout and Brown trout) in a river that was irrevocably changed in 1963.

I am opposed to a misguided and enormously expensive attempt to restore inferior native species in a river that was irrevocably changed in 1963.

Not only should the Non-native Aquatic Species Management of Glen Canyon National Recreation Area and Grand Canyon National Park below the Glen Canyon Dam not be expanded; it should be terminated. Immediately.

27

Efforts to save the Chub, whose plight was created by the completion of the dam, run contrary to the use of the river by those who currently enjoy trout fishing. Those fisherman, and the business that offer services to them, add positive economic activity to the region. Please refrain from harming the interest of the current users to attempt to correct a problem created by government intervention. Leave things as they are. Further intervention will only create new problems.

I fish there and so do many others.

28

I am opposed to the electrofishing mechanical removal of fish from Lees Ferry. The long term effect will be devastating to the overall fishery. The quality of life in that stream will be seriously altered. The rainbow trout will suffer greatly, mortality rate will increase and behavior of the salmonids will be impacted. The Lees Ferry fishery has been ignored as to its quality water and national desirability for fishing.

I am against this Plan of Management.

29

Re: Your efforts to restore the chub and other native species to the Colorado river below Lake Powell.

Once the dam was built, the river's water temperature dropped forever creating a harsh environment for the chub and other native species. You now have a world class fishery that promotes our state and the area worldwide. It also supports jobs and businesses in the area. Please leave it alone, the environment is no longer appropriate for supporting the native species that lived there prior to the Dams construction.

30

Electro shock fishing of the lee's Ferry area of the Colorado River should be terminated. Brown trout will not significantly harm the fishery and electro shock will damage and kill rainbow trout populations. Fishing has been tough over the last few years here. Do not make it worse.

31

I am writing to let you know that I am strongly opposed to mechanical / electrofishing removal of brown trout in the Lee's Ferry Glen Canyon area. The reason I am opposed to this proposed management strategy is the undoubted significant collateral damage to the rainbow trout fishery.

Please consider other management strategies that will not impact this phenomenal rainbow trout fishery.

32

When does a fish become native? When it is in a body of water for 10 years 20 years or 100? Why would a Gila chub that seems to be a worthless fish have such a priority to all other fish?

33

I would like to hear from you why you would undertake this proposal and please include your reasoning, in detail. As a long time fisherman in the Colorado river I think your thinking is

flawed like so many thoughts coming from governmental agencies today. Let mother nature have its way with the various trout species and leave well enough alone.

34

I have just heard of the proposed electrofishing at Lees Ferry and elsewhere to apparently eliminate the Brown Trout population. I am more than appalled at what appears to be another 'mismanagement' step on the part of the Service. The type, nature and extent of poisoning of the river to eliminate sunfish population had a devastating effect for years on the population of both Rainbow and Brown at the Ferry. Despite their complicit comments about 'low flows' etc we all know why the fishing was nonexistent below the Ferry. No insect life, nothing.

So lets try another 'experiment'. Good idea....the trout population is just returning....the unique conditions at the Ferry for Brown and Rainbow to flourish in the same environment and should be preserved at all costs as the premier fly fishery in the State of AZ rather than a place to dabble in 'science'.

35

I have been fly fishing for over 70 years and visited Lees Ferry many times...the beauty and enjoyment provided by the river are wonderful! I strongly oppose killing off the brown trout species in the area....I have fished in many locations and have constantly seen various species cohabitate....please reconsider and let nature decide!!

36

Every time the Park Service gets the opportunity it moans about the lack of money for maintenance of existing facilities. Yet the Park Service continues to waste money that disturbs an existing fishery that is still recovering from previous experiments justified on very shaky grounds.

I oppose removal of native trout from the Colorado River by any means that damages the habitat and the survival of the trout not butchered by electromechanical shocking.

Let Arizona manage the trout while the Park Service attempts to manage the millions of acres in their jurisdiction.

37

Are you people crazy?

I have been fishing lees ferry for the past 30 years and have never caught a brown.

YOU R meddling with water flows has consistently harmed the fishery and now

You want to start electroshock ing? where is Trump when we need him.

DO NOT do this!!!!

38

Please do not consider mechanical removal of non native fish below Glen Canyon Dam due to the stress and damage to all other fish in those waters. Not only would it be damaging to the other species but the expense due to the dubious ability to accomplish that objective is a waste of

money. Encourage fishermen to keep the non native species by taking off limits or some other creative method if you must.

39

I strongly disagree with the suggested shocking methods for removing the Brown Trout species in the Colorado River. If the removal of the species is desired, a no-limit, catch and kill for this particular species would have substantially less ill effects on the other species and overall ecosystem.

40

Please do not allow electrofishing to take place at Lee's ferry.it will cause more harm thsn good.

41

Do not do this. As an AZ native please don't irresponsibly waste Federal funds in my home state for initiatives that are meaningless.

I strongly oppose this action for the following reasons:

(a) We are unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

(b) Many more rainbow trout would be shocked for each brown trout captured. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature that shows that the behavior of salmonids that are subject to electrofishing is affected by the electrofishing, which would impact angler catch rates and satisfaction.

(c) The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions that would benefit the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

(d) Native American tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.

(e) The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.

(f) Possible or potential causes for the recent increase in brown trout are ignored i.e. sequential fall High Flow Events, warmer water temperature, and fall High Flow Event related aquatic food base shift, etc.

(g) Recent sampling results are ignored that show a potential halt or change in the direction of brown trout numbers,

(h) Marble Canyon, the sixty river miles between Lees Ferry and native fish at the Little Colorado River, is ignored. No actions are proposed in Marble Canyon to address present or future and immediate threats to native fish in Marble Canyon or at the Little Colorado River,

(i) Park Service authority and control are asserted over the Colorado River fishery by relegating Arizona Game and Fish Department to a coordinating/cooperating agency as a fishery manager with only the Park Service having decisional authority,

(j) The Bureau of Reclamation that has authority over dam operations isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.

42

I have fished the Colorado River at Lees Ferry for 9 years. I have never caught or seen a Brown Trout in the Colorado River above the Praia River confluence. Until there is documented proof of the existence of Brown Trout in this section of the river it seems a waste of tax payers money to proceed with the electric shocking of the river just to look for the presence of Brown Trout. Electric shocking will traumatize the Rainbow Trout population that already have been traumatized with major flow variances over the past several years. Each time Rainbow Trout are traumatized the quality of fishing in the Colorado River significantly decreases. It appears the National Park Service is being pressured to do "something" even if that "something" has not been proven to be necessary or effective. As a tax payor and citizen that uses the Colorado River for recreation, I strongly object to the NPS Expanded Non-native EA.

43

I am not in favor of the "idea" of the "Mechanical Removal Of Brown Trout at Lees Ferry". Please reconsider this an option.

44

Please leave this River alone. I was just there this past year and fishing was half what it was two years ago. The National Parks Services has already done enough damage as They flooded the river last year to (Supposedly help) a small species of fish that was not even indigenous to this watershed. In the process destroying vital trout spawning areas and pushing the rest of the trout down stream or killing them due to the amount of silt drudged up from the bottom of the river from the almost torrential flood like river flows. This is one of Arizona's most precious and unique fishing habitats. If N.P.S. continues on this path you will not only destroy the fishery you will destroy jobs and income from tourism. This is a beautiful place, there is such a thing as too much help. Where is Trout Unlimited when you need them? I for one will be contacting my local chapter.

45

Please do not use the Mechanical Removal Of Brown Trout at Lees Ferry option. This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery.

46

Leave Lees Ferry alone. do not remove any fish species from the river. This also wastes tax payer money

47

I disagree with the shocking of lee's ferry to remove the brown trout. LEAVE THE RIVER ALONE

48

There is no reason to shock out the brown troughs they are a handful and shall remain as a trophy fish. Why not introduce more food sources and make better effort to regulating water flows and provide the necessary correction for this fishery?

49

Dont Eliminate a Long Term Plan with a Short Term Solution
I Am Against the Large Scale Mechanical Removal of Brown Trout in the LFR
There are Better Solutions to Keep within the Mandate of the River Plan.

The proper management of the Lees Ferry Reach (LFR) of Glen Canyon is of utmost import to thousands of citizens. From its inception as a Rainbow Trout fishery it has been a premier fishing accomplishment. The continuing management of this long term fishery needs long term answers NOT short term fixes.

By all the data and commentary in the white paper, Brown Trout Below Glen Canyon Dam no single cause was found to have a singularity among all the participants. In point of fact, the paper addresses this specifically.

Some conclusions were drawn as to the probable causal effects and the first three noted seem to be the most reasonable in my mind. Many of the Hypotheses mentioned have their own hazards, either in the forefront or unknown but to time.

I am surprised that one causal effect was not mentioned at all, that being the predation of brown trout fish eggs by rainbow trout. One can look to Alaska rivers and see thousands of rainbow trout follow the migration of salmon in order to feast on their eggs. One can also look to the LFR itself to see how anglers tactics change once the spawning starts- mush of the fishing is done with imitation fish eggs during the spawn time here on the river. This alone can reduce some of the spawning brown trout biomass when the rainbow trout population rebounds, as is currently indicated as happening now.

Brought out in the study was the fact that the rainbow trout biomass severely declined just prior to the increase in brown trout in the LFR. This decline could/can/should be attributed to the

management of the river ecosystem and mismanagement of the HFES during this time period (2010-2014). No food, no rainbow trout!

As your paper points out and as the majority of commentators surmised, high flows in the autumn of the year bring about the ingrained drive to procreate in the brown trout population. Combine that with the lower numbers of rainbow trout (probably causing a catch ratio imbalance in NPS sampling) and their lower predation of brown trout eggs and you would tend to see higher brown trout ratios in the LFR.

The autumn HFES also contribute negatively to the procreation of rainbow trout (as stated in your white paper).

There are two important aspects to bear in mind in any plan approved:

The survival of the native species needs to be assured

The survival of the Rainbow Trout fishery needs to be preserved and enhanced

Both goals can be accomplished with the following-

- 1) End the HFES in the autumn. This seems to be the primal cause of the brown trout migration up stream.
- 2) Authorize a catch and kill regulation on all brown trout caught in the LFR. Anglers WILL accept this if it is presented in a positive light in lieu of losing the entire rainbow trout fishery. Possibly instill a bounty or reward of some kind for every brown trout caught.
- 3) Utilize river flows to enhance the production of rainbow trout and sediment deposition (along with stocking of specialized strains of *O. mykiss*) to increase the predation of brown trout eggs.
- 4) Continue with the removal procedures now in place below mile 60.

It took four years for brown trout to reach their current level of concern. It should take just as long to mitigate the solution and monitor it as a long term proposition.

More thought should be given to how this came about rather than a knee jerk reaction for a quick but NOT permanent fix of mechanical reduction and removal of brown trout (as also noted in the white paper!)

Very little has been mentioned about the effects of electroshocking rainbow trout under constant shocking programs. Is the effect in terms of days, weeks or months?
Is there a reproductive negative associated with constant shocking?

Many questions remain unanswered in the proposed plan not the least of which is the opposition of the neighboring native tribes to wanton slaughter and waste of thousands of fish.

In summary-

I am opposed to the mechanical removal of brown trout in the LFR.

Stop all autumn HFES

Instill a catch and kill requirement on brown trout in the LFR

Utilize river flows to enhance the rainbow trout fishery (to the detriment of brown trout)

Continue with the current program below mile 60

50

I strongly disagree with removal of Brown trout from Lee's Ferry by electroshocking. I am concerned this approach will damage the Rainbow trout due to what will amount to repeated electroshocks of these fish. This approach will be expensive and not effective in a river this size.

51

Please don't ruin the tail water fishery on the Colorado River after Glen Canyon Dam by killing off the brown trout. Let nature take its course. This will have lasting effects on the rainbow population also. I fish this section many times all year and your ideas of sustaining the fishery doesn't make sense to sustain the population subject to ecological effects as well as effective regulations. Please refrain from killing off the browns from this river. How could this be done without doing it to the rainbow population? It can't!!!!!!

52

Please do not remove the edible fish from lees ferry

53

As a regular visitor and angler at Lees Ferry, I sincerely ask you to please rethink the proposed electrofishing mechanical removal of brown trout in Lees Ferry/ Glen Canyon.

Collateral damage to the rainbow trout fishery from mechanical removal on the proposed massive scale will be unavoidable.

Rainbow trout not removed at the time of brown trout removal will be intensely and repeatedly shocked as the electrofishing process progresses along the river and continues over recurring lengthy periods of time. Surviving rainbow trout, while recovering, would be unfishable for extended periods.

This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. I strongly oppose any mechanical removal of brown trout at Lees Ferry PERIOD!

54

I fish Lees Ferry every couple of years and I am concerned that the numerous electroshocking of all fish species will harm the fish not taken out. Please reconsider all other options.

55

No mechanical removal of brown trout

56

I strongly oppose any and all mechanical removal of Brown Trout from the Lees Ferry stretch of the Colorado River. The collateral damage to the Rainbow Trout fishery would be near catastrophic. The cost of the operations proposed are way too high, especially considering the very questionable efficacy thereof.

57

This is a foolhardy and unnecessary use of precious resources. I have been fishing Lee's Ferry for 25 years and in all those years and 100's of trips I have caught 1 brown trout. With all the groups of people I have fished with over the years I have only seen 1 other brown trout caught. This would be a complete misallocation of funds and staffing, let alone destroying a beautiful population of Rainbow Trout. If you want brown trout gone tell anglers to cull any brown trout caught and don't limit the catch. This feels like the "nuclear option" and not a wise way to manage one of the true gems of the Southwest.

58

Please! Do not move forward with the plan and electroshocking at Lee's ferry

59

Please no mechanical removal of fish from the Lee's Ferry fishery. It is perfectly fine the way it is.

60

I am against the removal of Brown Trout in the Glen Canyon and Lee's Ferry area.

61

I would sure hope this does not pass as the different types of fishing opportunities is what has always been an economical and recreational asset to all our local communities. This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. We strongly oppose this action and urge you to do the same by commenting to the National Park Service that you oppose any mechanical removal of brown trout at Lees Ferry PERIOD!
Please do not adopt this plan of action!!

62

Please do not remove Brown trout from Lee's Ferry through mechanical electrical means!!! This will destroy the fishery and the local community.

I urge you to please leave them alone!!!

63

Do not remove the brown trout from the Colorado river below the dam browns are an important fish and a he do a great job of cleaning up the weak fish and other predators.

64

The electro fishing project you have planned at Lee's Ferry to remove the beautiful brown trout is wrong on so many levels.

These are beautiful fish that I love to catch for the way they take the fly when I fly fish.

This is cruel to both the browns & the rainbows. They have all lived harmoniously together & I would like to see you leave them be.

I for one will travel elsewhere to fish as will many many other people I've talked to if you proceed forward with this torturous act which eventually could cause an economic issue for the area.

Please reconsider your planned actions

65

I would greatly doubt the effectiveness of the brown trout removal program. Also I have not been provided with a good argument as to why it is needed and what the future benefits may be. I am aware of the negative impact to what is the premier fly fishing area in the state, and I think the negative outweighs the positive.

Please consider not going through with the brown trout removal.

66

I am opposed to trying to eradicate the brown trout in the Lee's Ferry area of the Colorado R. Brown trout are a desired fish for fishermen. Plus shocking will be detrimental to existing rainbow trout.

One will never be able to restore pre-dam conditions as this river has become a cold water river in the area just below the dam. Trout thrive in cold water, humpback chubs do not. These attempts to restore the chubs is, therefore, a waste of taxpayer's money. The humpback chub will still do well downstream where the water is warmer. So leave things alone! Please don't harm the local Page economy by wrecking the sport fishing industry.

67

Please do not remove the Brown Trout by electrifying the river at Lees Ferry, I have seen only 2 Brown Trout in my 25 years fishing at the Ferry, this action will only reduce the population of the Rainbow Trout, the quality of fishing at Lees Ferry has seen a decline of the number of Rainbows caught by both the professional guides and the private anglers as well.

Think of the negative impact on the local businesses that depend on the visitors coming to the Ferry for quality sport fishing.

68

Do not kill off the Brown Trout in the Colorado River. It is a waste of money to try.

69

I really object to the aggressive and dangerous plans to remove the brown trout from Lee's Ferry. Electrocutation, really? What a horrid idea. And one guaranteed to destroy the rainbow fishery.

Here's an idea: if you want the brown trout gone, remove all restrictions on fishing them. In fact, insist on fishermen keeping all brown trout with no limit. That's what you did in a couple of lakes in Yosemite and it worked well.

70

It saddens me to read words like "management of non-native species" with the understanding that this translates into "senseless killing of our greatest sport fish." Please do not KILL Brown

Trout and destroy sustainable sport fisheries in the hopes of appeasing a few over-educated millennials.

71

I do not usually get involved with political arguments or express my anger to some of our governments idiotic ideals, but this makes my crazy!! Marble Canyon at Lees Ferry is one of the most breathtaking and amazing trout fisheries and tourist attractions in the world. The canyon spans several miles from the Glen Canyon Dam to Lees Ferry where thousands of fishermen and tourists ride the Colorado River through the Grand Canyon. Long before the damn was there, the Colorado River was a low, muddy stream that worked its way to Las Vegas through the Grand Canyon. There was a fish indigenous to the river called the Razorback Sucker. It had absolutely no function or useful purpose for tourists or fishermen. It just so happened to live in the muddy Colorado River.

In the 1960's the USBR built the Glen Canyon Dam in Page Arizona. The dam is to this day is a hydro electric power plant. No smoke, no chemicals or gas. Pure water to make energy for millions of people in Arizona, Nevada and Utah. With the addition of the dam came the stocking of rainbow and brown trout to the river. In just a few short years, the trout thrived and began to develop a natural reproductive cycle. This attracted fishermen from all over the world which then brought in lodges, fly shops, and guide services. Lees Ferry was booming not to mention the trout fishing was incredible! In the mid 2000's the federal government got this hair brained idea that they wanted to restore the river to its original habitat so they decided that they would ELECTROCUTE 10's of thousands of fish and simply kill them because they were not an original specie. After a couple of years of this senseless attempt to kill the trout failed but most of the guide businesses, lodges and fly shops had to close their doors. Now they want to try again!!! PLEASE help put a stop to this senseless behavior!!

This is a HORRIBLE idea!!! How can you eliminate the Brown Trout and not hurt the Rainbows as well???

LEAVE LEES FERRY ALONE!!!! The suckers are there.

72

As both an avid outdoorsman and a committed fly fisherman, I have marveled at both the grandeur and this amazing fishery for 34 years. It has provided for both myself, my wife, and hundreds of thousands of people an experience unlike anywhere else on earth. Folks who find the beauty of the environment well beyond breathtaking ~ and ~ this uniquely astounding tailwater fishery a destination that MUST be visited as often as possible.

Now...I understand that there is a plan to remove all the non-native species found in this water (read: brown trout). I find this so intriguing. Trout were introduced to the Colorado River in the 1920's although they did not truly make the river their home until after the building of the dam. I assume this defines them as 'native.' Allowing this to be correct, I further assume that you will be using electric shock techniques to 'reduce/remove' the brown trout population within the CRW below Glen Canyon Dam.

The obvious biological question: how do you selectively remove one species without 'collateral

damage?' Both to the rainbow trout and politically far more important humpback chub???

That said, I think my real point is WHY???? I am a pretty good fisherman. I have NEVER even seen a brown trout at Lees Ferry let alone catch one...in over thirty years of fishing there. To me, with my academics in marine biology, I see this as simply another attempt for 'science' to make a terrible mistake. The stories are sadly legend.

It seems that there are wonderfully natural alternatives. The biggest invite guides/fishermen to fish specifically for browns. I would do this in a second as I love to catch brown trout. Cull the browns as they are caught...as rainbows are culled from the waters of Snake River Watershed in Wyoming. If you catch a brown you keep it. This damages nothing. NOTHING!

And...

Let us not forget the potential financial impact on the businesses that line the cliffs along US 89A????? I know, for myself, that I will feel reticence re: going to Lees Ferry if I know that NPS is on the water shocking fish...not counting what this will do to the fishery once you are done. The major floods do enough damage. The draw downs do enough damage. Must you add this to the already quite onerous list of manipulations you feel necessary to satisfy some errant itch.

Make no mistake, I fully support most of what The National Park Service does...truly. For this, in good conscience, I cannot.

I sincerely request that you curtail this particular exercise. For the sake of the people that depend on this vibrant fishery for their lively hood. For those folks like my wife and I that are simply ardent fly fishermen, and most importantly...for this astounding riparian environment...the fish, eagles, hawks, ALL the creatures that make this place their home. Leave Lees Ferry alone. Its doing just fine.

73

I have been in Arizona now for 38 years and have fished Lees Ferry for 35 years and you need to just let nature take it's course I have seen Lees Ferry get screw up and Molested to many times because Man thinks he has a better ideal on what nature needs. Every time the fish just start to get healthy here you come to blow them down the river or shock them leave lees Ferry alone and stop screwing up the natural order of things. If you feel the need to shock something get a bunch of TASER'S and just shoot each other with them until you get it out of your system. And by the way good job on screwing up YELLOW STONE lakes and rivers another hair Brained ideal gone wrong.

74

As an avid Fly Fisher and a frequent visitor to Lees Ferry I would like to voice my strong objection to any new effort to remove Brown trout from this fishery. I have been fly fishing at Lees Ferry for over 10 years and I have probably caught and released close to a thousand trout during that period. Not one of these fish was a Brown trout- Zero. Nor I have I seen any other angler hook up with a brown trout during that time..

This leads me to believe that any concern about Brown trout being an invasive or an increasingly harmful species to this fishery is overblown and just not accurate. Im also very concerned about the collateral damage this brown trout removal effort will have on the currently thriving Rainbow trout fishery.

In short, please leave this fishery alone. It's the only world class fishery we have in this state. The die was cast when the dam went up & you will never be able to eradicate all the brown trout. Its just a waste of tax payers dollars.

75

I strongly oppose the plan for electrofishing removal of brown trout from the Lee's Ferry fishery. The "unintended consequences" of collateral damage to rainbows will devastate the fishery as well as the local community that depends on it. Brown trout are rare in that fishery and provide natural balance. This decision needs wide-spread public input before making a tragic poorly conceived decision.

76

Brown trout were introduced into North America starting in the 19th century. They established a stable niche in complex ecosystems and in many areas coexist with native and other introduced members of those communities.

It seems reasonable to discontinue the stocking of non-natives that may threaten the survival of native species. However, removal of introduced salmonids from systems where populations have been stable and inherently sustainable for long periods of time is clearly not in the interest of those environments or the American taxpayer. This would be an example of very little bang-for-the-buck.

Attempts to recreate environments that existed prior to the advent of man's development are often futile. The existence of dams, diversions and other alterations have created systems entirely unrelated to those of the riparian state of those systems. The petty but destructive meddling proposed here would be meaningless without the removal of Glen Canyon Dam and an attempt to return the environment to pre-man condition. Obviously, that is preposterous. Additionally, such efforts often have unintended consequences and should be undertaken only where there is a clear and credible threat to the environment.

77

I fish Lee's Ferry a few times each year. I can't believe that this proposal is even being considered. You have a healthy self sustaining trout population below the dam. Removing one species of trout is simply baffling. In so doing you will harm the safety and sustainability of the rainbow trout. It is a unique and amazing experience to fish for these trout in such a stunning canyon. Please don't jeopardize a whole fishery for something that will provided little (if any) benefit.

78

I most normally am a proponent of returning fisheries to their native state. And, I have been directly involved in reintroduction projects. However, in regards to Colorado River, Lee's Ferry

and below, I question the long term validity of such an undertaking. The Colorado River lacks natural fish barriers. While it is possible to eradicate non-native species, in an area, given time that area will return to a mixture of non-native and native species. Since the construction of Glenn Canyon Dam, these species have been allowed to co-mingle and establish a point of equilibrium. Without fish barriers, natural or other, nature has established the current fishery. Native and introduced species coexist, without one eradicating the other. That in it'self is somewhat unique. I urge you to leave this massive tail-water environment as it currently exists.

79

I do not see nor understand the reasoning for planning to electroshock the river. The plan to eliminate the brown trout may have some purpose, the plan will have a significant impact on other fish in the river. Rainbow trout and possibly salmon may be killed or significantly harmed.

Please reconsider your plan. I do not think it is well thought out nor is it really justified since the local economy as well as the fish in the river will be adversely impacted. The economy will be impacted once the fish are electroshocked due to the loss of good fishing. I doubt your plan will be effective since you have no control over which species or sub-species of fish ends up dead.

If you wish to reduce the number of brown trout, then I suggest you work with the local Fish & Game Department to increase the number of fish which may be captured and removed from the river. It will take longer, but neither the economy nor the river will be harmed.

80

STOP THE ELECTICTRIC SHOCKING OF FISH IN RIVER AT LEES FERRY?

81

NO MECHANICAL REMOVAL OF THE LEE'S FERRY BROWN TROUT!!!

82

I am an avid angler and removing brown trout would be a major blow to the fishery at Lee's fairy. I have always dreamed of traveling there and trying to find a massive brown trout in a wild canyon. Here in Wyoming they hardly stock brown trout in our rivers and lakes but they thrive and are able to reproduce in the wild making Unique wild fisheries that attracts people from all over to fish. One of the main reasons I haven't wanted to fish lees fairy is that it just seems to be a lot of cookie cutter rainbows but that slight chance at a big brown has always kept that spot in my thoughts... if the browns were to be removed that would take that fishery off my list for sure and a lot of other people's I am sure. Thanks for reading this hopefully you can save the brown trout!!!

83

I strongly oppose the mechanical removal of any fish at Glen Canyon / Lee's Ferry as doing so will have a negative effect on the remaining fishery. Repeated electrocution of aquatic wildlife is going to also affect the local community, i.e.: guides, motels, restaurants, service stations, etc.

No mechanical removal of Brown Trout from Lee's Ferry!! Please allow this species to remain so that sportsman can enjoy and appreciate their beauty.

85

The building of the dam at Glenn Canyon has resulted in a huge change to the original warm water silt laden habitat. There now exists a cold, clear water habitat below the dam. The Lee's Ferry fishery is a byproduct of this change. It has taken advantage of the changed habitat, and a thriving business has grown up around it.

We constantly hear of attempts to replicate spring floods in order to bring sediments into the canyon and restore some of the bank features that have declined since the dam. These have failed. One reason is the fact that the amount of water released may be a lot more than the normal flow, but it does not come close to the pre-dam floods. The second reason for the failure of these high flows is that the water released is not silt laden but clear. This has resulted in Fall high water releases to try to replicate the spring floods with sediments from streams below the dam.

While these attempts may cause a warm and fuzzy among hardline environmentalists, they are, in fact, of no value and only cause problems in the Lee's Ferry fishery that has grown up since the dam construction.

Now we have another band aid fix being proposed to try to restore native fish habitat to the Grand Canyon; the removal of Brown Trout. Efforts to remove Brown Trout from the Lee's Ferry/Glenn Canyon stretch of the Colorado River is another attempt to use public resources to try to restore a habitat that has been radically altered by the building of Glenn Canyon Dam. Not only will it fail to restore the warm water, silt laden Colorado River. It may further damage the trout fishery we created in the process.

The riparian habitat of the Colorado River has been radically changed. Our minuscule efforts to try to apply band aid fixes are ineffective. We are left with two choices that matter. One is to accept the habitat we have created and let it thrive. Two, return the river to its previous state by removing the dam. Anything else is fluff and only serves to make those involved feel good. "Feel Good" solutions are not what is required. This requires tough decisions, either leave it alone or pull it down.

86

I respectfully disagree with the plan to manage the Colorado River by removing Brown Trout from the river. While I generally support helping native species, I see no benefit to removing trout that are limited in impact so far downstream. And while Brown Trout are not indigenous, neither are Rainbows for the most part. The fact that there are multiple dams on this river creating these fisheries to start with, display that there is no real "natural" state that doesn't have human impact. Please do not destroy this fishery that is used by many and brings money into the area for local guides, outfitters, and fisherman.

87

I oppose any mechanical or other method of removal of the brown trout in lees ferry. This is a perfect example of the federal government acting without any scientific proof. This has happened

in with the bright angle creek in the Grand Canyon as well. Not only is this a waist of tax payers money you are ruining great fisheries which cause a loss of revenue for local business. Spend your time on more useful projects.

88

I, respectfully, oppose the eradication of brown trout at Lee's Ferry.

89

Lee's Ferry should remain intact as a trout fishery. Trout being defined as both the rainbow trout and the brown trout.

The removal of, and eradication of trout is detrimental to the use of this water for both recreation and economic use. The use of the endangered species act to act on these two purposes is petty and transparent. The national parks service has not participated in the Lee's Ferry fishery management in good faith with all parties interests in mind. The national parks service uses the endangered species act to push a narrative that native fish are required to be through out the Colorado river system, while ignoring the fact that the habitats have changed due to a huge damn.

Due to the national parks service lack of cooperation and recent refusal to let AZ game and fish stock the water at Lee's Ferry with no good reason it is obvious that they have not lived up to thier full responsibility, and only fixated on native fish, in a no longer native habitats. National parks should be removed from further involvement in any decisions related to the Lee's Ferry fishery management.

I also request a response to this, and complete financial disclosures for public fund spent on the restoration of native fish through out the national parks in the colorado watersheds within the state of Arizona. I request this from the beginning of implementation of the endangered species act.

90

I am absolutely opposed to the proposal to mechanically remove, by electroshocking and/or other means, the Brown Trout population in the Colorado River at Lee's Ferry, AZ. This also applies to Rainbow Trout as well. I'm not quite sure why this proposal to remove the trout population is even on the table? This is a valuable economic resource for residents and visitors, not to mention the impact this proposal would have on this ecosystem. What state of mind causes something like this proposal to happen?

91

I think its an absolute joke that your destructive irrational actions to mindlessly attempt to eradicate browns from this area which is clearly driven by beauracratc third party voices and not the voices and opinions of the local people who are way more connected to the river system is a gross and irresponsible travesty. Shame on all of you who carry out this ugly and unnecessary effort.

92

As a business owner and guide, I have had to live with the effects of decision making by state and federal agencies as well as private entities. Those effects are never foreseen by said agencies. They can be brutal and possibly unsurvivable for the businesses involved.

The mechanical removal of Brown trout from the Lees Ferry fishery **MUST NOT BE ALLOWED.**

93

Please accept this input with utmost seriousness and consideration: I urge you to **NOT** go ahead with mechanical removal of brown trout at Lees Ferry. Doing so will make that stretch of water meaningless to fish and impossible to enjoy for years to come. In general I support removal of non-native species but not in this case. Both brown and rainbow trout has been around long enough by now that they are both part of our natural fauna in most places.

94

Although I'm generally in favor of native species restoration, this plan doesn't make much sense at all. I worked for the US Forest Service doing native species restoration, as well as non-native species (brook trout) elimination, so I understand the theory. However, in this case, the NPS is planning to kill non-native brown trout but save non-native rainbow trout? At this point, this section of the CO River is where it is...there are non-native species. It's another massive tailwater similar to the Green below Flaming Gorge, which also has these species because there's a massive dam providing constant trout-supporting water. If the NPS wants this area to return to its native habitat, it's going to have to remove the dam, at which point this section of river won't support trout at all. I.e., the non-native trout problem will take care of itself.

The damage is done, humans have already significantly impacted these waters, and the only way to restore to native/natural habitat is to remove the dam. Until that happens, stop wasting taxpayer money on silly projects like this one.

95

Why not increase the catch limit for Brown Trout only for a season or two and determine the impact thereby?

96

Instead of killing the brown trout in the Colorado, i think you should protect them and the economic benefit they provide to the local economy. I plan to open A outfitters business at Marble Canyon/Lees Ferry in thr future. Im saving up capital now, a decision to do anything to negatively impact the existing trout in the Colorado would discourage me from starting a business there.

97

I am totally opposed to your plan to kill off brown trout in the Grand Canyon to think it would bring back Native Fish. The best plan to bring native fish back to the Grand Canyon is to breach the Glen Canyon dam. This would provide the needed water temperature for there survival; you know that! Instead you come up with lame ideas to satisfy Conservation outcry's when you know it won't make a difference. Don't destroy a great trout fishery that came with the dam, because

you're not going to breach the dam. Accept the outcome it produced, along with the cooler waters, electricity produced and flood control. I can't support the decision to kill trout to bring back natives.

I will only support the native comeback if you get serious and breach the dam.

98

I strongly oppose the removal of brown trout from Lee's Ferry.

99

The whole idea of removing *salmo trutta* from the main stem of Colorado is an exercise in futility. The dam altered the aquatic environment in the canyon and created a cold water tail water. The native species were adapted to a warmer and more turbid environment. That ship has been sailed! Don't ruin a fishery because the dams aren't coming down.

100

1. We are unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

2. Many more rainbow trout would be shocked for each brown trout captured. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature that shows that the behavior of salmonids that are subject to electrofishing is affected by the electrofishing, which would impact angler catch rates and satisfaction.

3. The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions that would benefit the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

4. The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.

5. Possible or potential causes for the recent increase in brown trout are ignored i.e. sequential fall High Flow Events, warmer water temperature, and fall High Flow Event related aquatic food base shift, etc.

6. Recent sampling results are ignored that show a potential halt or change in the direction of brown trout number.

7. Marble Canyon, the sixty river miles between Lees Ferry and native fish at the Little Colorado River, is ignored. No actions are proposed in Marble Canyon to address present or future and immediate threats to native fish in Marble Canyon or at the Little Colorado River,

8. Park Service authority and control are asserted over the Colorado River fishery by relegating Arizona Game and Fish Department to a coordinating/cooperating agency as a fishery manager with only the Park Service having decisional authority.

9. The Bureau of Reclamation that has authority over dam operations isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.

101

I am completely opposed to the proposed Park Service plan to attempt to eradicate brown trout from the Colorado River at Lee's Ferry via long-term, intensive and repeated electrofishing because of the expected long-term damage such activities will have on the rainbow trout population in the river. I have been fishing in the river for over 20 years, having caught and released thousands of fish. In all that time, I have only ever caught 2 brown trout. I shudder to think what the economic effect destroying this pristine fishery would have on the Marble canyon area. Please, don't do this!

102

I live in Coburn Pennsylvania on the banks of Penns Creek, one of the finest fly fishing creeks in the Eastern US. Even though I have year-a-round great fishing out my backdoor I have come to Lee's Ferry every year for the last 20 years because of the great fishery that exists there. Why would the NPS risk destroying such a great unique fishery? Glen Canyon Dam changed forever the river below the dam. As a result many wonderful industries and recreational opportunities bloomed in the desert. Attempts to pretend to bring back something that is gone, like the high water release events, have had a very negative effect on lake and river temperatures. Attempts to remove brown trout from below the dam simply will not work and will do irreparable harm to the rainbow trout and industries, and lives, that depend on the rainbow trout. Please consider leaving well enough alone. Destroying a unique fishery and livelihoods for the sake of a silly academic exercise is...simply wrong. One should ask themselves, why, why, why.

103

This is crazy and cruel. There must be another way Im not sure I understand why this even needs to be done.

Maybe TV news should look into this and see how the public feels about this insanity.

104

We want more fish not less??? Save all trout! Fish numbers are way down.

105

I have 2 main problems with this proposal. The browns they plan on eradicating, live 80 miles upriver from the endangered chubs. The NPS have no plan to address the browns in the 80 miles of river below Lees Ferry. Main problem is the collateral damage that they will do to the rainbow trout by repeatedly shocking the river. This is a knee-jerk reaction that has no chance of working

for the intended purpose of helping the endangered species in the Grand Canyon...waste of time, money and trout.

106

Please do not follow through with this project. The collateral damage is not worth it. In my last three trips the fishing for rainbows has been better every time....And thats at the walk in. Let the people fishing take the browns out as they catch them. It will work out exactly as it should. Browns are fun to catch too. I understand that this is and has been a rainbow fishery but making it worse during a comeback is not the way!

107

Amazing how unintended consequences keep arising with this fishery. Unfortunately for the humpback chub, its fate was pretty much sealed when Glen Canyon Dam was built in the 60s....before environmental impact studies were required. Pretty tough to manage a warm water species when man created a cold water environment and introduced cold water non-native species numerous times over the years.

Personally, I like the idea of having an opportunity to catch browns at LF. There are many tailwater fisheries in the west where both species co-exist. Since eradication is impossible, I think electrofishing in the LF reach is a waste of time and money. And it would negatively impact the quality of fishing at LF during and after the shocking for a unknown period of time. If anything, conduct the mechanical removal of browns near the Little Colorado as has been done in the past for rainbows. This is where the humpbacks mostly reside/reproduce and where removal of non-native species could do the most good. The money saved by not electrofishing at LF could be used to stock Hofer rainbows. This hardy strain is resistant to whirling disease and would further ensure the long term presence of rainbows in the fishery. I also am intrigued by the idea of the long term stocking of YY browns to interrupt the spawning success.

108

Killing the brown trout at Lee's Ferry includes a method that seems dangerous to the fishery and includes a damaging economical impact to the local businesses. Add my comments to those vehemently against the plans to do so.

109

Please do not wipe out the Brown Trout in and around Lees Ferry. Studies have not shown they pose a threat to other species, especially the humpback chub. Rainbow and Brown trout reside in rivers together all over the country and killing one in favor of another is silly. I would much rather the National Parks service in AZ do something about enforcement. AZ is horribly enforced when it comes to fishing regulations. Additionally, please continue your efforts to make Lee's Ferry a Blue Ribbon trout fishery, but not at the expense of the Brown trout.

110

I feel the removal of the brown trout should not be done and damage to the remaining rainbow will also be damage from repeated electro shocking.

I am totally against this action of the pArk service. I believe it will damage the fishery and all businesses in that depend on the river

111

I travel to Lee's Ferry once a year to fish. I stay at a local motel, eat at the local restaurant, buy gas at the local stations, hire a guide, buy a park permit, buy a nonresident fishing license for the year, and enjoy the beauty of this amazing fishery.

The local economy depend on this river and it's fishery, both browns and rainbows. Do you have a plan in place that will subsidize all the locals that you will effect by this asinine move?

What's wrong with you people, do you really think you can eradicate a species of fish without harming the other species also. Leave the damn fish alone, quit meddling with the ecosystem, go find some zebra mussels, and eradicate them.

112

To be clear I am directly opposed to any mechanical removal of brown trout in the Lees Ferry fishery!! This would be unwise on many levels. First and most importantly the collateral damage to other trout species and invertebrates in the fishery due to the repeated electrical shocking required to eradicate the one species would be profound. Additionally the economic impact on businesses in the area would be significant. Please I encourage you to reconsider this idea! No mechanical removal of brown trout in this fishery PERIOD!

113

This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. No Mechanical Removal of Brown Trout...Period!

114

I cannot understand the rationale for this unfortunate course of action. This has been a wonderful fishery for many years. Why, all of a sudden, do you find it necessary to tamper with it? This is foolhardy and, I'm sure, very expensive. Brown Trout are a wonderful species and we should count ourselves lucky to have another fishery that supports these magnificent fish. Leave things alone and let us continue to enjoy this wonderful piece of Arizona.

115

Don't electro-fish and remove brown trout from the Colorado River at Lees Ferry

116

I am a repeat visitor to the Lees Ferry area of the river. I do not agree with the removal of brown trout by electroshocking all the fish. What kind of effects does the electroshocking have on the current rainbow trout in the same waters.

Have you studied the effects of the electroshocking on the rainbow trout? Does it effect the spawn or natural actions of the rainbows? I think there needs to be further studies to see what long term and short term effects the shocking has on the current population of the rainbows. This year I have seen many small(3-4in) trout in the river around the walk in area and the boat launch, along with the same observation up stream. If the brown trout are so aggressive towards the smaller fish, how do you explain the quantities of small fish that are in the river now. The

brown trout currently in the area do not seem to be reducing these number significantly. It has been several years since the rainbows have been so healthy and in larger numbers. I just dont want to see you do anything that would hurt their progress.

117

Mechanical removal of Brown trout at Lees Ferry is absurd.

1. The Browns are mostly and mainly down stream.
 2. Rainbow trout are also non indeginous.
 3. Browns and Rainbows were introduced by NPS because they knew the need for a sportfishery for the economy of Arizona.
 4. Lets be honest unless you remove the dam we know the 20 miles south of it are too COLD for any of the rivers orginal Native fish.
 5. Rainbows and Browns can co exist.
 6. Collateral damage will occur on both Rainbows, Chubs, and Suckeds in the area. Let's not kill the last chub in removing a fish that wit eat him anyways!!!!!!
 7. If anything remove the Browns from bright angel and relocate them as they are trophy size to the upriver area.
 8. If we think they eat chub, get a grant and study iver five years the bellys of bright angel trout and see for sure.
 9. Don't ruin a good fishery:
 10. We need good bugs and fry upstream. Because let's be honest if you loose the fishery the damn scientist studying these fish won't have a job either!!!!!!
-

118

Please do not shock at Lee's Ferry. This is an awesome location to visit and fish. As a tail eater this river already has changed by man. You could eradicate the dam to become more natural. But you'll not do this. So the river has changed and Brown Trout, Rainbows etc all should be allowed to exist at Lee's.

119

NO mechanical removal of Brown Trout!!!

120

I would just like to say, that there's not one reason to allow you to kill the German Brown Trout at Lees Ferry. The proof in the White Mountains the Rainbows and Browns live in the White Mountain Apache Reservation Lakes and have for the last 45 years I have lived in and fished these waters. When your shocking starts the smocking process, how can it be right for your group not only kill Browns but all the young Rainbows in the 6-9" class to be devastated at the same. There's no proof of the Browns or Rainbows migrating down River and back, you've been trying to prove this since I started guiding in 1987. 3 years ago I something hit the river and within 5 days there wasn't a fish anywhere around a gravel bar unit this past season, yet the Park Service could not explain why we lost appropriately 30 o/o of our fish, and no restock was allowed because we were told it was not a sure loss of Fish. We are now catching some of the best fish we've seen in 4 years, and now you want to turn this up side down. OUR SPAWN is just starting and now we're going to deal with this massive shock of all fish at this time. I always thought this was a team effort. Public., Guides , most of all the Arizona Game and Fish doesn't

even have say in this anymore. Please do the research first and then evaluate the situation. Please don't do this without any knowledge of the situation.

121

I oppose any mechanical removal of brown trout at Lee's Ferry as it poses a risk to both currently healthy native trout populations, and could also negatively impact both the lifestyle and livelihoods of those living in the region.

122

I wish to comment on the removal of brown trout at Lee's Ferry on the Colorado River. First, electroshocking this water to stun the browns for mechanical destruction will impact the thriving fishery in this section of the river for the common angler by stunning all trout in the area perhaps ruining a once in a lifetime fishing and outdoors experience in this beautiful river canyon. Second, the licensed fisherman and outdoorsman paid for the maintenance and conservation efforts to have a successful, well managed fishery through license fees. The sportsman putz the majority of dollars into the local economy and tax coffers for the opportunity to fish for rainbow AND brown trout at Lee's Ferry. If the fishing is adversely affected by stunning ALL trout to mechanically remove the brown trout so many local fishing guides and businesses will be impacted. Fisherman will go elsewhere to fish for a more quality experience taking their money with them. I live in AZ and enjoy fishing for brown and rainbow trout at Lee's Ferry. My friends and I will feel big ole government will again put a damper on the chance to fish for rainbows AND brown trout in a heavenly setting. It sure seems like a senseless project to most. I urge the NPS to NOT move forward in killing brown trout at Lee's Ferry. It will be a huge loss to thousands and I cringe at the idea of it.

123

Please reconsider the plan to remove brown trout from the Lee's Ferry area. The impact on the fishery would be too great, and the brown trout is just as much of a game species that anglers pursue as the rainbow.

124

I am opposed to the proposed plan for the removal of brown trout from the Lees Ferry fishery.

125

Leave the trout alone. Electro fishing will harm other species such as Rainbow Trout.

126

I OPPOSE ANY PLAN to KILL OR REMOVE ANY TROUT SPECIES BELOW GLENDALE CANYON DAM IN THE COLORADO RIVER.

I enjoy fishing from Lee Ferry upstream to Glendale Canyon Dam.

I own my own boat, and this is the only cold water trophy trout fishery in the area.

This action will have a very negative economical impact.

This will affect the economy of Northern Arizona, Page Arizona, Kanab Utah.

Lees Ferry is a major trophy trout distinction for fisherman of the Southwest.

I say No to this plan!

127

This ongoing non-native study and electrofishing of trout trout at Lees Ferry epitomizes tax payer waste and federal employee job security. The dollars wasted thus far on these studies that have been ongoing for more than 2 decades is a travesty alone. In the private sector, if one cannot perform his/her job within 6 months or cannot complete market research within 12-18 months let alone 20 years, the employee is let go. Even more egregious is the electroshocking of trout in this magnificent PUBLIC fishery and waterway for both Arizonans and thousands of other Americas and international visitors finding their way to the famed Lees Ferry. This is truly an example of the fleecing of America under the guise of a study. It is imperative that NPS cease and desist the killing of our trout and IMMEDIATELY STOP WASTING OUR HARD EARNED MONEY.

128

I oppose the mechanical harvest of brown trout around Lee's ferry.

129

Leave the brown trout alone!! We love fishing for them! They are gorgeous fish! Nothing can be restored to original state with dams in place. Nobody wants your hatchery fish. Please do not remove brown trout. Don't ruin it! They have co existed for 100 years! Work on more restoration and trophy sections. Don't mess with the browns!

130

NO Mechanical Removal Of Brown Trout at Lees Ferry, Period

131

Please do not move forward with the execution of brown trout in the Lees Ferry fishery without the consultation or a forum for those who will be affected by this move. The brown trout have been coexisting with the other fish of that stretch in what seems to be a healthy habitation. Those who are on that river daily and depend on it's angling for their living should have a say in any matter that will have such a great impact.

132

If the trout population is healthy Browns, Brooks or Rainbows let them thrive. What is proposed in the Lees Ferry fishery is bizarre and irresponsible. The invasive species that should be eradicated are snakeheads, etc.

133

I would like to submit my input on the Parks Services electroshock and removal of ALL brown trout upriver of the LeEs Ferry put in to the Glen Canyon Dam. This is horrendous to keep removing a wild fish from a watershed for a small chub that really isn't located upriver as opposed to down river of the put in. I speak for a large group of regional and national fly fishers that take advantage of this fishery at least 12-50 times a year fo recreation. I also speak for the

guides and service industry that this fishery employees and provides income to. Please stop the electro shocking of brown trout in this fishery. We are all depending on this waterway for years of enjoyment and employment! Letters are being sent to local Senate, Congress and the President on this.

134

a) We are unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

(b) Many more rainbow trout would be shocked for each brown trout captured. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature that shows that the behavior of salmonids that are subject to electrofishing is affected by the electrofishing, which would impact angler catch rates and satisfaction.

(c) The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions that would benefit the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

(d) Native American tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.

(e) The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.

(f) Possible or potential causes for the recent increase in brown trout are ignored i.e. sequential fall High Flow Events, warmer water temperature, and fall High Flow Event related aquatic food base shift, etc.

(g) Recent sampling results are ignored that show a potential halt or change in the direction of brown trout numbers,

(h) Marble Canyon, the sixty river miles between Lees Ferry and native fish at the Little Colorado River, is ignored. No actions are proposed in Marble Canyon to address present or future and immediate threats to native fish in Marble Canyon or at the Little Colorado River,

(i) Park Service authority and control are asserted over the Colorado River fishery by relegating Arizona Game and Fish Department to a coordinating/cooperating agency as a fishery manager with only the Park Service having decisional authority,

(j) The Bureau of Reclamation that has authority over dam operations isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.

135

I am directly opposed to the mechanical removal of brown trout on the Lee's Ferry fishery!!!!!!!!!!!!!! PLEASE PLEASE reconsider!!!!!!!!!!!!

136

Absolutely no mechanical removal of fish on the kaibab.

137

It has come to my attention that the National Park Service has decided to eradicate the brown trout that reside in the 16 mile of the Colorado River below Glen Canyon Dam, also known as Lees Ferry. This is in an effort to help the native fish populations which reside far downstream of Lees Ferry.

I find a few flaws with this approach. The first is how eradicating one species of fish is going to help another species nearly 80 miles away. Never mind the fact that the brown trout constitutes a very small percentage of the overall fish population in that section of the river. The second is the residual effects of eliminating the brown trout will have on the population of rainbow trout. My understanding is long-term electroshocking of the river will be the method used to eliminate the brown trout. But how will it determine whether it is a brown or a rainbow. I do not see how this method will not (repeat will not) have an impact on the rainbow trout population.

To me and many others I find that once again the National Park Service is doing a disservice to the overall health of the river and wasting taxpayer money on an effort that has no benefit to the river. This is similar to the High Flow Experiments that the agency has done in the past that were done with the intent of maintaining the health of the river but no benefits were shown upon conclusion of these flows. The eradication of brown trout will go down this same path as there is no scientific evidence that this will achieve its purported goal.

I have visited and fished Lees Ferry over that last thirty years and it has come to be one of my favorite places to fish. The awesome beauty of Northern Arizona and Southern Utah has become one of my favorite places to visit. Add to that the awesome trout fishing that resides on that section of the Colorado River make it a fisherman's paradise. I know people from around come here to experience this opportunity. This influx of people provides economic support to the local businesses (guides, motels, stores, etc.). Please reconsider your plan to eradicate the brown trout so Lees Ferry can continue to be a destination for people from around the world to come to experience the great fishing and help support the local economy that relies on these anglers.

138

I am commenting to voice my opposition to the removal of brown trout from the colorado river system. Brown trout provide a quality angling and recreational opportunity that is rare in a desert

state such as Arizona. Efforts to remove brown trout would be unlikely to eliminate the species from the system and be a significant monetary expense at a time when limited funds could be better used elsewhere.

139

Please leave the Brown trout in the grand canyon alone!!!!

The so-called experiments and studies conducted on the river by the government has been a disaster for the only real fishing experience in the state of Arizona. In the 40 years i have lived here, I have never seen a single positive outcome of government meddling with the best sport resource we have. I love all trout and travel long distances at great expense to catch them . . . and especially BROWN TROUT . . . get a clue !!!!!!!

140

I fully support the removal of any non native fish from the Colorado river, including and especially brown trout. They are picivorous and are a threat to downstream native fish populations.

141

Any attempt at removing brown trout from Lee's ferry is greatly opposed.

142

I strongly oppose your plan to remove brown trout from Lees Ferry. I believe the vast majority of resource users have this same opinion and you should value that. I personally fished Lee's Ferry multiple times as a young man 30 years ago. The fishery has changed since then, as it had changed from before I ever started going. This is a normal evolution and we have thousands of examples of this in or waterways. The Colorado River no longer runs naturally. It will never be 'like the old days' or 'they way it used to be historically'. Trying to rewind the clock on the fishery is also unreasonable, a waste of taxpayers dollars and unwanted by the taxpayers who care about that fishery way more that the Park Service who is trying to force this. Please use common sense and consider that the fishermen and community want.

143

I am opposed to this action. This would greatly reduce the quality of the fishery, negatively impact the Anglers that work there as well as the local economy. Not to mention that this action is cruel

144

Re: proposal for electroshock removal of brown trout at Lees Ferry AZ/Colorado river. Over the years-atleast since the late 1980s, when I first fished LF and experienced the immense natural beauty of the place, as well as the world-class quality fishing, I have witnessed what I can only believe has been the planned destruction of the fishery. Fish numbers and size have declined precipitously, and many areas ofthe river once teeming with healthy fish populations are seemingly barren. I have witnessed the severe economic impact that the degradation of the fishery has had on businesses and individuals dependent on the health and quality of the fishing.

Lees Ferry is so much more than a fishing destination, but fishing there is what introduced many myself included-to the natural beauty, history and wonderfully diverse people who call it home. Please, please do not further destroy this once magical fishing and recreational area. ground

145

It has come to my attention that the NPS plans to eradicate all Brown Trout from the Lees Ferry section of the Colorado River while attempting to preserve the Rainbow Trout. I believe this is a poorly conceived decision in that the current "eco-system" of the Glen Canyon Tailwater fishery has been artificial for nearly 75 years and cannot be restored to it's historic natural state unless the dam is removed completely, if in fact this is a reason for eradicating the brown trout.

The NPS has an opportunity to support and promote sustainable economies surrounding and within their lands. The sustainable trout fishing economy at Lees Ferry would be deeply harmed with the removal of the brown trout population along with the accompanying harm to the rainbow trout. Please seriously consider the livelihoods of the local population of residents that derive some or all of their living from the amazing trout fishery at Lees Ferry.

Thank you for your consideration. As long as the Colorado River from Lee's Ferry (Glen Canyon Dam) to Lake Mead (Hoover Dam) remains a year round cold water eco-system "half measures" of eradicating certain trout species over others should be stopped.

146

This is in regards of the proposed electrofishing at Lees Ferry I am devastated by this proposal. The collateral damage to the amazing rainbow trout fishery will be devastating to this fishery. The local economy and impact economic benefits to this region. I urge you to put and end to this proposal.

147

No removal of brown trout from Lees Ferry.

148

I oppose the mechanical removal of brown trout from Lee's Ferry. There is no good reason to do this. It will harm the sport fishery and the collateral damage to other species is unacceptable.

149

Why would anyone want to do this? it's pure insanity and a total waste of money and labor. Why don't you concentrate on enhancing the fishery instead of destroying it? What special interests are you serving? Please do not continue with this plan Please answer my questions.

150

I recently attended you scoping meeting in Flagstaff. What a joke. As I understand it the Page meeting was held the same way. 45 minutes of blather from the National Park Service on why this overreach is needed, answering 2 questions, ignoring a third and on to looking at the pretty posters. The whole thing was presented as if this is a done deal and those I spoke to seemed to think it was. In my mind this meeting is NOT fulfilling the requirements and I'm letting

everybody know this. As I understand it, Phoenix allowed a little more involvement.

This end run by the NPS threatens the entire Adaptive Management Program as designed by the Grand Canyon Protection Act. This is a program that involves ALL stakeholders, informs decisions with the input of a solid science provider (USGS) and allows discussion and idea sharing. While not necessarily designed for, it does allow for management actions, as was seen during the trout removals in the Little Colorado River reach. The NPS has a history of acting in a unilateral manner. This is dangerous from the perspective of those concerned with the Lees Ferry sport fishery because 1) NPS has NO solid scientific arm to inform its actions and 2) it is part of the fabric of the NPS to NOT manage for non-natives such as rainbow trout.

Another issue is who exactly is responsible for the Lees Ferry fishery, Arizona Game and Fish or National Park Service. In my 50 years involved with the Lees Ferry stretch, NPS has NEVER shown interest in management of any component of this fishery. This is a recreational fishery, something NPS has NO business in being involved with. Until this turf war is settled, the NPS should not be allowed greater power to implement the uninformed, knee jerk management actions it is famous for. Just look at the "my hair is on fire" reaction to green ear sunfish.

As someone who has been involved in every aspect of the fishery at Lees Ferry, I understand that the most likely "tool" the NPS will pursue is mechanical removal in dealing with brown trout. Just a heads up here. I have several thousand hours of electrofishing experience in this reach. Whenever you shock, non-target species are also shocked. Most the time we are after rainbows, so when carp, flannelmouth suckers or any other non-target species is shocked, they MUST be netted out of the electrical field and placed in a container. If not they drift at the same speed as the boat, receive too much current and die. What this means is that the THOUSANDS of rainbows that will be shocked when pursuing a few browns will ALL have to be netted out, processed and revived. And I am sure there will be several boats observing and probably filming ANY efforts at mechanical removal in this stretch to ensure the problem of co-lateral damage to rainbows is addressed and minimized.

Rainbow trout and Brown trout have never been a serious threat to Humpback chub. Between 1965 and the early 1980s there were 10-20 pound rainbow trout throughout Marble Canyon. Those fish MIGHT have been a threat to chub. Today it is a death sentence for a salmonid to go below the Paria. It is muddy, it is warm and there is nothing to eat. The rainbows down there are not healthy enough to predate on chub. The huge 2011 year class that bumbled into Marble Canyon vanished. Browns have been in the system care of a more rational NPS since the 1920's. They have never gained enough of a foothold to really influence chub populations. NPS should be concerned with the real issue-foodbase-in the Grand Canyon. The condition factor of HBC is currently going right down the toilet and there are no trout in sight at the mouth of the Little Colorado. If they lose the HBC it will be because the real issues were never addressed and time, money and energy were focused on the non-natives, that, if truly a negative factor in HBC populations, would have destroyed the chub populations long ago.

The NPS needs to listen to the science that is being provided at great cost and utilize it in their decisions. Brown trout are NOT the threat they want to believe. This entire charade is political posturing and ass covering. Every fishery in the world has a stratified population of species. This

is the basic science that certain upper level fisheries managers can't get through their heads. Maybe the entire system is not entirely Chub friendly, you will have stretches that multiple species will utilize and you will have stretches predominated by one species or another.

The last thing NPS needs is more power and latitude in their involvement in fisheries management in Glen and Grand Canyons.

151

Are you kidding me. The unintended consequences on this will be astounding. This is wrong on so many levels. Leave the fishery alone!

152

The National Park Service (NPS) is soliciting scoping comments on a proposed Environmental Assessment (EA) for an Expanded Management Plan in Glen Canyon National Recreation Area (GCNRA) and Grand Canyon National Park (GCNP) below Glen Canyon Dam. The Arizona Department of Water Resources (ADWR) appreciates the opportunity to provide preliminary scoping comments on the Expanded Management Plan. ADWR is the state agency within Arizona that is authorized and assigned with the responsibility to consult, advise and confer with the Secretary of the Interior regarding matters dealing with the operation of the mainstem of the Colorado River. ADWR provides the following comments with the caveat that specific policy or technical level comments may be offered at the time of the release of a Draft EA. Pursuant to the November 15, 2017, Expanded Management Plan Public Scoping Newsletter (Scoping Newsletter), the purpose of the Expanded Management Plan is to provide additional tools beyond what is available under the 2014 Comprehensive Fisheries Management Plan (2014 CFMP) and the 2016 Long Term Experimental and Management Plan (2016 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. ADWR has concerns about the potential perception that flow related actions may be considered for this purpose. The EA should not infer operation of the Glen Canyon Dam as a tool 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. In addition, the EA should make it clear that the alternatives being considered will be carried out under the existing conditions and the current framework for operating the Glen Canyon Dam under the 2016 LTEMP Record of Decision (ROD).

The Scoping Newsletter indicates that "These non-native species have become an increasing concern due to changing conditions since the completion of the 2013 CFMP and the 2016 LTEMP." NPS should carefully consider the wording of this sentence. The sentence as written currently, may be construed to understand that the 2013 CFMP and the 2016 LTEMP changed conditions on the Colorado River. ADWR's understanding is that there has been an increase in numbers of non-native species, such as Brown Trout and Green Sunfish, in the recent years and no adequate existing measures to tackle these species were addressed either in the 2013 CFMP or the 2016 LTEMP.

The Scoping Newsletter also identifies action alternatives B, C and D to address the purpose and need. It is imperative that the EA explain out how the various control methods (as explained under each action alternative) will be implemented and monitored to determine whether, and to

what extent such actions were able to prevent, control, minimize or eradicate potentially harmful non-natives. The 2014 CFMP clearly sets forth indicators and outcomes for each of the resources it addressed. If the Expanded Management Plan EA were to build on the 2014 CFMP, there may be a need to clearly state indicators and outcomes. For example, the EA should clearly articulate the point at which NPS considers non-native species to be "prevented, controlled, and minimized". Furthermore, if the control methods begin to cause harm to the Humpback Chub (Chub) and other native species, then such methods should be terminated.

Potentially harmful non-natives are defined in the Scoping Newsletter as "those fish, aquatic plants, or aquatic invertebrate species that are not native to the action area and that may pose a threat to native species, or may pose a threat to the Lees Ferry recreational rainbow trout fishery." Yet the documentation considers introducing common carp, "a non-native," to the upper slough as a biological control method. ADWR cautions NPS to be circumspect in introducing common carp to the upper slough without more information and thought to future ramifications.

Reintroduction of the Chub or Colorado Pikeminnow to the upper slough is also being considered under biological controls in some of the proposed alternatives. ADWR does not believe that the feasibility of reintroducing extirpated species has been determined at this time. The reintroduction of extirpated species such as the Colorado Pikeminnow will likely impact the existing Chub population and should not be initiated without significant coordination and consultation with United States Fish and Wildlife Service (USFWS), the seven Colorado River Basin States and the Upper Colorado River Commission, the Glen Canyon Dam Adaptive Management Program (GCDAMP) and others.

In closing, ADWR recognizes the increasing concern with the presence of potentially harmful non-native fish in the action area and urges NPS to prioritize and expedite the development and implementation of the Expanded Management Plan. ADWR appreciates the opportunity to provide these scoping comments, and requests that it continue to be notified of any decision points, or additional activities related to the preparation of the Expanded Management Plan EA.

153

Please do not ruin lees ferry by shocking brown and rainbow trout. The Ferry has been a family and friends favorite for 20 years. We all have spent thousands of dollars in the area over the years. If there isn't any more fishing up there there is no reason to go. Please don't ruin the area and economy up there.

154

I oppose any/all mechanical removal of brown trout. The collateral damage from such an act is massive; there is no way to selectively remove any species by electro-shock without directly affecting other river life (rainbow trout, other fishes, insect life, etc).

I support the views stated here in AZFishbook.com that outline the reasons this proposal would be disastrous to the ecosystem of Lee's Ferry: <http://azfishbook.com/angler-alert/>

155

Do not engage in electrofishing removal of brown trout in az waters. This action will harm all other species do to repeated shocking. No doubt this will negatively impact breeding and overall population to the negative. Lees Ferry is an excellent fishery, I am always amazed by rhe rpeated efforts if beauracrates that dont know spit, of the effoets to destroy these habitats. Leave it alone

156

I strongly urge the NPS to abandon its plan to remove brown Trout from Lee's Ferry. The overall impact on all species would be far Greater than the non-species benefits. This does not include the Economic damage that would be done to those who provide services In this watershed.

157

Please refrain from this electro-shocking of fish in the river. If you want to diminish the brown trout - have anglers keep what they catch- no release... That would eliminate the unwanted species without impacting the whole fishery.

158

Do not Kill the Brown Trout in Lees Ferry. This is one of the best Trout Fisheries in this Country.

159

Lee's Ferry is an amazing fishery in spite of all of the mismanagement over the years. The water flows are inconsistent. Even worse, the high flow flushes destroy the food and habitat. As far as brown trout, they're awesome to catch. They fight great and they're beautiful. We usually catch about one per trip compared with 200 rainbows. I'm strongly opposed to removing the browns and strongly opposed to electrofishing.

160

I respectfully submit and request no mechanical removal of brown trout at the Lee's Ferry Fishery. I caught my first trout on a fly in 1986 here and have fished it many times over the years. I always get a kick out of landing a brown among the beautiful rainbow trout.

The old saying applies here, "if it isn't broke, don't fix it." Brown trout here have existed together with the rainbows, just as they have co-existed in other fisheries, including the Special Reg area on the San Juan.

Please don't upset this unique fishery by artificially trying to manipulate it. Let mother nature keep watch over this river.

161

I am strongly opposed to the proposed removal of Brown trout by electro-fishing or any other means at the Lee's Ferry fishery.

162

I understand no good beneficial reason for eliminating the Brown Trout by electrocution.

163

I am a US citizen, a voter, a business owner, and a taxpayer.

I am also a fisherman - and have been fishing Arizona since 1971.

The section of the Colorado River below Glen Canyon Dam known as Lees Ferry is a quality trout fishery.

I want my tax dollars spent on maintaining and improving that fishery.

I do not - - repeat not - - want my tax dollars spent on destroying or damaging that fishery in any way.

I am opposed to any plan that involves forced removal of brown trout from the section of the Colorado River below Glen Canyon Dam known as Lees Ferry.

164

Well looks like the National Parks Service is in the business of putting people out of business! Not cool. My wife and I have been fishing Lees Ferry for all most 30 years. Our good friends Terry and Wendy Gunn have worked hard building Lees Ferry Anglers. Their guides are constantly educating the public on conservation issues and practicing catch and release. Last summer we rafted 188 miles of the Grand Canyon. We caught fish everyday including the hard head chub. By accident of course. The river seems to be well populated in all 188 miles. For years I've heard of flows being adjusted more to normal flows that would actually help the bug population. But it's always the same with sping run off flows late in the year. Now you want to kill the brown trout and possibly damage the whole fishery. Do you really think you can kill all the brown trout when they will continue moving up from down stream. I hope with the public comments you will rethink your plans to kill all brown trout. Think about the lives you will effect in doing this.

The better idea is to create a fantastic fishery and bug factory.

165

The removal of Brown Trout by electrofishing is an incredibly ridiculous activity. As an outfitter in Montana for 20 years, I have personally witnessed electrofishing by Mt. FWP . The most glaring takeaway for me was the large number of Rainbow Trout killed in the process. Please reconsider this assessment and EA.

166

No mechanical removal of Brown Trout from the Lees Ferry area!

167

Given the resulting economic impact alone caused by the electric shock removal of brown trout from the waters of the Colorado River at, and above Lee's Ferry, I VEHAMENTLY OPPOSE THIS PROPOSED ACTION.

The only gain by such a removal by these methods is purely philosophical, and not actual; while harm will be real and felt for decades. In addition to the economic loss, the elimination of this

sport fishing venue will be felt by fishers across the nation, and even beyond our national borders, as currently Lee's Ferry is indeed a World Class Fishery. This action will reduce it to just a barren river, as this method of removal will ultimately destroy the rainbow trout population, as well. And for what gain?

On behalf of all those of us who fish Lee's Ferry, as well as those who rely on this vibrant fishery for their livelihood, I pray you rethink this proposed action. Save Lee's Ferry!

168

No mechanical removal of brown trout from Lee's Ferry - period! I am an avid fly fisherman, and NPS will be killing my hobby, as well as jobs and businesses in the area. No! The browns can only survive in the dam's cold tail waters, which don't extend much past Lee's Ferry. No! Don't remove the browns!

169

I strongly oppose the practice of electro fishing to selectively remove the wanted species of brown trout. Collateral damage to desirable species is excessive and exceeds the desired outcome of this destructive action. Long term negative results exceed the gains and in my opinion the risk is not worth the gain.

170

I am against the removal of Brown Trout from the Colorado River in the section designated as the Lee's Ferry fishery. There is no need to remove the fish since the temperature of the water increases further from the dam limiting the survivability of trout downstream from the dam when the water becomes too warm for the trout to survive.

171

My reasons for my objection to this plan are as follows:

1. I have never seen nor hooked a Brown Trout in the numerous times I have fished this area. I have hooked and released large numbers of Rainbow Trout. It appears to me that there are few if any Brown Trout in this part of the river.
2. I have heard that the plan is an ongoing program which will submit the resident fish to several shocks over an extended period. I'm not an expert, but it seems to me that repeated electric shocks over time will be harmful to the healthy fish (Rainbows) in the river.
3. I have not seen nor read any scientific data which proves that this action will be effective.
4. Continuous shocking and potential killing of both Brown Trout and Rainbows will unnecessarily affect the fishery, have a huge impact on the local business community and cause a significant drop in local revenues and good will.
5. I have learned from others that dam operations already in effect (high volume flows) have already impacted the fishery by eliminating the native insect population, affecting the health of the resident trout and altering the natural habitat along the river course. In my own experience,

catch rates are down significantly in recent years.

6. I also hear that the local Indian tribes find this plan conflicts with their religious and spiritual beliefs. You don't want to upset the Indians!

7. Where is the money coming from on this project? Couldn't that same money be used to enhance the fishery rather than decimate it? Perhaps by improving the riparian zone, in-river habitat, creating new spawning beds and giving the natural food chain a chance to re-establish.

8. Finally, have you considered changing the regulations on the Lee's Ferry section of the river to "Catch and Keep" in regards to Brown Trout?

Thank you for your consideration of my views. I urgently request that the Park Service take another hard look at the potential problems the proposal will create.

172

No removal of brown trout from Lee's Ferry period!

173

As an Arizona resident i find it appalling that the National Park Service is considering electro shock for the removal of non native species in the Colorado river Lee's Ferry. First and foremost why would The National Park Service proceed with a process that has shown no positive impact to the river, secondly if the goal is to bring down non native species then at the least it could be left to the fisherman and guides to help in bringing those species levels down by asking that us fisherman target those species and allow no limits on them ask us not to release them when we catch them so the remaining species are not being affected. I am very aware of what has happened in the past with trash bags of dead fish being left at the dumpsters by Park Service and its disgusting. Please do not follow through with this unproven and environmentally damaging process.

174

I don't see how killing all those fish have any purpose. It will also kill the fishing industry in the canyon.

175

I was in attendance at the December 12th meeting in Phoenix. Thank you for having a meeting in Phoenix, it helped better communicate and to provide understanding of the issue.

I am opposed to any effort to remove brown trout at Lees Ferry. Attempts at electrofishing will be harmful to all trout at Lees Ferry. To remove 100 brown trout, you will need to shock 2000 rainbow trout. Numbers will be impacted or killed.

Rainbow trout at Lees Ferry are already struggling due to the fall high flow events and habitat changes. They do not need anymore challenges.

I have fished Lees Ferry since 1998 and enjoyed many wonderful outdoor experiences in

addition to the fishing. However in recent years due to the quality of the fishing, the number of visits and opportunity to enjoy the area have declined as a result of the poor outlook for fishing. In all of my many trips, very few if any brown trout have been caught.

The concentration of humpback chub is near the Little Colorado. At the meeting on December 12th it was reported the chub population is doing very well.

With a healthy humpback chub population that is 60-70 miles downriver from Lees Ferry, and an unhealthy rainbow population at Lees Ferry, why would you even consider spending huge amounts of OUR money on such an effort? Prior efforts to remove brown trout from the river near Bright Angel Creek and the Little Colorado River have been minimally successful.

The Colorado River is now a coldwater river in the upper reaches, let's recognize it as such and live with those changes.

My recommendation is that you take no action in regard to brown trout. Accept Alternative A as the best option and save resources and efforts.

Further you should involve Arizona Game and Fish and the Bureau of Reclamation to work on improvement of the trout fishery at Lees Ferry which has great opportunity for fishing and enjoyment.

176

The Department of the Interior ("Department"), through the National Park Service ("Park Service"), has announced plans to prepare an Environmental Assessment ("EA") for the purpose of providing additional tools beyond what is available under the Comprehensive Fisheries Management Plan ("CFMP") and the Long-Term Experimental and Management Plan ("LTEMP"), in order to allow the Park Service to prevent, control, minimize or eradicate potentially harmful non-native aquatic species, or the risk associated with their presence or expansion. The Southern Nevada Water Authority ("SNWA") has accepted Cooperating Agency status for this EA, and provides the following comments as part of the scoping process.

Through SNWA's extensive involvement in the Glen Canyon Dam Adaptive Management Program (GCDAMP), SNWA understands the Park Service's administrative and technical challenges in dealing with undesirable non-native aquatic species. While the CFMP allows the Park Service to respond in emergencies to the detected expansion of new non-natives species, the approach outlined for this EA offers a more proactive planning framework to respond to undesirable conditions. SNWA supports this more proactive approach.

SNWA agrees that changes to the CFMP and LTEMP are outside the scope of this EA. Specifically, the EA should not consider actions that would alter Glen Canyon Dam, modify Glen Canyon Dam operations, alter the forebay temperature of Glen Canyon Dam, or modify the accounting window and triggering criteria for High Flow Experiments.

Clear, quantifiable thresholds for control actions need to be identified in the EA. This would minimize or avoid the difficulties in making timely, crucial decisions during the transitional period between when a non-native aquatic species first becomes established and when the

invasion is uncontrollable. Had thresholds been identified for green sunfish (*Lepomis cyanellus*) in the Lees Ferry reach, the decisions to implement the 2015 and 2016 Fall HFE's could have been a substantially less intensive effort. This lack of clarity and direction lead to the Department of Interior Glen Canyon Technical Team agreeing to prioritize working on actions regarding non-native fish .

Control actions must avoid and minimize any potential negative consequences to the humpback chub (*Gila cypha*). The EA should include the potential for the Park Service to take proactive action when emerging conditions raises plausible or probable threats of harm to the humpback chub, even when there is uncertainty. When uncertainty exists, the Park Service needs to be able to take actions that err on the side of caution to protect the humpback chub.

A comprehensive detection monitoring program is necessary for non-native aquatic species management to be successful. These are identified as be part of the No-Action Alternative. However, it is unclear which activities are included in the monitoring program and if the program is suitable for detecting all of the non-native aquatic species to be considered in the EA under the various alternatives. The specific monitoring activities that are or will be conducted should be described for each alternative.

Decision trees should be used as part of the EA analysis for sequencing the use of options and monitoring for unacceptable adverse effects that would initiate off ramp or mitigation action.

The use of non-native common carp (*Cyprinus carpio*) as an alternative element should be dismissed from detailed analysis. The peer-reviewed scientific literature contains numerous examples of well-intentioned species introduction efforts that have resulted in undesirable and unexpected outcomes to desirable species. The potentially negative effects that could result to chub from an unintended carp escapement is not a worthwhile risk and is not necessary to meet the purpose and need of this EA.

The use of pikeminnow (*Ptychocheilus lucius*) as an alternative element should be dismissed from detailed analysis. It is unreasonable to expect that pikeminnow can be stocked without risk of escapement, and the potential effect on humpback chub is unknown. Humpback chub populations have certainly improved since the 1990's but they are not robust enough for delisting to be warranted. Given the likelihood of pikeminnow escapement and uncertainties associated with pikeminnow-chub interactions, this element should be removed. Moreover, the potential for stocking pikeminnow is a controversial subject (see page 42 of the CFMP Finding of No Significant Impact) and its inclusion would likely foreclose the opportunity for a Consensus-Based Alternative. Including this element in the EA will only lead to unproductive and unnecessary controversy that would delay the EA schedule, and potentially result in greater potential harm to humpback chub and other important resources.

The scoping announcement identified that the Proposed Action "was developed in coordination with cooperating agencies" but that should not be taken to mean that SNWA supports all of the elements of the action. Rather, SNWA supports the general scope of the project, including its purpose and need and the issues to be analyzed, and encourages rapid completion of the EA. As detailed above, SNWA has specific suggestions to help improve the action and alternatives

considered by the Park Service. We appreciate the opportunity for engagement in this process and we are eager to see the process conclude by the Fall of 2018.

177

Do NOT ruin the wonderful, world-class fishery known as Lee's Ferry on the Colorado River by killing off and removing any brown trout!!!

The Lee's Ferry fishery provides jobs in this rural area and excellent recreational opportunities as many visitors travel from throughout the United States for the recreational fishing opportunities. The majority of the fishing is catch and release fishing. This opportunity would be devastated with efforts to electro-shock the brown trout; that process cannot be accomplished without a negative impact on the existing rainbow trout being affected as well.

The long existing guide services would be forced out of business and the few restaurants and motels forced to close too.

Friends and I have traveled from Gilbert in the Phoenix area many times to fish this beautiful stretch of the Colorado River from Lee's Ferry to the Glen Canyon Dam. This area gets consistently high recreational usage days all year long - even in 100 degree temperatures.

It is unique with the uniformity cold waters being released from the bottom of the dam providing an excellent habitat for the existing trout in this normally high-desert environment.

Why do you feel you need to remove the brown trout? I read that it's because they are non-native. So, are the rainbows and other existing fish all natives? A better question is whether or not the dam is "native". Obviously not, but we need and want the dam to stay. We need and want the rainbow and brown trout to stay.

I have taken my family to just visit the area sincerely plan to take my kids and grandkids to fish on this great resource.

178

In regards to the mechanical removal of the Brown Trout from Lee's Ferry and tributaries of the CO river. I do not support this practice and procedure. If there is more information about this, that is available to the public I would appreciate understanding the reason the NPS in choosing this procedure to protect the native fish.

179

I most strongly oppose killing brown trout using mechanical controls to "include long-term intensive and repeated electrofishing" in the 16 mile section from Lees Ferry to the Glen Canyon Dam.

I am a fishing enthusiast who has often used the motels, restaurants, gift shops, guide services, and more in the Lees Ferry area. I am somewhat familiar with the Brown Trout Working Group and the Glen Canyon Dam Management Technical Working Group.

The reasons I so strongly oppose the action proposed in this EA are:

The damage caused by this action will far, far outweigh the good.

- The "good" is to achieve the purpose of protecting the humpback chub and other native species.
- - Past electrofishing efforts in the Grand Canyon as well as other National Park areas including Yellowstone have not shown results as expected...why expect better results? Especially in the Lees Ferry area where there are so few chubs. They like the warmer water farther (80 miles) downstream.
- - If you want to spend money, do it where the most good will be done...where there are more brown trout and more chubs.
- The damage is people's lives...their livelihoods...the local economy...the reputation of the National Park Service as well as the fishery. One of the objectives of the action itself, as well as of the CFMP and the LTEMP, is to protect the Lees Ferry recreational rainbow trout fishery. This action, without a shadow of a doubt, would devastate it instead of protect it.
- - This action of extensive, high-powered electroshocking does not distinguish between rainbow trout and brown trout. The repeated, heavy shocking over an extended period would essentially wipe out any fishing success for months. I have fished behind "low power" electroshocking, and know it's a lost cause, and for an extended period of time. If the fish aren't biting, the fishermen stay away. If the fishermen stay away, the economy of the area suffers horribly...and for no real reason but for a "science project" that will not produce results that matter...it will not produce any significant improvement in chub population because the chubs are not in significant numbers in Lees Ferry, and the brown trout population is also very low. If you want to have success in hunting, go hunting where the game is!

One of the key reasons that this action is being proposed is that the trend between 2014 and 2016 showed a definite increase in brown trout numbers in the Lees Ferry area. However, this action does not take into account the 2017 brown trout count showed a very significant decrease—so there is no longer the same "trend." Executing the action based on this data would be reckless and a waste of tax payers money—worthy of a 60 Minutes production on waste and fraud.

In the area of Lees Ferry, the ratio of Brown Trout to Rainbow Trout is extremely low, even with the 2016 "old" data. Thus, hundreds of rainbow trout will be negatively impacted for each Brown Trout eliminated. Those Rainbow Trout are wild trout. This area is not stocked and unless you screw it up, it should not be. This "shocking" experience will not only impact the recreational viability of a Nationally recognized Blue Ribbon Fishery, it will do so over the long term due to impacts on spawning, area reputation, and loss of good employees in an already depressed area.

The data and input from the Arizona Game and Fish Department seems to be ignored. The data from the NPS shows a decline of rainbow trout during the years that they show an increase in brown trout (again—not supported by your own data in 2017). The creel counts over the past 5 years show a much improved fishery in the past few years. That data is closer to a day-to-day data source, and is diametrically different from the NPS data from sporadic electrofishing counts. It shows improved count and quality of rainbows over the past several years.

In Summary, this EA action's unintended negative consequences will ruin the Lees Ferry Fishery for months and months, but the impact will extend its demise into years. That will cost jobs and

hurt the economy. It will ruin a nationally recognized blue ribbon fishery for years to come and alienate most of those who care about our natural resources. The benefit of improving the chub population in the Colorado River by extensive electrofishing in Lees Ferry area is even doubtful in your own literature, so it's befuddling as to why this is even considered. Please delete the extensive electrofishing in the Lees Ferry area from your action plan.

180

I am writing to voice my concerns with any form of mechanical trout removal on the Colorado River. The big issue here is environmental in the form of cold water discharges from Glen Canyon Dam. The overall effects of long term intensive electroshocking to the trout and the businesses and anglers who rely on this fishery will be devastating. Please do NOT approve mechanical removal of trout as a management strategy on the Colorado River. Doing so would be blindly reaching for a meaningless solution that does not address the real issues and simultaneously hurts a lot of people who depend on this fishery.

181

I do not support removing Brown Trout, or any trout from the Colorado river. If the population really needs to be controlled, raise the fishing possession limits. There is no rational reason to return waters to their native environments and species. These brown trout were planted there for a Good reason.

182

After 20 years guiding at Lees Ferry I've seen many fluctuations in the population of trout. The "powers that be" have done their best to destroy the trout population at Lees Ferry under the guise of protecting endangered species downriver. Despite these efforts, the rainbows have persevered and are currently rebounding thanks to 2 consecutive years of good spawns. Now, in addition to the 6 annual electrofishing studies by AZGF and USGS, the NPS wants to add the the mayhem by doing their own shocking to kill our brown trout. According to AZGF end of year report for 2017, data from their 3 electrofishing trips yielded a grand total of 3.29% of the catch; 70 brown trout versus 2038 rainbow trout. True, this number is up versus pervious years, but still a very small number in the big picture. NPS claims their brown trout killing efforts are to protect the rainbow population from the predatory browns.

We all know that brown trout and rainbows can't coexist in the same water. Oh wait, there are tens of thousands of fisheries worldwide where browns and rainbows do just fine together. Does the NPS think the public is really that stupid? What the NPS is really worried about is the browns traveling back downstream 85 miles to the Little Colorado Confluence and invade the humpback chub habitat and eat the chub. Browns have been in the Grand Canyon stretch of the Colorado river, including the Little Colorado, since the 1920's. Studies show the population of humpback chub is doing very well thanks to the efforts to translocate populations to Havasu and Shinumo creeks in Grand Canyon and upstream into the Little Colorado above a natural waterfall barrier. Once brown trout find a food source, they are likely to stay where that food is located. Lees Ferry has abundant midges, freshwater shrimp and aquatic worms in addition to trout fry. The likelihood that the browns will abandon the verdant fields of Lees Ferry and taverse the 85 miles downstream is minuscule.

According to my conversations with a field researcher at AZGF, the idea that the brown trout

trout will cause harm the rainbow population is unfounded and ridiculous. Sure, larger browns will eat small trout, including their own. Does this mean the sky is falling and the end of our coveted rainbow fishery is on the horizon? Of course not. LEAVE THE LEES FERRY BROWN TROUT ALONE!!!

What a tremendous waste of OUR tax dollars! This is not good science, it's a knee jerk reaction and the extreme agenda of a small number of individuals within NPS.

183

I strongly urge the NPS to stop the killing of trout in the Grand Canyon and Lee's Ferry. I do not support the mechanical removal and killing of trout. This is a non native environment below Glen Canyon Dam. The river is a cold water habitat and suited to the recreation and trout fishery that exists. I urge the NPS to support the local economy and recreational value that the rainbow and brown trout provide through Lee's Ferry and the Grand Canyon. STOP the unnecessary slaughter of these trout. It is truly a resource and being ruined by all these experiments and wasteful slaughter of a great resource.

184

I live in the pacific northwest (PNW) and love to fish for trout and steelhead. My older brother lives in California, and one of our favorite ways of spending time together is meting up at Lees Ferry as often as possible, but not often enough if you get my drift. Living here in the PNW we get pretty use to some really bad and even asinine steelhead and trout management plans, but when my brother forwarded me the FB post about the "Expanded Non-Native Aquatic Species Management Plan" or Brown Trout plan from NPS, I thought it was a joke... no seriously. Then I went to the links attached in the post and was rendered speechless at the thought of these NPS people running around in shock boats at the ferry. I am not an expert on shocking, but I do have some viable experience on this subject. I was fortunate enough to be involved in a program on the Pend Oreille River (POR) in Washington state. The POR has been under EA's for some time in regard to the renewing of FERC permits for the dam(s) on the river. The prize fish in the POR is the bull trout, and they share the river with many different non-native species. The highest on the food chain is the introduced northern pike, which as most people in the fish community know is like a fresh water white shark. To quote Hooper from the movie Jaws, "an eating machine", "all this machine does is swim eat and make little PIKE". Many agencies were involved, some of the methods for removal and sampling were gill nets, hook and line fishing, and shocking. When we would go out on the shock boat it was at dusk or late at night and early morning. The shocking was done along shore lines and in the flats where feeding was taking place. Shocking is not a precision tool and it is not all encompassing. There were many fish just on the outside of the current that got away or were just a bit out of reach and some that did not recover so well from the current. I guess one of the points I would like to make is that shocking is not a removal method or tool, it a sampling tool at best, and there is no way in hell that you are going to be able to shock those monster browns at the bottom of the big pools at the ferry. It is really just laughable! Another point or maybe question I have is, the title of this PROJECT is titled "Non-Native"... well are the rainbows at the ferry "non-native"? Well of course they are. If you are itching to spend money in this watershed to protect the rainbows at the ferry, spend it on keeping the stripers coming out of lake mead from going up stream, another "eating machine" that is far

more formidable than the brown trout that have taken up residence at the ferry in minimal numbers. In closing the last few times my brother and I have been at the ferry at the end of the day we were met at the docks by fisheries folks with clipboards asking questions about numbers and if our experience was a good one? Gee—let me think, I just told you my brother and I both had a 50-fish day or we lost count... what do you think! (Thanks Nat). I don't know why you people are just itching to "expletive" with this fishery, but I can tell you from my experience "It Ain't Broke" so please don't try and fix it!

185

I do not understand why, given the existence of the Glen Canyon Dam, that it has been proposed to eliminate brown trout from the Colorado River below the dam. The dam has altered the natural ecology of the river, and the brown and rainbow trout that live there today can only do so because of the dam. They are both game fish that are "invasive," sort of. It is silly to pretend that we can return to the pre-dam days. Proposing to eliminate one species of game fish - brown trout, and not another - rainbow trout is illogical, and essentially dooms both species. It also dooms most other aquatic species living in the area, to absolutely no rational purpose. Because of the dam, we now have a fishery that, occasionally, has been world class. It can be again if it is left alone, and water levels are maintained in a stable and consistent manner.

I am opposed to the proposal to designate these trout as invasive and to try and eliminate them.

186

I strongly object to the National Park Service plan to shock and eliminate brown trout from the Lee's Ferry reach on the Colorado River below Glen Canyon Dam.

As an avid fly fisher and resident of the State of Arizona, I'm opposed to this management action for many reasons. Before I describe my concerns, I would like to inform you that I've worked in fisheries many years as a scientific professional. I directed the aquatic animal health program for the Washington State Department of Fish and Wildlife (1986-2001) and was the National Aquatic Animal Health Coordinator for the National Marine Fisheries Service from 2001 until 2015 when I retired. I have been a life-long member of the American Fisheries Society (AFS) and an accredited Fish Pathologist, Fish Health Section, AFS.

Recognizing the need and mission of fishery management agencies to protect ESA-listed species and their habitats, I would like to point out a few facts that would suggest this electro-shocking of brown trout in the Lee's Ferry Reach is not a good idea.

1. When the decision was made to erect the dam, it should have been understood that irreparable harm would occur to chub habitat in the Lee's Ferry reach. Regardless of that decision, the reach continues not to be the preferred habitat of the chub, ie, this is not where the chub would prefer to live nor where potential predation on the chub has/will occur.
2. My experience has been with fish eradication projects (and I've been involved in many in my career for a variety of management goals) the likelihood of successfully eradicating an introduced species is very low. In this situation, the likelihood is zero. Like erecting the dam, once an act is taken you cannot put the genie back in the bottle unless you remove the dam and restore native habitat. Additionally, this is an expensive activity and a poor use of tax payers

dollars.

3. Perhaps my biggest concern is the impact electroshocking will have on other species of fish in the reach. Should any chub be present, I would see this as an unlawful taking of a listed species. Having worked on many electroshocking crews, I'm also aware of short and long term negative impacts have on fisheries such as damaged spines and stunned fish becoming easy prey for predators.

I sincerely hope that NPS reconsiders their plan to electroshock on the reach. I look forward to receiving a response for the issues I have identified.

187

I strongly oppose the mechanical removal of brown trout in Glen Canyon. I first came to this area as a non-angler. I did a kayak trip through the canyon and was in awe of the beauty of the canyon. I have since picking up this sport and dream of fishing there soon. The mechanical removal method is just unfathomable to to me and would truly have a catastrophic impact on the quality of the Lee Ferry trout fishery and affect the welfare of the local community, and the regional economic benefits tied to the fishery.

188

I strongly object to the National Park Service plan to remove brown trout from the Lee's Ferry reach of the Colorado River with "long-term, intensive and repeated electrofishing." I feel the NPS is rushing into this removal effort at the expense of Lee's blue-ribbon rainbow trout fishery. Lees Ferry is more than 60 river miles upstream of the Little Colorado River confluence, the area of concern related to the endanger humpback chub and other aquatic species impacted by the present of brown trout. Doesn't it also make more sense to remove brown trout from Marble Canyon, the river section between Lee's Ferry and the LCR confluence? The NPS is moving ahead with this experiment without enough study given to the basic causes of the brown trout problem in the Colorado River and the best methods for dealing with this problem.

The NPS proposal to shock and remove Brown Trout from the Lee's Ferry area has a wide range of negative aspects:

- It will negatively impact one of my favorite fishing spots. There are very few areas like this fishery in the Southwest.
 - A harmful impact on rainbow trout will be unavoidable because of the intense and repeated electro-shocking. The quality of fishing at Lee's Ferry will be severely affected.
 - This famous blue ribbon rainbow trout fishery remains a critical economic driver for Lee's Ferry residents and businesses and they will be severely impacted by a decline in the quality of the fishery.
-

189

I am not in favor of the government spending tax dollars trying to eradicate brown trout or any fish for that matter from the Colorado river below Glenn Canyon Dam.

By building the dam, the ecosystem has been altered to the point where the survival of native fish is unobtainable in the vast majority of that watershed. It would also be impossible to eradicate brown trout utilizing the methods that are mentioned, or with any current technology.

If the plan is to spend hundreds of millions to billions of dollars suppressing brown trout and other species until the end of humanity only to have them take over whenever we are gone or, until the dam comes down allowing the warm water to kill them off, I'm not in favor of it.

And if the plan is to just spend a few million dollars over a couple years to suppress the brown trout and then allow them to repopulate a few years later, that doesn't sound fiscally responsible either.

Furthermore, you (NPS) want to increase park fees to update the aging facilities, and yet you plan on spending millions to fight a losing battle against fish?

190

I don't support the suggestion being made.

There is no guarantee that what is being proposed will not have serious repercussions on other fish or plant life. Surely there must be a safer approach to achieve the goal.

191

I am against the electrofishing mechanical removal of the brown trout in Lees Ferry/Glen Canyon. I am a Fly-fisherman and believe this action would have a catastrophic impact on the quality of the Lees Ferry trout fishery and the welfare of the local community, and the regional economic benefits tied to the fishery. Besides the impact to the fishery I would to add that there is no greater thrill than hooking up a big brown trout, if you have ever hooked one then you will know what I mean, and reject the idea of removing these beautiful trout from the river.

192

You should not spend any effort removing gamefish that park users can enjoy ever - too many things that no one can benefit from or enjoy to fix first. It appears that NPS does not care what the people that support them want - will ask my representatives to defund government organizations that destroy recreation opportunities - dislike having my taxes and fees used against me. Recent article about poisoning brook trout in West is similar - very disappointed in what park service has become. I guess I understand if you do not want outdoor enthusiasts to visit parks, just don't expect their support when others want the resources for their economic gain - you turned on your constituents!

193

I very strongly object to the National Park Service (NPS) plan to shock and eliminate brown trout from the LEE'S FERRY reach on the Colorado River below Glen Canyon Dam. I have fished the section of river below the Dam for over 40 years. The money and time to conduct this useless effort is a waste! The decision to do this is obviously made by people who have not fished this section of river. In the 40 years I have been going here I have yet to catch a brown trout. I have also not seen a hump back chub, which appears to be one of the protected fish. Last time there I caught 2:1 suckers to rainbow trout at the walk-in section. This is the first time I have caught other than rainbows. One other thing, I have noticed there is a decline in number of rainbows and those caught are much smaller than years ago. Could this be related to the flushing of the river the last several years? Lee's Ferry has been on the "bucket list" of a lot of anglers

around the country. It helps support a huge industry in the sports field e.g. fly shops, guides, lodging, restaurants to name a few. It appears the NPS funds could be better used to improve the natural fishing conditions of the river without shocking a fish species that does not exist. I have many friends in 3-4 fishing clubs who report they have never caught a brown trout in this section of the river. How have you determined that there are enough browns in the river to justify this effort? It may do you well to attend some of the fishing clubs in Arizona to take a poll of browns caught. Please step back and take a big breath to give you time to reassess your plan. You will negatively effect the river fish population if you conduct the shock treatment of the brown trout. One last thing: Of all the efforts I have observed re man/women dabbling in management by killing fish I have yet to read or hear that it is successful e.g. ridding Lake Trout in Yellowstone Lake or killing fish in the stream at the bottom of Grand Canyon as examples.

FISHING CLUBS IN ARIZONA:

1. HOOKED ON FISHING - SURPRISE, AZ
 2. WHITE MOUNTAIN FISHING - SHOW LOW, PINETOP, AZ
 3. ARIZONA FLY CASTERS- PHOENIX, AZ
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194

I am in shock that Nps would be considering contemplating destroying the finest trout fishery in Arizona. The idea to bring the river back to some kind of native in touched state is unrealistic. The glen canyon dam altered this reality for ever. The attempted gerrymandering of the river will only benefit the people making the changes. Nps needs to consider the big picture negative impacts to the economics to the recreation and tourism of the region when making such dramatic changes.

195

Do NOT eliminate the brown trout from the Lee Ferry area below the Glen Canyon Dam!

This section of the Colorado River is a blue ribbon trout fishery of which there are very few in Arizona. The Brown and Rainbow trout need to stay. In fact, instead of spending money to eliminate the trout, you should be spending that money to enhance the trout fishery.

This is a recreation area. This fishery is one of the most important forms of recreation in this area. Eliminating the key parts of that fishery is counter productive to the intended purpose of the "recreation "area.

There are certainly times and places to eliminate non-native species and encourage native species in an area...BUT this is NOT one of them.

196

I urge you to abandon this project which may disrupt the progress made in recent years to restore the Lee's Ferry section of the Colorado River below Glen Canyon Dam. I recognize the desire to return to a pure native species population, but the reality for sport fishing is that ...there is an ever shrinking number of places to enjoy the outdoors and the benefits to the social and mental health. Reducing this fishery to a place where few fish can be caught will relegate it to fond memories of what once was. If you must cut down the brown trout population, follow a similar path of Yellowstone Lake lake trout and have a rule that all brown trout caught on Lee's Ferry be killed

and not released under the present catch and release rules. Abandon shocking the river which will harm the native population. Please!

197

I believe the removal of brown trout from Lees Ferry is folly. Lees Ferry should be managed as a "blue ribbon" trout fishery. Managing this water as fishery if done correctly has the potential to greatly benefit the area and even the entire state with increased revenue from visiting anglers. The removal of brown trout by electro shocking sections of river will have a detrimental affect on the fishing In the short and long term. Lees Ferry used to be a destination for many anglers in the past. The number of anglers has been increasing in particular the number of fly fishers has grown as people seem to be choosing activities that help them connect with nature. Increasing the food base for the trout by reintroducing caddis flies, stoneflies, and mayflies would help diversify and provide a more stable food base for the trout, resulting in higher fish numbers, bigger fish, and ultimately more tourist dollars for Arizona businesses. Lees Ferry has great potential. If Lees Ferry were managed as a trophy trout fishery it would be a destination again for anglers on par with if not surpassing the San Juan in NM and the Green river in Utah.

198

No mechanical removal of any trout from any place!

199

I am against the killing of Brown Trout in Lee's Ferry. It is a waste of taxpayer's money. You guys were the ones who transplanted Brown trout to the river in the 1920s so deal with it. Electroshocking the water to stun the Browns cannot be good for the other trout so why do it. The browns are the mostly challenging fish to catch and land at Lee's Ferry so why get rid of it? Again, I'm VERY AGAINST the killing of Brown trout in Lee's Ferry.

200

Please do not remove brown trout from Lee's ferry. This is on of the state's best fishing areas and should remain the way.

201

I am writing because of my concerns of Brown Trout removal from the Lee's Ferry-Glen Canyon portion of the Colorado River by the park service. The E/A proposal to use electrofishing mechanical removal in the Lee's Ferry-Glen Canyon with long term repeated and intensive electrofishing is a scientifically unproven method while causing many detrimental effects. Damage to the rainbow trout by repeated electric shock and mechanical handling will be impossible to prevent.

Reduction in the survivability of rainbow trout in the area will result in fewer fishermen visiting the park and the local area. This will impact the region and the local economic benefits related to the fishery. The increase in Brown trout, although percentage wise is high, the actual number of Brown Trout was very low compared to the Rainbow Trout population.

The cost of using and unproved expensive method of removal of Brown Trout is probably not the best way that the Park Service can expend their limited time and financial budgets. Also I ask, is

the one year sampling an anomaly or is it conclusive of a change in percentages?

There is a reason and probably multiple reasons that there is a possible increase in Brown Trout in the Lee's Ferry/Glen Canyon area. I suggest that the National Park Service work with the regional shareholders in searching for a scientific cause of changes in the area. Such as, Why has the insect population in type and quantity changed?

I suggest that, working with Arizona Game & Fish, a catch and remove all Brown Trout in the Lee's Ferry/Glen Canyon be instituted. Also a bounty may be placed on Brown Trout such as a credit to future AZ fishing license (reimbursed by the Park Service). Promoting this concept to all the fishing clubs in the multistate area may be a more effective method of removal of Brown Trout.

Consider permitting "fishing guide operated jet powered boats" to fish below the first set of rapids. This area is reported to also hold Brown Trout.

Please do not damage the most important fishery in Arizona and a source of economic life in the region.

202

I am absolutely opposed to any removal of brown trout in the area known as Lees Ferry. It is and has been a world renown trout location since the dam was built and should remain so until the dam comes down. Doesn't the park service have better things to spend money on than endless removals and re-introductions that never fully materialize one way or the other?

203

I went to the 12/12/17 meeting in Phoenix to better understand the issues. I am opposed to the removal brown trout at Lees Ferry. Their numbers are relatively low & I feel electrofishing will be hurt/kill many more rainbow than brown trout. Rainbow trout at Lees Ferry are already struggling due to the fall high flow rates and habitat changes. The 100 members of our "Hooked on Fishing" Club in Sun City Grand have seen the fishing at Lees Ferry decline. At the meeting on 12/12/17, we heard the humpback chub population is doing very well downriver from Lees Ferry. I don't understand why you would consider spending huge amounts of taxpayer money on such an effort? Prior efforts to remove brown trout from the river near Bright Angel Creek and the Little Colorado River have been minimally successful. My recommendation is that you accept Alternative A as the best option & take no action in regard to the brown trout. You, Arizona Game and Fish, and the Bureau of Reclamation should work together to improve the trout fishery at Lees Ferry.

204

All fish MATTER...its not right to kill one species for another, the brown trout are just a important, to the area and the anglers

205

I strongly object to the National Park Service plan to shock and eliminate brown trout from the Lee's Ferry reach on the Colorado River below Glen Canyon Dam.

My reasons for my objection to this plan are as follows: 1. I have never seen nor hooked a Brown Trout in the numerous times I have fished this area. I have hooked and released large numbers of Rainbow Trout. It appears to me that there are few if any Brown Trout in this part of the river. 2. I have heard that the plan is an ongoing program which will submit the resident fish to several shocks over an extended period. I'm not an expert, but it seems to me that repeated electric shocks over time will be harmful to the healthy fish (Rainbows) in the river. 3. I have not seen nor read any scientific data which proves that this action will be effective. 4. Continuous shocking and potential killing of both Brown Trout and Rainbows will un-necessarily affect the fishery, have a huge impact on the local business community and cause a significant drop in local revenues and good will. 5. I have learned from others that dam operations already in effect (high volume flows) have already impacted the fishery by eliminating the native insect population, affecting the health of the resident trout and altering the natural habitat along the river course. In my own experience, catch rates are down significantly in recent years. 6. I also hear that the local Indian tribes find this plan conflicts with their religious and spiritual beliefs. You don't want to upset the Indians! 7. Where is the money coming from on this project? Couldn't that same money be used to enhance the fishery rather than decimate it? Perhaps by improving the riparian zone, in-river habitat, creating new spawning beds and giving the natural food chain a chance to re-establish. 8. Finally, have you considered changing the regulations on the Lee's Ferry section of the river to "Catch and Keep" in regards to Brown Trout? Thank you for your consideration of my views. I urgently request that the Park Service take another hard look at the potential problems the proposal will create.

206

I am generally in agreement with management decisions to eliminate or reduce the impact of invasive species within the Colorado River below Glen Canyon Dam. That comes with certain caveats, however. When Glen Canyon Dam was created, the planners long ago made a decision that the water, power, and recreational needs of people take precedence over native species. That was further compounded by the introduction of trout in the newly created coldwater environment below the dam that has become an economic driver to the region and a destination fishery for vacationers to the state. That means that decisions regarding managing the system from this point forward must be based on scientific evidence and demonstrated need. It also must be a collaborative effort seeking input and cooperation from the various agencies, organizations, and tribes that are impacted by this kind of decision.

I was disappointed in the timeframe for inclusion of other agencies in the planning for this Environmental Assessment (EA) as described in the public scoping meeting on December 12th. Rather than utilizing AZGFD, USFWS, BOR, TU and others that have expertise and a vested interest in this EA to create a plan that all agree will have a positive impact, the decision was made by the NPS to create a document unilaterally. Those of us that have been involved in similar processes in the past know how hard it is to truly incorporate the opinions of others once an agency has devoted a great deal of time and expense in the original plan. Because this plan has not involved these other agencies and groups in its creation, there is a great deal of concern that there will be no meaningful changes regardless of good advice and evidence that this

plan has flaws. My hope is that what was expressed in the meeting on December 12th is accurate, and that there is genuine intent to incorporate advice from the public and the agencies noted as cooperating in this EA.

I am concerned about the impacts of this EA without adequate reliance on scientific evidence for need, and against the important considerations of Native Americans regarding the sacredness of the river's inhabitants and the mechanical removal of fish.

There is no mention of the scientific evidence shared at the Brown Trout Workshop held in Phoenix, AZ in September, 2017 in providing rationale in the EA. Even though there is a recent increase in the percentage of brown trout found in samples in the Lees Ferry area, the actual number of brown trout in the Lees Ferry section of the river is estimated to be very small and is far removed from the Little Colorado River (LCR) confluence. There were other methods noted in that workshop that potentially could positively impact the efforts to reduce brown trout, namely manipulation of the trout management flow events to adversely impact brown trout while having neutral or positive impact on the rainbow trout fishery. This involves a shift to a later water release that would negatively impact the brown trout spawn. It would have the added benefit of providing a sediment movement down the river in the Spring, which would allow less time for beach erosion prior to the rafting season. That same workshop also noted the potential likely impact of the Bright Angel Creek brown trout as being more critical to the predation possibilities on the LCR humpback chub population due to Bright Angel Creek's proximity to the LCR compared to Lees Ferry. Given this concern, it seems important to fund continued efforts to maintain the weir at Bright Angel Creek and other tributary streams further downstream where warmer water conditions are more conducive to humpback chubs. The recent warmer temperatures in the release from the dam were also noted in the workshop as a possible advantage to brown trout. Manipulation of release temperatures to maintain a colder discharge would benefit rainbow trout and hinder brown trout. If this manipulation is considered, it would be a great opportunity to provide a constantly higher dissolved oxygen level in the modified discharge benefitting all aquatic life downstream. Again, this points to the importance of including other agencies in the creation of this EA.

My concern with mechanical removal of brown trout in the Lees Ferry section is two-fold: it potentially could impact an already tenuous rainbow trout fishery, and does not address a more pressing area downstream. Repeated shocking efforts, which would be needed to target a very small number of brown trout in the Lees Ferry area would be extremely stressful and undoubtedly fatal to large numbers of rainbow trout that would have to endure multiple runs of electrofishing. This could destroy the rainbow trout fishery, which has been shown to have a minimal impact on the humpback chub population and is an economic driver of the region and state. There is no mention in this plan to pursue vigorous mechanical removal near the LCR where it would have a more immediate impact on brown trout that are potentially in direct contact and a theoretically more profound threat to the humpback chubs than the small number of brown trout in the Lees Ferry area.

The continual emphasis of mechanical removal described in the December 12th meeting was a great concern to me. Trout were planted into the Grand Canyon in

1923. They have interacted with native fishes since that time. Their numbers have undoubtedly risen and fallen over that time. The importance of data to drive decisions is critical in any management plan. From what I understand, there has been more removal of invasives like brown trout, rather than the study of these fish to determine their actual numbers and mobility through the river. The inability to know where trout come from that would impact the humpback chubs at the LCR is a critical flaw in this plan. This approach is NOT addressing the root causes of any recent increases. I appreciate that the Lees Ferry reach is perhaps the easiest place to electrofish, because of the water clarity and relatively shallow depths, but a never ending cycle of shocking at the expense of the rainbow trout fishery for no measurable positive results is misguided and ineffective.

It is curious that only brown trout and green sunfish are targeted in this EA. The impact of smallmouth bass, striped bass, grass carp and other invasive fish species should be of concern, yet there is no mention of their threat in this document. This again is an example of how involving other agencies in the formation of the plan would perhaps create alternatives that should be considered and researched. Given that additional threats to the river system are likely to come down from Lake Powell or up from Lake Mead, it would seem that collaborating with the BOR to implement strategies to reduce movement of invasives from those impoundments is critical. This does not have to be an NPS problem exclusively, and other agencies should be working with you to create a comprehensive plan.

In the December 12th meeting it was noted by the presenters that the common carp, also an invasive species to the system was not targeted for removal. Their ability to inhabit waters where humpback chubs would be found seems an odd exclusion. As trout competition for food with HBC is often noted in rationale for their control, ignoring an invasive like the common carp, comfortable in the temperature range conducive to HBC seems illogical. The ability of carp to eat eggs, fry, and compete for food in a similar habitat preference to HBC and razorback suckers seems would be a priority in any invasive control plan.

The introduction of invasive common carp as a management tool in the sloughs at Lees Ferry is a further example of an unusual treatment of this invasive species. If I understand this correctly, the EA suggests taking common carp found in other sections of the river and stocking them in the sloughs. This amounts to putting them in a more ideal water temperature situation for the species and expecting that will not benefit these fish and cause an additional management problem for this invasive species as well.

In term of green sunfish control, I am not familiar with the sloughs in which they apparently reside. It would seem that eliminating those sloughs would eliminate the habitat that the sunfish have found conducive. Again, colder temperature modification through the dam would seem helpful as well. If the sloughs can't be physically removed, then the introduction of cold water continually through the sloughs makes the most sense to inhibit conditions conducive to green sunfish.

I am very concerned about other proposals in the EA regarding green sunfish control. The use of mechanical meshing would seem to pose challenges as debris flows through the mesh. What size is small enough to restrict adults as well as egg and fry movement and still allow any flow at all?

The plan of stocking the sloughs with humpback chubs seems counter to protecting a valued and threatened species. The idea of experimenting with the endangered humpback chub and putting them in direct contact with a species that is being considered for removal because of the threat that species is reported to pose on the humpback chub population is baffling at best, and a demonstration of a total lack of stewardship on behalf of the humpback chub at worst.

The thought of reintroducing the pikeminnow seems equally as reckless. It is a documented predator that would likely cause greater potential harm to the humpback chub and razorback sucker populations in the river than brown trout would ever cause. Any escapement from the sloughs would first decimate the rainbow trout fishery, followed soon thereafter by the humpback chub and razorback sucker populations downstream.

I am also concerned with any use of chemical treatment in the Lees Ferry area as the inadequate food base for trout is already a major concern. Destroying any of the macro-invertebrate population would only further jeopardize the rainbow trout fishery. I am not very optimistic about the fishing or take changes in the EA. Catch and release trout fishermen are not typically inclined to change their habits on this practice. The idea of catching a trophy brown trout, and not being able to release it unharmed back into the river would seem too hard for most anglers that frequent Lees Ferry to agree to do. The only hope that I would see for that kind of an effort would be to place some sort of incentive on brown trout removal by anglers.

In addition to the aforementioned concerns, I would like responses to the following questions regarding this EA proposal.

1. Why is the scientific evidence and findings from the September, 2017 Brown Trout Workshop not referenced and considered in this EA? There were a number of root causes theorized, and mechanical removal was not considered a successful strategy in that workshop. Why would you pursue mechanical removal against scientific advice?
2. What is the actual number of brown trout estimated in the Lees Ferry area that are causing the concern? Related to this question, what are the actual numbers of brown trout in various reaches downstream, particularly around areas of HBC concentrations and the trends in numbers in all of these reaches over time?
3. What are the corresponding numbers of humpback chub in the various reaches, and how have those numbers looked over time? In other words, if the HBC population is doing well or is only marginally impacted, my understanding is that the decision for mechanical removal is not permitted under the LTEMP. The LTEMP talks a great deal about numbers of HBC at the LCR driving any consideration of mechanical removal. Has that occurred?
4. Why does this EA focus on brown trout and green sunfish rather than addressing other invasive fish species and the plans for those species as well?
5. In the Potentially Harmful Non-native Species section the document notes the possibility of utilizing trout management flows under the LTEMP. That action was suggested as an effective way to manage the brown trout problem in the Brown Trout Workshop. Why hasn't more emphasis been put on that strategy to shift flows to the Spring been included in this EA?
6. The Action Area section notes the streams downstream from the Little Colorado River, but misses the point that the proximity of Bright Angel Creek for example is a

much more likely source of brown trout predation on the humpback chubs in the Little Colorado River. What evidence do you have that the brown trout impacting the LCR are from Lees Ferry and not already present in the LCR reach, or coming from Bright Angel Creek which is closer to the LCR than Lees Ferry? Related to that question: Given the weir placement, what research has been done to see if the brown trout displaced from that tributary have not shifted upstream to the LCR and Lees Ferry?

7. There is not enough specificity under Alternative B regarding mechanical controls. Where and when will brown trout be removed so that it demonstrates that it will have minimal impact on the rainbow trout fishery and the businesses and residents that depend on the viability of that fishery? What level of brown trout will be acceptable so that any additional mechanical removal will be suspended?

8. The idea of relocating an invasive species (common carp) to assist with a problem seems ill-advised. How does relocation to a warmer and seemingly more hospitable location for them make sense? It seems to create conditions where in addition to green sunfish, you have to manage for carp proliferation and escapement. A related question.. Why isn't the common carp targeted as an invasive species in the EA like the brown trout and green sunfish given their habitat preference is so similar to humpback chubs and razorback suckers?

10. What is the scientific justification of putting humpback chubs in the sloughs? It could provide data as to the real impact on the humpbacks rather than speculation, but it seems that this species is too valuable to the whole effort to gamble on their survival in order to have them be a potential predatory species on what is purported to be a potential problematic competitor downstream.

11. The idea of reintroducing pikeminnow to the system seems equally ill-advised. Given the highly predatory nature of this fish, any escapement would devastate the trout fishery and then they would move downstream to attack the humpback chubs and razorbacks suckers. Why would such a plan be considered? How will you guarantee zero escapement from the sloughs?

12. In Alternative B under chemical controls I am concerned about the impact on aquatic macro-invertebrates in an already depleted food base situation. What evidence do you have that chemical controls will not adversely impact an already depleted food source?

13. Fishing or Take Changes. I don't see catch and release fly fishermen changing their behavior to keep brown trout given the seemingly minimal impact of brown trout on rainbows in other tailwater situations across the country. They will likely not see the impact on humpback chubs in the Little Colorado River benefiting from this seemingly senseless killing of a trophy fish. Why do you think this strategy is viable? Have you considered incentives to entice participation?

14. Alternative C mechanical control notes the focus on spawning areas. Again, details about the when and under what water conditions that would take place is important to specify. When and where would this take place and what evidence do you have that this will not adversely impact the rainbow trout fishery?

15. Your document references several agencies as cooperating agencies in this EA process which is also required in the LTEMP. What evidence can you share that supports that they have been involved in the creation of this EA and support the plan?

16. Brown trout are the greatest threat to Humpback Chubs around the Lower Colorado

River confluence. Why is the EA proposing removal at Lees Ferry and not where brown trout cause the greatest risk, which is what the LTEMP says will happen?

17. Research shows trout in the Upper Colorado above Glen Canyon have minimal impact on HBC. Why is there a need to mechanically remove brown trout if the impact has been found to be minimal?

18. Why hasn't a partnership with BOR in this EA been pursued? Related to this question: Why isn't there a plan to modify Trout Management Flows to extend to March and April when they may have a negative impact on brown trout and a neutral or positive impact on the rainbow trout fishery.

19. Efforts to reduce trout in tributaries needs to be maintained, especially near tributaries like Havasu Creek where recovery populations are being encouraged. Where is that in the EA?.

20. The LTEMP noted temperature control devices as a possible solution to be considered. Why hasn't that been considered through a partnership with BOR?

21. The economic importance of the rainbow trout fishery to the region and the state needs to be considered. What evidence can you show that you have considered the economic impact of extended mechanical removal efforts that will disrupt the fishing at Lees Ferry and cause great hardship to the area and the impact on tourism to the state?

22. Have you considered devices or strategies to keep the trout from migrating the LCR? An example that comes to mind is the electric current system employed on the Chicago River to inhibit movement of invasives into the Great Lakes. Although that system may not be viable in the Colorado River, what other aversion tools have you considered to keep the Lees Ferry population from moving downstream or the Bright Angel population from moving upstream?

23. What efforts have you made with other agencies to minimize or restrict invasives coming from Lake Powell and Lake Mead into the Colorado River system between the two lakes? Since these are the most likely source locations, any efforts that do not include these bodies of water are pointless.

24. Given the preference of warmer water by HBC as evidenced by their preference for the LCR and the known aversion to warmer water by trout. Are the humpback chubs and razorback suckers in the LCR really threatened by trout?

207

I oppose the electroshocking in the Lees Ferry Area.

208

I am a repeat fisherman at Lee's Ferry and find it to be one of the most beautiful fisheries I visit. I have seen the fishery ebb and flow from spectacular to mediocre and back to spectacular. I am surprised that the department is concerned with increasing brown trout populations because very few are there and a doubling would still represent a small number. Additionally, brown trout and rainbow trout coexist well and add diversity to the fishery.

I believe that the proposed plan is too broad and allows Carte Blanche to those implementing it. I am especially concerned about electrocuting brown trout because I fear it will do disproportionate harm to rainbow trout occupying the same waters.

Please consider prioritizing the plan with emphasis on less invasive remedies such as increased

limits and bounties for undesirable fish.

A damaged rainbow trout population will have a significant economic impact on the area.

209

First, I thought the browns were decreasing, so is this even necessary?

Second, you are just killing fish - - this does not cure the cause. Why would you do that?

We fish at Lee's Ferry from time to time, and we would stop going up there if you electrokil.

210

This "management" tactic is the most ridiculous waste of taxpayer money I have seen. Both rainbow and brown trout are non-native to this region and thrive in the Colorado due to the existence of the dam only. This dam will never be removed and has permanently, and negatively, modified the downstream ecology of the Colorado for the native fish in the river. To continue a practice such as this wastes money and is a futile attempt at preservation. This practice should stop.

211

The proposed electroshocking is only one tool that should be used and only to the extent that it doesn't impact other non-targeted species. Single species management or any activity aimed at one group will almost certainly have impacts on others, generally at a much higher overall cost and this proposed activity will almost certainly have this secondary impact. The associated impacts to the rainbow trout population, the impacts to the local economy and the disregard for the opinions and beliefs of the local Native Americans all add up to serious issues that should not be ignored. Do not ignore the facts and seek alternatives in cooperation with other resources such as the AZGFD.

212

I have fished Lee's Ferry for the past 12 years. Up until the last two or three it was very productive both fishing with guides or the walk in. The fall high flow blow outs in the past few years have basically ruined the fishing and now the NPS wants to remove the Brown Trout through electrofishing which will probably ruin what is left of the current fishery. I find it difficult to believe that the Brown Trout are migrating far enough south to endanger the Humpback Chub. It is also my understanding that most of the planning for this project is without substantive data on the end results of these drastic measures. I recommend that you accept Alternative A.

213

The Lee's Ferry trout fishing area is a vital economic driver for sport fishing & tourism for Northern Arizona. It attracts people from all over the US and Internationally. I have fished this area for decades and mechanically removing the Brown Trout will severely hurt the people that depend upon the sports people who come to Lee's Ferry. They drive in from many places, but also fly into Las Vegas and Phoenix, many of them stopping or staying in Flagstaff supporting these economies. I served on the Board of Experience Scottsdale (formerly the Scottsdale Convention & Visitor's Bureau) for 19 years and can attest to the importance of instate and out of state visitors for our economy. This plan will hurt the rainbow trout fishing at Lee's Ferry which is known throughout the world for its fishing. I urge the NPS to stop the plan for removing the

brown trout as the law of unintended consequences will result in the loss of jobs and revenue for the entire area. The cure will be more more harmful than the problem the NPS is trying to solve.

214

I object to the proposed electro-mechanical removal of Brown trout in the main stem of the Colorado River for the following reasons:

1. The proposed removal action to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective. In essence, it is the equivalent of spitting in the Ocean, or in this case the River
2. More rainbow trout would be shocked for each brown trout captured.
3. The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been repeatedly impacted by dam operations.
4. Native American Tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs.
5. The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets.
6. The Environmental Assessment ignores possible or potential causes for the recent increase in brown trout i.e. sequential fall High Flow Events, warmer water temperature, and the fall High Flow Event related aquatic food base shift, etc.
7. The most recent fish population sampling results, show a potential halt or decline in brown trout numbers, yet these data are seemingly ignored.
8. Marble Canyon is ignored in the EA and no actions are proposed to address present or future immediate threats to native fish in Marble Canyon or at the Little Colorado River.
9. The National Park Service subordinates the Arizona Game and Fish Department to a cooperating agency role rather than a coequal decisional authority over the Colorado River fishery. AZGFD should have co-equal decision authority.

We trust you'll consider these objections, and seek alternative solutions to what probably isn't a problem as perceived by NPS.

215

I began fishing at Lee's Ferry in 1977. I have continued to fish there and plan to take my sons there now that they are old enough to fish this stretch of river. Trout fishing, both Rainbow and Brown, is a major economic driver for locals in the immediate area and has a positive economic impact for areas as far away as Flagstaff.

To pretend that we can return the species that are threatened is absurd. While brown trout are not native to this water shed, their removal will not have a positive impact on any native species.

Quite the opposite, the proposed method of removal will have a negative impact on other species in this section of river. Specifically, multiple shocking of rainbow trout will stress them leading to higher risk of disease and death. Some years back it was argued that trout were feeding on threatened native species in the Lee's Ferry/Grand Canyon stretch of the Colorado, and therefore a factor in their decline. A multiyear study was undertaken by AZ Game and Fish Dept. No indications of trout feeding on threatened species were found. The Lee's Ferry Fishery is a result of the Glen Canyon Dam creating a tail water fishery. This changed the ecosystem of the river.

As long as the dam is there this will be the case. Native warm water species will never be viable in this cold water.

216

Lees Ferry has long been considered THE premier fishery in Arizona. Lees Ferry has been featured in books, magazines, travelogues, videos, and more as a must-see, and for anglers a must experience, destination. Since the construction of Glen Canyon Dam and the subsequent stocking of trout in the cold waters below the dam, the Ferry has been known as and managed as a blue-ribbon rainbow trout fishery. However, for many years there have been brown trout in the Lees Ferry reach. The recent noticeable increase in numbers of brown trout is now apparently of some concern.

The following comments to the "Expanded Non-native Aquatic Species Management Plan in Glen Canyon National Recreation Area and Grand Canyon National Park Below Glen Canyon Dam - An Environmental Assessment" (EA) are provided on behalf on the State Council of Trout Unlimited (AZTU) and more than 1700 Trout Unlimited (TU) members in Arizona. Of primary concern are the Mechanical Controls to be used as part of Alternate B - the proposed action, and in particular "...long-term intensive and repeated electrofishing". These terms are not defined as to either duration (months? years? decades?) or frequency (weekly? monthly? yearly?) so we assume this action will last for as long as, and be used as often as, it takes to achieve the desired result, which again is not defined.

"Long-term intensive and repeated electrofishing" will have a much more detrimental affect on the rainbow trout population than on brown trout. Since rainbows greatly outnumber browns in the Lees Ferry reach, and since electrofishing doesn't discriminate based on trout species, it follows that more rainbows than browns will be shocked, and there will be higher numbers of rainbows lost as a result. What level of "incidental take of rainbow trout" would "exceed expected levels"? If 2 brown trout are captured but that action results in loss of 12 rainbows, is that excessive or expected?

Also of concern is that the Mechanical Controls do not address the hypothetical root causes of the increase in the brown trout numbers. As presented at the Brown Trout Workshop in September 2017, the four most likely root causes of the increase are:

Hypothesis 1: Fall High Flow Experiments (HFE) are responsible for the increases in brown trout, because they are a cue for ripe brown trout to migrate into Glen Canyon (i.e., increase in spawners) and these disturbances cleanse spawning gravels.

Hypothesis 2: Recent warm water temperatures are facilitating increases in brown trout populations via increased growth and survival.

Hypothesis 3: Brown trout increases are associated with whirling disease in rainbow trout, which has provided abundant rainbow trout prey for brown trout.

Hypothesis 4: The current prey base improves recruitment and growth potential of brown trout.

Physically removing brown trout by means of "long-term intensive and repeated electrofishing"

will not address any of the hypothetical root causes of the increase. Other than solving the "warm water temperatures" hypothesis (essentially reversing the effects of climate change), there are other controls that can have an affect on brown trout population without the potentially devastating affects on the rainbow trout population in Lees Ferry.

In summary, we believe the Mechanical Controls stated in Alternate B - The Proposed Action - will have a noticeably detrimental affect on this blue-ribbon fishery without solving the problem and are, therefore, unacceptable.

217

Our fishing club has 100 members in Surprise, Arizona. We are a senior community (age 55) and many of our members have enjoyed visiting and fishing the Lees Ferry area. In recent years our opportunity to use Lees Ferry has been negatively impacted by the poor quality of fishing. Whether this was due to habitat changes or warmer water, it has coincided with the fall high water flow events.

Several of our members were in attendance at the Phoenix meeting and appreciated the opportunity to learn more about the brown trout issue.

Our membership is opposed to any efforts to do electrofishing in the Lees Ferry reach of the Colorado River. The population of brown trut is very low and very few of our members have caught a brown trout at Lees Ferry. In addition any electrofishing will negatively impact the rainbow fishery that is already stressed.

A review of the Preliminary Brown Trout Study and information provided at the December meeting indicate there are healthy numbers of humpback chub near the Little Colorado River confluence. This area is 60-70 miles from Lees Ferry and it does not seem to make sense to begin brown trout removal at Lees Ferry.

We encourage you to avoid any electrofishing at Lees Ferry and proceed with Alternative A and take no action in regard to brown trout.

The range of proposals are very costly to us as taxpayers and should be avoided. The Upper Colorado River became a coldwater fishery with the construction of Glen Canyon Dam. Leave that portion of the river alone and focus your effort on providing outdoor recreation opportunities for sportsmen and sportswomen like us.

We encourage you to work with the Bureau of Reclamation to improve habitat for rainbow trout in the river at Lees Ferry and that you coordinate with Arizona Game and Fish to help with their needs to manage the fishery at Lees Ferry.

218

I am against the mechanical removal of brown trout from the Lee's Ferry/Glen Canyon Area. I believe it will be detrimental to the fishing experience on the river as well as having a negative economic impact on the area. The potential for collateral damage to the rainbow trout population is real and should not be ignored.

219

Really disappointed to hear about the horrible and lightly thought out decision you guys are proposing about Lee's ferry brown trout. The dam already adversely affects that chub species anyways. I'm sorry I have to pay my tax dollars to support this.... maybe old trump is right cutting nps funding. Those rainbows eat other fish too. Maybe not like he Brown's do but still... this is an awful idea and will not even wipe out all of the browns. It has no respect for business on the river either. Continual shocking is not healthy for a fishery. Please look into better options.

220

While I agree that we must control potentially harmful non-natives fish in the Lee's Ferry reach I think using a more aggressive mechanical control would cause harm to the rainbow fish. I believe if a partnership is created between the government agencies and local fisherman a method could be created to determine the extent of brown trout in the reach without mechanical control. As a person that does fish Lee's Ferry and know many people that do multiple times a month I have not yet heard of a person catching a brown trout in the walk in area of Lee's Ferry. As such I asked that the aggressive use of mechanical control not be included in the final proposal.

221

I strongly believe that this plan is not only unnecessary, but will be destructive to the Lees Ferry fishery. All of the experiments of the past almost destroyed this once world class fishing opportunity.
Please cancel this program.

222

STRONGLY oppose attempts to remove brown trout from the LEES 'FERRY Reach by shocking methods. This area is highly prized by fishermen and is a huge tourist draw contributing greatly to the local economy. There is danger to the local rainbow trout population by shocking as well as potentially removing a desirable (even though non-native) brown trout population.

223

I have fished recreationally at Lee's Ferry in the fall and spring since 1979 and have watched the fishing decline every year and I am lucky to catch one fish on a 4 day trip to camp at Ferry Sale at Lee's Ferry. It is discouraging to see such a beautiful place that used to be such incredible fishing. I wish Dept.of Interior,Bureau of Reclamation, and Arizona Game and Fish would get their acts together and Manage it so it comes back to what it once was. Such a shame to lose this recreational opportunity because you bureaucrats can't learn to get it together so we can have a treasured place to recreate camp, fish, and and enjoy the natural beauty of the beginning of the Grand Canyon. What a shame!

224

In my opinion the issue with non-native species in the Colorado is the Glen Canyon Dam and Lake Powell. If we're serious about addressing the impact of non-native species in the river,

attacking the root cause is the solution. That would be to drain Lake Powell and return the Colorado to the warm water flow that it was before the dam was there. Until we're ready to do that, targeting brown trout for removal is a waste of money.

I'm a trout fisherman and love that fishery, or did until Bright Angel Creek's removal project. I'm also a zoologist and appreciate the dilemma that non-native species pose. Then, of course, there are the economics. Given all of those factors and the likelihood that Glen Canyon dam will be removed and Lake Powell drained, I'd have to say that I'm opposed to further attempts to manage the Colorado River trout fishery by removal, weir construction or other sorts of intervention. Leave it as it is until we're serious about addressing the root cause.

225

As a sportsman in Arizona I strongly oppose electro shocking at Lees Ferry. The Ferry is a world known fishery. It is the economic engine for the entire area. I have participated in shocking programs with AZG&F and there is always collateral damage. To remove a very few Brown trout, to protect native fish 50-60 mi down stream at the expense of one of the worlds best fisheries is short sighted and ridiculous. In my mind, it would be better to take any limit off Brown trout, so if and when caught they would be removed. This decision will be a PR. Problem or a decision hailed by sportsmen and women!

226

Electro shocking Brown Trout at Lee's Ferry will allow you to remove some of them, but it's not going to remove all of them. In other systems Browns and Rainbows co-exist. In my opinion your shocking efforts will only degrade the fishing experience for anglers. Please leave the fish alone.

227

Please do not destroy the Lee's Ferry trout fishery. We need to keep All trout species intact.

228

I am opposed to the Proposed action of removal of the brown trout from the Lees Ferry area and downstream. I fish the Ferry for the thrill of catching large brown and rainbow trout and their release for others to enjoy the name excitement and thrill. No where in AZ can one experience this type of fishing.

I recently hiked the Grand Canyon Rim-2-Rim and was very disappointed that fish were not in the Bright Angle stream. I had done this hike many years ago as a young adult with my father and we hiked and fished our way down the North side and up the South. We enjoyed the experience and I was looking forward to repeating that with my son. But to my surprise, the Rangers told me that the Stream had been shocked and virtually no fish remained in the river.

Your approach seems very disruptive to how "mother nature" works. Virtually every time we mess with Her bad things happen. Do not do this! Please reconsider you approach.

229

i oppose the plan to remove trout from Lees Ferry.

230

What scientific evidence do you have that brown trout impact native fish to the extent that you want to kill all of them? You ignored my last email, please show us the factual evidence. In addition, what about the impact of rainbow trout on native fish? Are you going to want to kill them too? Please answer this time. Please do not ignore our concerns.

231

I just cannot understand how the NPS came up with such an idiotic plan? Using the logic the NPS is using to clear non-native species out of the Colorado River will never completely work as fish from below or above Lees Ferry will eventually re-migrate into the Lees Ferry area.

I propose, if this plan is carried out, the NPS also start removing all the wild burros out of the Grand Canyon. That would be right in line with the trout plan.

232

I have fished the Lee's ferry area for many years. I have seen it in good times and bad. I am against any thing that will damage that fishery and this would do just that. I am asking that you leave that area alone.

233

I see no need for the mechanical or electrical removal of brown trout at Lee's Ferry. Fly fisherman love catching all species of trout, and would never abdicate the killing of a fish. I have caught around 20,000 trout on the fly rod at Lee's Ferry and have never even seen a brown trout, they are not there in great numbers. They are a more aggressive, resilient species, but are a cold water fish and stay clear of the warm water native species. I also see no way of preventing a few warm water species from coming across the dam, but their numbers should remain few and provide forage for trout and predatory birds. It would be a shame to destroy this beautiful trout fishery.

234

Electroshocking the Colorado will endanger the rainbow trout population. Please do not plan this drastic and unwarranted action!

235

How long will we continue to destroy species valuable to the population while spending resources on "native" . While you seem to disregard the wishes of the populous.. native fish do nothing for me, find somewhere they can survive And not disturb other species that are thriving . Survival of the fittest. Put our money into the most reward for the people.

The thought to go to all lengths to save some natives is ridiculous. Stop! Does the world suffer to save a chub? Get off the native bandwagon make the current environment better for al. Including me.

Ur management is ineffective. Wake up...and stop

236

I strongly oppose any electromechanical fishing at lees ferry . under your management lees ferry is a shadow of what it used to be.i have no confidence in your ideas. you should listen to the guides who are up there.at least they would know what is best.

237

Please do not electrofish this trout fishery. It will undoubtedly damage the rainbows that bring in the people.

238

Since there is information showing that this method of species destruction is not particularly effective, do not consider using it especially since it will be detrimental to another species. Why use a questionable method which is irrevocable.

239

I am in opposition to the proposed action to the long-term, intensive and repeated electrofishing to remove brown trout from Lee's Ferry. This seems like a waste in resources by using a bandaid to treat a problem that cannot be fixed. The stem of the problems to native fish in the Colorado River is the Glen Canyon Dam, which wholly changed the ecosystem downriver, and which will never be removed. Shocking will only temporarily decrease the number of brown trout, which will eventually make their way back, damage the rainbow trout population, and alter a wonderful fishery. Why treat something that the vast majority of people don't want to be fixed, and which can't be fixed by the proposed method? Seems a complete waste of time, money, and resources, and seems to be a great way to upset people who ultimately are the ones who would be willing help with other more fruitful endeavors...

240

Any attempt to return the Colorado River to it's so-called native or natural state is a sham unless you plan to destroy the dams. No one is going to do that, but various agencies continue to try to play God with poorl thought out moves like the flooding of the spawning beds several years ago. Now, you are looking at eradicating the few brown trout that are moving upstream under the guise of creating a premium fishery for rainbow trout. This, in spite of the fact that rainbows and browns coexist in waters throughout the Western Hemisphere.

If you want to keep the humpback chub and the Colorado Pike Minnow in the river, then protect them in the side channels and the existing waters to which they are more adapted, and let the trout flourish in the colder tailwaters.

As for the concept of introducing trash fish like carp; why would you do that?

For years Lee's Ferry was a world class tailwater known around the world. The combined efforts of our well meaning but misguided government agencies have served to diminish that reputation. Please just leave it alone, and let it evolve under the conditions that exist due to the dam construction. Stop trying to turn back the clock to a free flowing river that no longer exists, and will never exist again!

241

Please keep the rainbow trout At Lee's Ferry

242

Thank you all very much for your hard work and concern for our environment. I would just say that the Lee's ferry fishery provides a wonderful opportunity for all fisherman and is considered to be world class by most. Please do not change anything about it because there is no good reason to do so. If the goal is to restore everything to its natural state, then does the Glen Canyon dam also need to be removed? Sometimes "natural habitat restoration", as a goal, is mis-guided when it is only done just for the sake of saying that it was done. Or would the attempt just be trying to "fix something that is not broken". The bottom line is that I think any efforts that are too extreme would be doing more harm than good.

243

Historically, the rainbow trout fishery at and above Lees Ferry has been the premier trout fishery in Arizona. Some time ago, it was also labeled the best winter trout fishery in the U.S. Many people have traveled to Lees Ferry to enjoy the rainbow trout fishing, including people from outside Arizona.

Recent years have seen a marked decline in the fishery because, I believe, of the artificial floods which have removed natural fish food from Lees Ferry and upriver. The fishery, however, has noticeably improved in 2017 and finally appears to be recovering.

Please do not utilize electro-shocking or other methods to eliminate the much smaller population of brown trout from the Ferry because of the collateral damage that would be sustained by the rainbow fishery.

244

"long-term, intensive and repeated electrofishing" Collateral damage to the rainbow trout fishery from mechanical removal on the proposed massive scale will be unavoidable. Rainbow trout not removed at the time of brown trout removal will be intensely and repeatedly shocked as the electrofishing process progresses along the river and continues over recurring lengthy periods of time measured in weeks. Surviving rainbow trout, while recovering, would be unfishable for extended periods. This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery.

Many more rainbow trout would be shocked for each brown trout captured. Brown trout are presently two to three percent of the Lees Ferry trout population. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature showing that electrofishing salmonids affects their behavior, which would impact angler catch rates and satisfaction.

245

The removal of Brown Trout on the Colorado River would be a mistake. The San Juan River is an example of how a river should be managed. If you manage the spawning, and the bugs, ie the food better, You would not have a issue.

246

I believe the removal of Brown Trout from Lee's Ferry is definitely wrong. I especially believe the removal method of electric removal is injurious to all fish.

Brown trout are an excellent sporting fish and increase the quality of the fishery at Lee's Ferry.

247

I attended your meeting in Phoenix and I thought it to be very informative. I want to express my opposition to any removal of brown trout in the Lee's Ferry area of the Colorado river. I can understand your wanting to remove brown trout in the lower parts of the river because of the protection of native species. But from the information you put out at the meeting it sounded like the brown trout in Lee's Ferry area are either no threat or at least minimal or unknown threat to native species 60 miles down river. Therefore I am opposed to any further action in the Lee' Ferry area.

248

My wife and I have fished the Colorado at Lee's Ferry a number of times. We consider it one of the most spectacular recreational fisheries in the country and a true national treasure. We oppose the plan to remove brown trout for the following reasons:

We strongly oppose this action for the following reasons:

(a) We are unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

(b) Many more rainbow trout would be shocked for each brown trout captured. Brown trout are presently two to three percent of the Lees Ferry trout population. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature showing that electrofishing salmonids affects their behavior, which would impact angler catch rates and satisfaction.

(c) The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions benefiting the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

(d) Native American Tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.

(e) The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.

(f) The EA ignores possible or potential causes for the recent increase in brown trout i.e. sequential fall High Flow Events, warmer water temperature, and the fall High Flow Event related aquatic food base shift, etc. The EA scoping alternatives propose perpetual treatment with no cure for the cause(s). The Bureau of Reclamation has authority over dam operations but isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.

(g) The most recent fish population sampling results, showing a potential halt or change in the direction of brown trout numbers, are ignored in the reasons for the need of the EA.

(h) Sixty miles of the Colorado River in Marble Canyon separate Lees Ferry from the concentration of native fish at the Little Colorado River. Marble Canyon is ignored in the EA and no actions are proposed to address present or future immediate threats to native fish in Marble Canyon or at the Little Colorado River,

(i) The Park Service asserts authority and control over the Colorado River fishery by subordinating the Arizona Game and Fish Department to a cooperating agency role rather than a coequal decisional authority,

249

To whom it may concern,

I have been fishing Lees Ferry for many years and I cannot remember the last time I caught a Brown Trout, although I have hooked many Rainbow Trout.

You have already used high volume flows of water from the dam and it seems that it has only resulted in eliminating the insect population that the trout feed on thereby effecting the health of the trout. I have noticed significant declines in catch rates and the size of the fish. This affects the fishery and has an impact on the local business community and their revenues.

I understand that local Native American tribes are also against this plan to shock and kill Brown Trout.

Have you looked at using the money for this project in a different manner? Use it to enhance the fishery, improve the river habitat, create new spawning beds and give the natural food chain a chance to re-establish.

If you are still concerned about Brown Trout why not change the regulations on this section of the river to Catch and Keep Brown Trout?

There appears to be better alternatives to restoring the Lees Ferry fishery than shocking and

eliminating Brown Trout. Brown Trout are not responsible for reducing the Rainbow Trout population at Lees Ferry. Consider what you have done over the past decade.

I thank you for giving me this opportunity to respond with my views, and I urge you to review your plan and consider other alternatives.

250

I have been fishing at Lees Ferry for over 30 years. The size of rainbow trout is smaller than in the past. Anything that will further deteriorate the high standard of available fishing for rainbow trout is NOT in the interest of the fishing community of which I am a member. Please DO NOT use the proposed electric shocking to eliminate the brown trout. You will, in effect, be lessening or destroying a wonderful trout fishing opportunity for all anglers. Other alternatives are available. Use them to reduce the brown trout population.

251

My parents and I have fished the waters at Lee's Ferry for years, and have had the pleasure of landing many beautiful trout, rainbow and brown alike. It would be, and is a travesty, to remove any trout from those waters! The trout there, are for every angler to enjoy. Lee's Ferry is a special place, not only for the marble canyons, the breathtaking sunrise, and sunset, but also for the trout!

252

This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. I oppose any mechanical removal of brown trout at Lees Ferry.

253

NO Mechanical removal of Brown Trout at Lee's Ferry.

254

I write to adamantly oppose the lunacy of your latest plan for more electrofishing to supposedly remove the few brown trout that exist in the Colorado River.

I have lived in AZ for 50 years and fished Lee's Ferry for 20 years. I have watched your efforts to destroy this once world-famous trout fishery with shock and horror. The quality of fishing there is now about 10% of what it used to be. Is that your actual goal? Shame on you.

You can't turn back the clock. The dam was built. Rainbow trout thrive in the river now, especially if you would stop your incessant and ridiculous meddling. Your latest plan for extreme action- --more insanity- --will do nothing to solve the supposed problems downstream with the "native" fish that you obsess over. But you will certainly do more harm to the fishery and all the economic benefits that Lee's Ferry brings to that part of our state.

Your proposed plans to address the green sunfish are just as ridiculous as the things you have done to destroy the rainbow trout population. If you had any genuine concern for the citizens who love and cherish this fishery, as well as those who depend on it for economic survival, you would discard the current bad ideas and try things like changing the timing of high-flow releases to benefit rainbow trout and native fish v. brown trout, and releasing warmer water from the surface of Lake Powell.

The citizens of this state are fed up with your gross mismanagement of this incredible fishery. Stop it. Do something that makes sense, for a change.

255

I have fished the Lee's Ferry Reach since 1975. I was also an employee of AZ. Game and Fish Dept. in Operations and assigned management/protection responsibilities for Lee's Ferry from 1975-99.

I strongly oppose the plan to use electrofishing as a means to remove brown trout from the Lee's Ferry Reach of the Colorado River. My opposition is based on the following:

1. The effort to remove brown trout which are estimated to comprise 2-3% of the total fishery will result in the death and injury of many non-target spp. (natives included). I personally believe that the 2-3% estimate is in fact an exaggerated estimation. Having spent many days on the River creeling, conducting enforcement activities, etc. I only witnessed anglers catching 2 brown trout. I can see no reason to believe their numbers have increased in the past 40 years.
 2. Despite extensive efforts to remove non-native predators downstream from Lee's Ferry, the efforts have been not only costly, wasteful, but apparently ineffective. Why should NPS waste additional resources on another failed proposal. As another consideration, the Lee's Ferry Reach is in GCNRA. As such it was never intended to duplicate the NPS preservation mandate. It is a recreation area. I realize it is connected to GCNP but still the status of the NRA should be recognized as I am certain the original intent of the legislation that created the NRA would not support this proposal.
 3. The non-native fish issue cannot be resolved by elimination of non-native predatory fish. It can only be "fixed" with removal of all dams in the Upper and Lower Basin. As you know this is not feasible as water storage/management and hydro power are greatly needed in the west and cannot be replaced with the pre-columbian conditions.
 4. Native fish populations will fluctuate naturally with the hydrograph, as such we should not expect long term non-declining populations. The quantifiable data on population status for natives is short term at best when one looks at the information collected since the 1920's. I am not sure we should continue with this doomsday outlook on resources in NPS jurisdiction.
-

256

I am against the plan to use electrofishing to remove Brown Trout in the Lees Ferry /Glen Canyon area as I believe that collateral damage to the rainbow trout fishery could be high. More study should be done to determine why the brown trout density has recently increased and if it is a short term trend which might naturally decline. Could the water releases be better managed to control the Brown Trout (i.e. sequential high fall flows, etc.)?

257

I was in attendance at the December 12th meeting in Phoenix. Thank you for having a meeting in Phoenix, it helped better communicate and to provide understanding of the issue.

I am opposed to any effort to remove brown trout at Lees Ferry. Attempts at electrofishing will be harmful to all trout at Lees Ferry. To remove a few brown trout, you will need to shock thousands of rainbow trout. Collateral damage to the rainbows will be significant. You KNOW this to be true!

Rainbow trout at Lees Ferry are already struggling due to the fall high flow events and habitat damage caused by them. They do not need anymore challenges.

I learned to fly fish at Lees Ferry starting in 2011, and caught my first rainbow trout at this magnificent location.

My friends and I enjoyed 3 wonderful years of fishing at the Ferry , and developed a love of the river. This culminated in taking a 6 day rafting trip in May of last year.

Unfortunately, fishing at Lee's Ferry has deteriorated dramatically in the last 3 years due to the improperly timed high flow events. As a result of this decline, we have curtailed our fishing trips, and now travel great distances to seek trout. For the record, I have never seen or caught a brown trout at Lee's Ferry.

During my rafting trip last spring, I had the pleasure of seeing a robust gathering of humpback chub at the Little Colorado river's entry into the Colorado. This came 4 days into the trip. It boggles the mind to think that you are considering KILLING brown trout 60 miles up river to protect a population of chubs which is already thriving.

I am a snowbird, and I spend my summers fighting invasive species in Wisconsin, so I understand the mandate to protect native species.

However, in this case, I believe your efforts are fundamentally flawed. You are seeking to restore/protect a species which lived in an ecosystem which no longer exists. The Colorado river watershed was permanently changed when the Glen Canyon dam was built. It is no longer a free stone river. It is now a coldwater river in the upper reaches, let's recognize it as such and live with those changes.

My recommendation is that you take no action in regard to brown trout. Accept Alternative A as the best option and save resources and efforts.

Further you should involve Arizona Game and Fish and the Bureau of Reclamation to work on improvement of the trout fishery at Lees Ferry which has great opportunity for fishing and enjoyment.

258

The EA proposes electrofishing mechanical removal in Lees Ferry/ Glen Canyon with "long-term, intensive and repeated electrofishing ". Collateral damage to the rainbow trout fishery from mechanical removal on the proposed massive scale will be unavoidable. Rainbow trout not removed at the time of brown trout removal will be intensely and repeatedly shocked as

the electrofishing process progresses along the river and continues over recurring lengthy periods of time measured in weeks. Surviving rainbow trout, while recovering, would be unfishable for extended periods. This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. We strongly oppose this action for the following reasons:

- (a) We are unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.
 - (b) Many more rainbow trout would be shocked for each brown trout captured. Brown trout are presently two to three percent of the Lees Ferry trout population. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature showing that electrofishing salmonids affects their behavior, which would impact angler catch rates and satisfaction.
 - (c) The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions benefiting the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.
 - (d) Native American Tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.
 - (e) The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.
 - (f) The EA ignores possible or potential causes for the recent increase in brown trout i.e. sequential fall High Flow Events, warmer water temperature, and the fall High Flow Event related aquatic food base shift, etc. The EA scoping alternatives propose perpetual treatment with no cure for the cause(s). The Bureau of Reclamation has authority over dam operations but isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.
 - (g) The most recent fish population sampling results, showing a potential halt or change in the direction of brown trout numbers, are ignored in the reasons for the need of the EA.
 - (h) Sixty miles of the Colorado River in Marble Canyon separate Lees Ferry from the concentration of native fish at the Little Colorado River. Marble Canyon is ignored in the EA and no actions are proposed to address present or future immediate threats to native fish in Marble Canyon or at the Little Colorado River,
 - (i) The Park Service asserts authority and control over the Colorado River fishery by subordinating the Arizona Game and Fish Department to a cooperating agency role rather than a coequal decisional authority,
-

259

I am opposed to the removal of Brown Trout at Lee's Ferry, for all of the reasons suggested by Trout Unlimited.

260

I am opposed to any mechanical removal of Brown Trout on the river. It would do more harm than good. Park Service planted Brown Trout in the river in 1923. They have lived harmoniously with all other species since well before the dam. It is also well documented that Brown Trout don't travel. They stay put!! Which is no where close to the endangered species 80 miles down river. It is also a fact that most if not all tailwaters across the US have a healthy population of Brown and Rainbow Trout living together!!

Why don't you consider doing something that could help the fishery and the local economy and leave them alone!!

261

Having read the reasoning for the dramatically catastrophic "cleansing" of non-native fish from the Colorado River, I find the logic lacking any true basis in the modern world. While not native, the Brown Trout provide such a tremendous value to the region from a financial perspective as well as intrinsic value. To rid the world of non native fish is stupid in so many ways and represents a massive waste of limited time and money. The projects end results will be limited at best after major time and expense and will destroy a valuable fishery.

This project truly presents an excellent example of government over reach and lack of sensitivity to regional economic and social outcomes. I know that your paid biologists insist that this is a necessary action but outside of their closed "expert" opinion, there is absolutely no justification for this action. Spend your limited resources on developing new fisheries not destroying existing viable fisheries. I know your "expert" biologists insist on this direction but like so many government actions, this is a terrible and stupid idea.

Please note that while I am a fisherman, I have never fished the Colorado River but when I see the pride and excitement in the people who tell me stories of thier trips, it is obvious that nature has overcome and benefitted from this non native species. Man has as well.

Build a bathroom, do something needed. This project is not.

262

As a former Arizona resident and trout angler across the entire state. I want to comment that I strongly oppose the Non-Native EA project, as it appears that it will likely harm a very well-known trout destination that is not currently experiencing any adverse affects from the 'non-native' brown trout population that is residing in Lee's Ferry.

263

As a cooperating agency on the above-referenced EA, and on behalf of the Upper Colorado River Division States of Colorado, New Mexico, Utah and Wyoming (collectively, the Upper Division States) the Upper Colorado River Commission (UCRC) hereby submits comments on the preliminary draft alternatives for the expanded non-native aquatic species management plan

environmental assessment ("preliminary draft alternatives") that are in addition and supplemental to those dated November 6, 2017. The UCRC appreciates the opportunity to provide two additional comments on the preliminary draft alternatives as currently described in the public scoping newsletter. First, the Commission requests that the EA expressly state that changes to current Glen Canyon Dam operations will not be considered in a new management tool.

Although the scoping newsletter states, "Changes to the CFMP or LTEMP would be outside the scope of this EA- this EA only evaluates tools that would be added in addition to those that exist under the CFMP or LTEMP," we request the addition of a specific statement that the EA will not include operational changes to Glen Canyon Dam.

Second, and with regards to the Proposed Action (Alternative 8), the Commission requests that the introduction of the Colorado pikeminnow to the upper slough be eliminated from consideration in this EA as a biological control. While the pikeminnow may have populated the upper slough prior to construction of Glen Canyon Dam, they are not present today. Introducing the pikeminnow into an ecosystem that contains a significant humpback chub population should not be considered until more research has been conducted on the implications of this for the chub.

Once again, the UCRC and the Upper Division States appreciate the opportunity to provide additional comment on the Preliminary Draft Alternatives. As a cooperating agency on this EA, we reserve the right to submit additional comments on the preliminary draft alternatives and all EA-related documents during the pendency of this National Environmental Policy Act (NEPA) process..

264

It is nice that you want to eliminate all non-native species from the Lee's Ferry historical area. However, you should make an exception for the Brown Trout specifically. How can a brown trout be harmful if the rainbow trout is not harmful, they are like brothers...they eat each other and each eat similar lower species.

Were not brown trout originally brought over from Germany and called German Brown Trout? Therefor these superb trout are Germany's gift to us as a way for them to make up for and make amends for the burdensome partial cause of the second world war. How can we prevent them from feeling better in this way.

Please listen to whatever Trout Unlimited suggests in this situation, they are much smarter than I and they speak for me.

Speaking of native species, did not the first Americans, the Native Americans introduce, periodically, rotenone into the waterways? If you really want things to go back to historical native conditions, should you not continue this tradition?

265

The proposed action to remove the Brown Trout in the Glen Canyon / Lees Ferry area will remove one of the best trout species to be fished, harm the fishery at Lees Ferry as the rainbow trout is not what it was in the 1990s. Too small and weak. Need to re-look the "flushng" schedule

and get more food into the river so that both browns and rainbows can thrive. Electro shocking is not selective and will harm the existing rainbow population in doing so. Lees Ferry is a great destination for AZ residents to get some beautiful fly fishing experience, think of the fishing population and not over think river management

266

Leave the gorgeous brown trout alone. This is a fantastic fishery and should not be engineered for some other purpose.

267

This is going to damage too much of the rainbow trout population compared to the benefits from removing the brown trout/non-native. Do NOT do this or you'll ruin the prime trout fishery in Arizona!!

268

The Eastern Arizona Counties Organization strongly opposes this action for the following reasons:

(a) NPS has not provided any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In the past, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

(b) Many more rainbow trout would be shocked for each brown trout captured. Brown trout are presently two to three percent of the Lees Ferry trout population. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature showing that electrofishing salmonids affects their behavior, which would impact angler catch rates and satisfaction.

(c) The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions benefiting the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

(d) Native American Tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.

(e) The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.

(f) The EA ignores possible or potential causes for the recent increase in brown trout i.e. sequential fall High Flow Events, warmer water temperature, and the fall High Flow Event related aquatic food base shift, etc. The EA scoping alternatives propose perpetual treatment with no cure for the cause(s). The Bureau of Reclamation has authority over dam operations but isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.

(g) The most recent fish population sampling results, showing a potential halt or change in the direction of brown trout numbers, are ignored in the reasons for the need of the EA.

(h) Sixty miles of the Colorado River in Marble Canyon separate Lees Ferry from the concentration of native fish at the Little Colorado River. Marble Canyon is ignored in the EA and no actions are proposed to address present or future immediate threats to native fish in Marble Canyon or at the Little Colorado River,

(i) The Park Service asserts authority and control over the Colorado River fishery by subordinating the Arizona Game and Fish Department to a cooperating agency role rather than a coequal decisional authority,

269

I wish to express my concerns about the intended culling of Brown Trout from the Lees Ferry Fishery. I have fished the Ferry for 29 years and even though I enjoyed many fun experiences, I admit the build of the dam and subsequent changing of the eco-system was wrong. Either the dam gets torn down or else we live with a cold water fishery that the Government has provided which includes the Brown Trout. To do otherwise is expensive, time consuming, cruel and presents a very poor opinion of our Fish and Wildlife agencies by the anglers who pay their salaries.

270

We are 27-year residents of Arizona and have been fishing at Lees Ferry since 1991. This is an incredible fishery - the management of Brown trout by electro-shocking will have a devastating impact on the Rainbow trout and a devastating impact on the quality of this fishery. Please continue to promote the catching and keeping of all Brown trout by fisherman. We also support the comments made by Trout Unlimited Zane Grey chapter and the Arizona Flycasters.

271

No mechanical removal of Brown Trout at lee's ferry!!! I am an avid fly fisher in the grand canyon state and it devastated me when I learned that brown trout were removed out of bright angel creek and now this!! I had the pleasure to fish bright angel numerous times and had a great experience. Since the removal of the browns I have not been back. Here in Arizona we have very few places or opportunities in moving water to fish for this lovely sport fish and I ask you to reconsider your proposed removal from Lee's Ferry. I have fished the ferry a few times and have never caught a brown there. I believe it would be an excellent fishery if the browns were aloud to grow and possibly flourish however I'll admit I am not a fish biologist and respect the opinions

of those who are. Has there been any studies or concrete data showing that the brown are eating native chubs? When they were electro shocked out of bright angel creek

272

We are unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

Native American Tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.

273

I totally disagree with electro shocking the brown trout species @ Lees Ferry. In the past I have witnessed the erroneous effect of this method. If the out come of the brown trout population is to diminish let the fishermen or women catch and take them.

274

Please do not disrupt the natural occurrence of this river and the livlyhood and ways of the area. Thank you.

275

The Lees Ferry Fishery is a part of the Glen Canyon National Recreation Area. In the "Expanded Non-native Aquatic Species Management Plan in Glen Canyon National Recreation Area and Grand Canyon National Park below Glen Canyon Dam-An Environmental Assessment" what the hell happen to the main intent and focus of this area "RECREATION"? The EA in no way aids or adds to the GCNRA focus. It does not provide a mechanism to assure removal of brown trout, nonnative fish, from the Colorado River. It actually expends parks service personnel time and efforts along with tax payer dollars on a fantasy effort with low or no probability of removing brown trout from the river and most likely greatly impairing the recreational experience of the anglers' whose tax dollars are used for this folly.

Electrofishing may remove a few brown trout, nonnative fish, but it cannot be an effective tool to remove them from the Lees Ferry reach of the river and for sure cannot impact the total river. I have work on several electrofishing projects on this reach and had discussions with the scientists as we worked. The efforts are limited to the shallow edges of the river and exclude any fish in the deeper reaches. Thus, the efforts are in a very limited portion of the river with extremely limited results at best.

In addition to not being an effective tool, repeated mechanical removal would impact the rainbow trout population through stress and mortality. The result is lowering the catch rates of anglers and impacting the RECREATION experience of the fishery. Through operation of the

Colorado River flow patterns and management the experience has already been greatly compromised as reflected by the distressed economy of the area. Both natives and non-natives Americans have been impacted in their income and work opportunities.

The most serious issue impacting both native and nonnative fish in the Colorado River below Glen Canyon Dam is the lack of an adequate insect food base. Focus should be place on the work being accomplished in this area. An adequate food base will improve the stability of population of both native and nonnative species, especially those that are endangered.

The stretch of the Colorado River down stream from Lees Ferry is Marble Canyon. No action to remove brown trout or nonnative fish has been proposed. Yet this area is much closer to the main habitat of native fish. This makes zero sense and compromises the integrity of the EA's objective and proposed actions and goals.

With the budget and personnel constraints facing all departments of the U.S. Government allocation of personal and funding for this EA should not be considered a priority item. It would be a reckless utilization of funds and does absolutely nothing to improve the recreational experience of visitors to the Glen Canyon National Recreation Area.

276

I strongly object to the National Park Service plan to shock and eliminate brown trout from Lee's Ferry area below Glen Canyon Dam on the Colorado river.

I have fished the lee's Ferry area for over 30 years and I find the brown trout to be absolutely no problem what so ever.

I fish several other rivers such as the Big Horn rivers in Montana. Brown trout and other species co exist with no problem what so ever. I urge you to re think your plans and just leave the river alone.

277

I strongly oppose the mechanical removal of brown trout in the lees ferry area of the Colorado river due to the negative impact to the rainbow trout and other species. Please consider the economic impact this would have on the region.

278

Please stop killing the German brown trout at Lees Ferry. You will never destroy all of them without killing the rainbows. Why can't you just adjust the water flows that benefit the rainbows? Lees Ferry has been a great fishing place in the past, but since you have changed the flows the fish can't find food and they aren't growing very fast.

Let's be positive in supplying a great fishing area again.

279

The Colorado River Energy Distributors Association (CREDA) appreciates the opportunity to provide comments during the NPS' scoping of the Expanded Non-Native Aquatic Species

Management Plan (EA). The following comments are based on information from the Scoping Newsletter

<https://parkplanning.nps.gov/document.cfm?parkID=62&projectID=74515&documentID=84099>, as well as the 11/28/17 webinar presentation and discussion.

CREDA's mission is "To preserve and enhance the availability, affordability, and value of Colorado River Storage Project facilities while promoting responsible stewardship of the Colorado River System." CREDA members are all non-profit organizations who are contactors for the purchase of Colorado River Storage Project (CRSP) resources. CREDA members serve over four million consumers in the States of Arizona, New Mexico, Nevada, Colorado, Utah and Wyoming. CREDA has been member of the Glen Canyon Dam Adaptive Management Program (AMP) since its inception. CREDA and its members have a direct and specific interest in this process.

Proposed Purpose and Need for Action

The Council on Environmental Quality (CEQ) Regulations require the purpose and need statement to identify the proposed action, the purpose of the proposed action, and specify the underlying need to which the agency is responding in proposing the alternatives, including the proposed action.

CREDA is concerned about the EA's proposed purpose and need for action statement. The purpose should be broad enough to cover non-native species that may not currently be identified; yet, the species that are considered threatened by non-native species should be specific; otherwise, an appropriate level of impact analysis is not achievable. The current statement says, "including listed species or the Lees Ferry recreational trout fishery." This statement is too vague and should be clarified. In addition, the EA documentation should be clear that the proposed covered actions in the EA are those under NPS authorities; flow actions are under Reclamation authorities and are outside the scope of this EA.

Development of Alternatives

Multiple commenters at the webinar/workshop expressed frustration that the final report from the AMP's brown trout workshop was not available prior to close of the scoping period. CREDA concurs with those concerns and recommends that if scoping cannot be extending until after that report is publicly available for review, a reasonable period of time within which the NPS and cooperating agencies accept comments specifically relevant to the brown trout report be provided. Having participated in that workshop, CREDA believes that action alternative development cannot be completed without this final report. This second or additional comment period could also be used to accept comments following information and discussions at the upcoming AMP Annual Reporting and TWG meetings the end of January 2018.

The Data Quality Act requires agencies "to ensure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements" and to "identify any methodologies used" and "make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." (40 C.F.R. Â§1502.24). While analyzing and developing potential alternatives, scientific analysis which indicates "uncertainty" should be

treated as just that, and additional "value judgements" attached to uncertainty such as "possibly positive" or "possibly negative" should be discounted. If there is clear scientific data supporting a statement, it should be considered, but non-supported statements should be considered inappropriately biased. Given the inherent relationship of this EA to the LTEMP and CFMP, the EA should identify all tools and actions from those documents that may or will be used within each action alternative in this EA. Actions proposed under the EA should include specific "start and stop" triggers, as well as appropriate monitoring to assess impacts of actions and to be able to undertake appropriate mitigation measures. Such mitigation measures should also be identified in Issue and Resource analysis and assessment.

Resource Impacts

In response to the Newsletter's request for input on "Resource and other impacts that should be considered", impacts to the Glen Canyon Dam hydropower resource should be assessed during the NEPA impacts analysis phase of the EA. Impacts analysis should be conducted by WAPA, in consultation with the hydropower subject matter expert cooperating agencies and Reclamation. Given the involvement of the USGS/Grand Canyon Monitoring and Research Center in the EA, resources available through Projects J and N of the Triennial Work Plan and Budget should be considered and utilized as part of the hydropower impact assessment portion of the EA.

Technical Comments

- A) As noted on the webinar, CREDA cautions against including Colorado Pikeminnow introduction as a biological control. Given this species is a top line predator, the risk to Humpback Chub (HBC) outweighs the potential (and uncertain) value as a non-native predator.
- B) Any action or treatment considered for inclusion in a preferred or selected alternative should have no negative impact to HBC or Razorback Suckers.
- C) Given the identification of grass carp in Lake Powell, an element common to all alternatives must include a robust monitoring program to timely identify and address new non-native threats.
- D) Any selected action taken with regard to the slough should be one that is intended to be permanent, rather than annual or of some other frequency.
- E) Although the Newsletter does not mention other Colorado River-focused programs, CREDA urges NPS to consult and coordinate with the LCRMSCP and UC/SJRIPs regarding non-native species control information and activities.
- F) Any mention or consideration of pre- vs. post-dam conditions is inherently out of scope.
- G) Given the diversity of species, action area and management action options, specific agency roles and responsibilities and funding source(s) should be identified in the draft EA.

280

In response to the National Park Service's (NPS) request for input regarding the development of an Environmental Assessment of the Expanded Non-native Aquatic Species Management Plan in Glen Canyon National Recreation Area and the Grand Canyon National Park below Glen Canyon Dam, the Pueblo of Zuni is pleased to provide you with the following comments. For the past twenty-five (25) years the Pueblo of Zuni has emphasized to the Department of the Interior (i.e., National Park Service (both Glen and Grand Canyon units), Bureau of Reclamation, Bureau of Indian Affairs, United States Fish and Wildlife Service, and the Grand Canyon Monitoring

and Research Center) the important cultural, religious and historical ties the Zuni people have to the Grand Canyon, Colorado River, and Little Colorado River. The Grand Canyon is the place of Zuni emergence into this current world at a place called Chimik'yana'kya dey'a, near Ribbon Falls in Bright Angel Canyon. The natural environment that Zuni people saw at Emergence became central to traditional Zuni culture. In fact, all of the plants that grow along the stream from Ribbon Falls to the Colorado River, and all the birds and other animals, springs, minerals and natural resources located in the Grand Canyon and its' tributaries have a central place in Zuni traditional cultural practices and ceremonial activities. In fact, the confluence of the Little Colorado and Colorado Rivers is viewed as a spiritual umbilical connection between the Pueblo of Zuni and the Grand Canyon that is facilitated through the union of the Zuni River with the Little Colorado and the Colorado Rivers. The confluence of the Little Colorado River and the Colorado River in Grand Canyon is viewed by the Zuni people as an extremely important and sacred place because of its abundance of aquatic and terrestrial life that represents the fertility of nature.

The Colorado River is a particularly important place to the Zuni people because it was the location of an important historical event. This historical event was conveyed to Frank Hamilton Cushing, an American Anthropologist, by the Zuni in the late nineteenth century and is summarized below to convey to the National Park Service the deep and remarkable significance that the Colorado River and the aquatic life within it have for the Zuni people.

Shortly after Emergence, men of the Bear, Crane, and Seed clans strode into the red waters of the Colorado River and waded across. The men of the clans all crossed successfully. The women travelling with them carried their children on their backs and they waded into the water. Their children, who were unfinished and immature (because this occurred shortly after Emergence), changed in their terror. Their skins turned cold and scaly and they grew tails. Their hands and feet became webbed and clawed for swimming. The children fell into the swift, red waters. Some of the children became lizards, others turned into frogs, turtles, newts, and fish.

The children of these clans were lost to the waters. The mothers were able to make it to the other side of the river, where they wailed and cried for their children. The Twins heard them, returned, and advised all the mothers to cherish their children through all dangers. After listening to the Twins, those people who had yet to pass through the river took heart and clutched their children to them and safely proceeded to the opposite shore.

The people who successfully made it out of the river rested, calmed the remaining children, and then arose and continued their journey to the plane east of the two mountains with the great water between.

As a consequence of this historical event, all aquatic life is considered by present day Zunis to be descendants of those Zuni children who were lost to the waters, thus creating a strong and lasting familial connection to all aquatic life and an important stewardship responsibility. It is precisely because of this familial connection and stewardship responsibility that the Pueblo of Zuni has for the past ten (10) years communicated to the National Park Service and the Bureau of Reclamation through numerous letters and other forms of communication, objections to any management actions (e.g., mechanical removal and trout suppression flows) that entail the taking

of life, especially aquatic life. Unfortunately, the current public scoping newsletter and the listed management actions under consideration for this environmental assessment communicates to the Zuni people that those previously expressed Zuni concerns are not being fully appreciated, considered or addressed.

The Pueblo of Zuni's major concern with the alternatives described in the public scoping newsletter is the continued emphasis and reliance on reactionary management strategies to address unacceptable levels of non-natives within the Colorado River ecosystem between Glen Canyon Dam and Lake Mead rather than promoting a proactive approach that focuses on identifying and controlling the antecedent environmental and structural conditions that promote or allow non-natives to enter and thrive within the system. Specifically, the "tools" identified to address undesired non-natives include:

Mechanical removal of trout in the Little Colorado River reach

Trout management flows

Long-term intensive and repeated electro-fishing and trapping of all age-classes of harmful non-natives

Use of black plastic and other coverings

Chemical controls including the use of Rotenone or other pesticides and herbicides for non-native plants

All of the above listed tools under consideration involve killing aquatic fauna and flora which is reprehensible to Zuni sensibilities. The inclusion of these tools in this environmental assessment demonstrates a disregard for the Zuni familial and stewardship relationship to aquatic life, a devaluation of the special relationship that the Zuni people have with the Grand Canyon and the Colorado River and a dismissal of previously expressed Zuni concerns.

The implementation of these listed tools will disproportionately negatively affect the Zuni people and our relationship to this sacred place and our familial and stewardship responsibility to the aquatic life within the Colorado River. This disproportionate impact on the Zuni people raises a significant environmental justice issue which necessitates the National Park Service's consideration and inclusion of Zuni worldviews and belief systems both as they uniquely delineate and directly express living human-environment relationships.

The National Park Service's compliance with NEPA mandates requires that attention and consideration of direct, indirect, and cumulative effects on the "human environment," which is defined "comprehensively to include the natural and physical environment and the relationship of people with that environment" (Emphasis ours; 40 CFR 1508.14). As the content of this letter conveys to the National Park Service, any adequate and comprehensive understanding of the relationship the Zuni people share with their natural and physical environment requires attention to how doctrines and principles of our worldview and belief system delineate and define this enduring and long-standing relationship. In turn, it is the broad and complex implications of this relationship and its doctrines and principles that must be considered to comprehensively identify and assess the full breadth of direct, indirect, and cumulative impacts potentially resulting from the alternatives considered under this environmental assessment.

Finally, Zuni perspectives and knowledge sovereignty must be respected by the National Park Service, granted equal standing with Western forms of knowledge production, and integrated and

synthesized into each relevant section of this environmental assessment for the Pueblo of Zuni to consider the NEPA process and associated responsibilities legally fulfilled. The Pueblo of Zuni looks forward to working collaboratively with the National Park Service in developing and considering alternative methods for controlling non-natives within Glen and Grand Canyons that do not involve the taking of life, but rather respects and honors all life.

281

I urge the Park Service not to take any action to eliminate non-native trout from the Colorado River below Glen Canyon Dam. The benefit of eliminating such trout is highly questionable and certainly outweighed by the burden of such an effort. The chub will survive without killing the browns.

282

Why do you feel killing the brown trout at Lees Ferry will benefit anybody or improve the river. If I have a vote it would be no.

283

I am sure I am not alone, I started fishing the Colorado from Lees Ferry about 10 years ago, what I and all my fishing buddies have found is the fishing experience getting worse year after year. It appears that many people feel they can better manage nature than nature itself! Truly we have become a nation of tree huggers (or at least those in power over our fishing waters) who truly believe they can better manage what should live and what should die. They have turned a national treasure of western trout fishing into a calamity that has driven Lees Ferry fishing to almost a death knell.

I really don't hold much hope for a change as those of you reading this are sure YOU KNOW BEST!

In the name of God let nature takes its course, the fish and the fisherman will be better for it.

284

We just received notice of the public scoping period for the National Parks Service Expanded Non-native Environmental Assessment. We were surprised and disappointed to find the notice has such limited time, limited scope, and limited public meeting venues. We also noticed the comment period ends before the findings from the brown trout workshop are included. The Arizona Flycasters Club, Fly Fisher International, along with other community fishing clubs, individual anglers, and recreational fishing for the Glen Canyon Dam Adaptive Management Program GCDAMP respectfully request the following:

1. Extend the participation period from thirty-days to sixty-days;
2. Add additional public open houses in the Phoenix metropolitan area; and,
3. Include the findings from the final brown trout white paper.

The thirty-day public scoping period is inadequate for a number of reasons. First the starting date of the public announcement spreads over a holiday period. A November/ December thirty day commenting periods may serve Federal agency purposes; however, it does not serve the impacted parties. Second, the timeline unilaterally excludes the reviewed final product of the

brown trout workshop integrated into the alternatives. Finally, the public scoping open houses do not include the largest concentration of Arizona anglers. We therefore request a total sixty-day scoping period, and Phoenix area public open houses which will also allow inclusion of the finalized brown trout white paper, and give the public the additional commenting time.

These requests are relevant to shaping a final preferred alternative. Preferred Alternative B, in its present form, contains unacceptable elements and could be highly contentious and strongly opposed by the angling community both procedurally and politically. These potential contentious elements need addressing and resolution for a successful Environmental Assessment.

We applaud the public scoping webinar and two open houses as good first-steps for engaging the public. However, webinars are inadequate for meaningful interaction at a productive level. The Page open house is commendable and provides a participation opportunity for the Marble Canyon community and businesses most dependent on the Lees Ferry trout fishery, and most affected by the Environmental Assessment. The Flagstaff meeting is also desirable; however, the base for the largest number of affected anglers is in the Phoenix metropolitan area.

The scoping period Intent should be obtaining meaningful and constructive comment leading towards an Informed alternative decision acceptable across the broadest possible spectrum. Unfortunately, not having a Phoenix open house gives the perception of Intentional omission rather than an oversight. We therefore request a Phoenix area public open house meeting. We sincerely hope you will agree to our requests so we may continue an open and meaningful dialogue regarding the GCDAMP and the National Parks Service Expanded Non-native Environmental Assessment.

285

The Colorado River Board of California (Board) appreciates the opportunity to participate as a cooperating agency for the development of the Environmental Assessment (EA) for the Expanded Non-Native Aquatic Management Plan in Glen Canyon National Recreation Area and Grand Canyon National Park below Glen Canyon Dam (Plan) currently under development by the National Park Service (NPS). The Board represents California agencies holding contracts with the Secretary of the Interior for water and/or hydropower resources from the Colorado River system and interacts with other Colorado River Basin States and the federal government on behalf of these agencies regarding matters affecting the Colorado River and its uses. The Board appreciates the comprehensive and proactive approach targeted by the Plan and looks forward to continued collaboration with NPS as the EA is developed. The Plan is an important part of risk management in the Colorado River ecosystem, which has seen several recent establishments or increases of potentially harmful nonnative fish. Timely action can be critical in limiting the damage caused by these nonnative species. The suite of management options considered within the Plan may also provide for greater certainty in the implementation of activities included in the recently completed Long-Term Experimental and Management Plan (LTEMP). As such, the Board appreciates NPS's efforts to complete the Plan, if possible, prior to the implementation window for a high flow experiment (HFE) in fall 2018.

Although the Plan currently includes, in descriptions of the alternatives, text noting that modifications to existing plans including the LTEMP would be outside the scope of the EA, the

Board suggests that this language be more prominently incorporated into the introductory sections of the EA. The Board does not believe that the Plan should modify the terms of the L TEMP or direct operations at Glen Canyon Dam in any way and, therefore, encourages NPS to preserve this intent clearly and early in the document.

The Action Area for the EA is home to what is currently the largest remaining population of endangered humpback chub, as well as a resurgent population of endangered razorback sucker. The Board believes that protecting these populations should be the primary and express purpose of actions taken under the Plan. Extremely careful deliberation should be undertaken before the introduction of any species, including the Colorado pikeminnow, to the system. Given the magnitude of such an action, the Board suggests that biological control activities that would introduce new or extirpated species be removed from the Plan. If such introductions are deemed necessary, they should be considered separately.

Finally, as development of the EA continues, the Board requests that emphasis be placed on several areas that it expects will be critical in the eventual implementation of the Plan, including the decision-making process, quantitative thresholds for implementation and off-ramps, associated monitoring needs, and potential cost and effectiveness of control methods. The Colorado River Board of California appreciates the opportunity to provide comments on the Expanded Non-Native Aquatic Species Management Plan.

286

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287

The Arizona Game and Fish Department (Department) appreciates the opportunity to participate as a Cooperating Agency in the Expanded Non-native Aquatic Species Management Plan in Glen Canyon National Recreation Area and Grand Canyon National Park below Glen Canyon Dam (Environmental Assessment). Many of the proposed tools provided in this planning effort are important to the management objectives of both the Department and the National Park Service (NPS). The shared objectives are to maintain and enhance the Blue Ribbon Rainbow Trout Fishery at Lees Ferry, and to maintain and enhance native fish populations in Marble and Grand Canyons. The Department has reviewed the scoping documentation for the upcoming Environmental Assessment (EA) and has the following comments: The Arizona Game and Fish Commission (Commission), under Title 17 of the Arizona Revised Statutes §17-102, codifies state ownership of wildlife and gives the Department authority, acting as the agent of the Commission, to oversee management and regulation of take of fish and wildlife within the state of Arizona irrespective of landownership except those wildlife existing on tribal trust-status lands. The Department's authorities include jurisdiction over fish, both native and non-native, residing in the Colorado River below Glen Canyon Dam. In September 2015, the Department approved its Fisheries Management Plan, Colorado River-Lees Ferry 2015-2025. The goal of the plan is to maintain and enhance a Blue Ribbon Rainbow Trout Fishery at Lees Ferry that does not adversely affect the native aquatic community in Grand Canyon National Park. The EA should clearly state that the actions proposed would only be carried out in coordination with, and with the concurrence of, the Department.

In September 2017, based on a unanimous recommendation from the Glen Canyon Dam Adaptive Management Work Group, the NPS, the US Geological Survey, and the Department held a Brown Trout Workshop specifically to inform the scope and direction of Brown Trout control and management in the Colorado River below Glen Canyon Dam. The final workshop report has been delayed until January 2018 and is not available to help inform our comments on the appropriate scope of the EA. The Department requests that comments on the EA should be extended until the Brown Trout workshop report is finalized after being made available and

reviewed by stakeholders as well as the public.

After an in-depth biological evaluation, the Department considers the actions outlined in the scoping document will not achieve the proposed stated goals in the document nor those stated in the Long Term Experimental Management Plan (LTEMP) and Comprehensive Fisheries Management Plan (CFMP). A goal of the proposed action in the EA is "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." This goal can only be accomplished by working with the Bureau of Reclamation (BOR) to address what we believe are the most likely root causes of the recent increases in the Brown Trout numbers in Glen Canyon, such as rising water temperature and sequential fall high flow events. Root causes or actions to address the root causes of increased Brown Trout recruitment in Glen Canyon are not addressed in this EA. These potential root causes need to be discussed in any EA designed to address Brown Trout control at Lees Ferry. Necessary mitigation actions may include shifting the emphasis of high flow events from the fall to the spring and implementing a temperature control device to regulate the temperature of water releases from Glen Canyon Dam. NPS and BOR should work together as co-leads on this EA (as they did on the LTEMP EIS) to address these mitigation actions.

The Department has specific comments related to a variety of the control options presented in this scoping document.

Mechanical Controls

The Department strongly opposes long-term intensive and repeated electrofishing or lethal trapping of fish within Lees Ferry for the following reasons:

1. While electrofishing has been effective for managing trout in small wadeable streams like Bright Angel Creek, there is no evidence that it will be effective for controlling Brown Trout in the mainstem of the Colorado River. Intense, repeated and long-term mainstem electrofishing throughout the upper Colorado River basin has been largely ineffective at managing or controlling non-native fish.
2. Many more Rainbow Trout would be shocked for each Brown Trout captured (approximately 49 Rainbow Trout will be shocked and netted for each Brown Trout captured, AGFD 2016 Lees Ferry data). The focus of mechanical removal would be on shoreline areas that are also prime angling areas. In addition to direct Rainbow Trout mortality, there is ample scientific literature showing behavioral changes and physical injury to salmonids that are subjected to electrofishing. It is likely that these two incidental impacts to Rainbow Trout will negatively impact angler catch rates and satisfaction.
3. Collateral damage to the Lees Ferry Rainbow Trout fishery from mechanical removal and the negative public perception it creates will very likely harm the local economic community.
4. The implementation of long-term intensive and repeated electrofishing would take a tremendous amount of effort and the fiscal burden would be very high (personal communication

with USGS and contractor Josh Korman). The money spent on this activity with an uncertain and unsubstantiated outcome could put a major drain on Department of Interior (DOI) agency budgets. This funding is better spent to address other priorities such as long-term monitoring and research to adaptively manage these important resources.

5. In 2017, the Secretary of the Interior signed Secretary Orders 3347 and 3356 with the purpose of advancing conservation stewardship and increasing outdoor recreation opportunities such as, hunting, fishing, and improving the management of game species and their habitat. Long-term intensive, and repeated, electrofishing and trapping are very likely to negatively impact catch rates and population abundance of the Rainbow Trout fishery and violates the spirit and intent of the Secretarial Orders.

6. The Lees Ferry Rainbow Trout fishery is a public trust fishery on a navigable water in the State of Arizona and is further protected through the Colorado River Storage Protection Act and Fish and Wildlife Coordination Act. Therefore, any potential negative impact to the Rainbow Trout fishery caused by long-term intensive and repeated electrofishing and trapping must be mitigated as part of the proposed action. Failure to address and mitigate these impacts creates a substantial liability to the National Park Service. The State of Arizona may choose to seek compensation for the economic impacts and lost opportunities caused by this action.

The Department does support the use of mechanical control in small backwater areas and dredging or mechanical harvesting of non-native aquatic vegetation (e.g., algae and plants) when necessary and applicable. The Department does however request NPS coordinate with the Regional Aquatic Wildlife Supervisor for Region II (Flagstaff) when determining if, when, or how these mechanical controls are used.

Physical Controls

The Department strongly supports the alteration and habitat modification of the slough at Lees Ferry (RM -12) and other small backwater areas in order to alter backwater temperatures and limit reproduction of warm-water non-native fish species. We believe that barriers and exclusionary devices will not likely be effective at eliminating non-native fish threats at these locations, as evidenced by green sunfish at the slough in the past few years.

Biological Controls

The Department supports the exploration and development of YY male Brown Trout stocking. This action, although in its infancy and experimental phase, has shown promise in Idaho. Further, the Western Association of Fish and Wildlife Agencies is considering creating a consortium of state resources to further this research. We feel Lees Ferry may be a water where this research could be utilized in the future.

The Department believes that the introduction of federally listed species (Humpback Chub, Colorado Pikeminnow) is not appropriate within the mainstem of the Colorado River within Glen Canyon National Recreational Area because the habitat in the mainstem is inappropriate for these species and this translocation and reintroduction will not further conserve these species. Furthermore, the Department believes that translocation and reintroduction of these listed species could limit future mitigation options if unwanted species are discovered at Lees Ferry or result in increased take of listed fish in Glen Canyon through dam operations.

One specific action not included in the scoping, that should be considered, was the use of stocking Rainbow Trout as a potential control mechanism for Brown Trout. Research in other western states has shown the ability to control Brown Trout through the stocking of Rainbow Trout at high enough levels to reduce the compensatory reproduction response when systems see declines in biomass. We would be happy to discuss this option further as the EA progresses and explain why this may be an effective tool for controlling Brown Trout.

Chemical Controls

The Department only supports chemical control of undesired fish species when the root cause of the invasion has been mitigated. The Department does not support frequent and repeated use of piscicides in the absence of appropriate mitigation of the root cause.

Fishing or Take Changes

The Department supports information and education campaigns designed to utilize anglers to reduce the numbers of undesired fish at Lees Ferry. The Department is also interested in working with NPS to develop a bounty system for Brown Trout at Lees Ferry and believes that anglers can likely reduce the numbers of Brown Trout more efficiently and with less impact to the Rainbow Trout fishery than mechanical removal.

The Department does not support mandatory catch-and-kill regulations. There are currently no legal restrictions for take of Brown Trout at Lees Ferry. Mandatory kill regulations are difficult to enforce and are unacceptable for some cultures and religions. Further, the process to set regulations in Lees Ferry is not a federal process and only set by the Commission under the authorities listed above. As such, the Department requests regulations to be withdrawn as an action listed in the EA. If NPS would like to have the Commission address future regulations, you can do so at any regularly scheduled Commission meeting.

In summary, the electrofishing mechanical removal action at Lees Ferry proposed by the NPS is the Department's biggest concern with this proposed EA. This action threatens rather than advances the goals of the NPS Comprehensive Fisheries Management Plan and the Department's Lees Ferry Management Plan, goals of which one is to manage "for a quality recreational Rainbow Trout fishery within Glen Canyon National Recreation Area (NPS 2013 and AZFGD 2015)." Brown Trout are not new to the Colorado River below Glen Canyon Dam. They were first stocked in 1923 and their numbers have fluctuated over the past 20 years in areas where vulnerable endangered species live. It is worth noting that the increase in juvenile Brown Trout at Lees Ferry (62-77 miles upstream of the primary spawning location (Little Colorado River) of endangered humpback chub) that was observed in 2015 and 2016 has slowed in 2017.

We look forward to working with the NPS and other stakeholders, including BOR, to develop a set of appropriate tools to best meet the management objectives shared by the Department and NPS.

288

I do not support the killing an electric shocking of wild brown trout in Lee's Ferry. This is an area where a dam has been placed and the water is too cold for native chub to survive. There is no reason to electro shock and kill these fish in the ferry. It is a waste of taxpayer money.

Lee's Ferry is a destination for hundreds of thousands of visitors, both American International, per year. A large percentage of these visitors come to fish the famed Lee's Ferry. It is unacceptable that the Park Service try to continually destroy this fishery. It should be protected and the killing of our wild trout should be stopped.

This Behavior has been going on for 20-plus years and it's time for it to be stopped. It is imperative that the Park Service cease and desist the killing of our trout and immediately stop wasting our hard-earned money.

289

The real issue here is managing the fishery to sustain various species. If the water flows are maintained at a consistent level to support food for fish then the Brown Trout may not be an issue. There are plenty of rivers across the mid-west that support both rainbow and brown trout! I do support fishing regulation changes for example no limit on Brown Trout or zero limit and/on rainbow trout for a period of time. I do NOT support anything other than the aforementioned fishing regulations. And I am not sure that you all have identified what the real problem is. The report states that the non-native species are an "increasing threat" and potentially harmful" but do not state what that threat is and there is no scientific data to support this claim. This plan does not take a data or scientific approach to support the options presented nor have you stated what the measurable outcomes that are expected as a result of your efforts. The proposals/options presented therefore are not sound and I do not support them. The last comment is that the economic benefit to the area can be increased with the chance of landing a few trophy Brown Trout. Thanks and I hope you read this as I have had myself, and seen, excellent results managing fisheries and this is not an acceptable approach you are proposing.

290

I am strongly apposed to any mechanical removal of brown trout in the Lees Ferry stretch of the Colorado river. The economy of the region is dependent on the tourism and sporting opportunities this fishery provides. The method proposed would negatively impact the rainbow trout population already established by stressing the fish unnecessarily. I am a frequent user of this recreation area for pleasure and fishing. Please do not waste my taxes on a process that has proved time and again to have little to no benefit to the native species and only provides part time jobs for a few persons that seem to be making a career out of ruining the best fishery in Arizona. Spend your time and assets on the L.C.R. area and leave this small stretch to the people that contribute so much to the economy of the area. This is my money at work and I disapprove of this use of it.

291

Having attended the scoping session at Arizona Game and Fish headquarters in Phoenix I am greatly concerned that the Park service is even considering "electrofishing" to remove brown trout. Notwithstanding that I question their rationale to consider removing them at all. I mentioned what the Colorado Department of Wildlife had instituted on the Gunnison river to simply anglers to catch and keep brown trout but release any rainbows caught. At any rate I oppose the actions contemplated to remove brown trout from the Lees Ferry fishery and I ask WHY this even necessary. This OVER THE LINE.

292

I have to start off saying that I have never been here but have heard a lot about Lees Ferry and am planning on a trip on the near future. I don't understand exactly what you are trying to do but sounds like you are going to ruin the fishing in that area. Not sure you could expect to kill the brown trout and not kill everything else. The club members that have shared their stories about fishing there say they have caught some great fish but none have caught any browns. I think that you are fixing to ruin some great fishing waters by what you are doing. This will reduce the reasons for a lot of people to come to the area and won't be bringing their revenue. Just my thought. Get the input from people that are on the water a lot.

293

I am opposed to the use of electroshocking as a method of controlling brown trout in the Lees Ferry fishery. The river is too wide and deep to make this an effective method and it will likely have a detrimental effect on other species of fish present. Perhaps a less invasive method would be to allow all brown trout caught to be kept by the fishermen. Changing the timing of high flow releases may be another way to discourage the spawning of brown trout.

294

No Mechanical Removal of Brown Trout at Lee's Ferry...Period!

295

The removal of Brown Trout at Lees Ferry is pointless to help save the Native Humpback chub when the chub are located 80 miles down stream of Lees Ferry. Not only will you harm the Brown Trout at the river the Rainbow trout and native carp would be harmed by mechanical removal. There are countless studies that prove Brown trout stay in a certain area their entire life. They would not leave Lees Ferry to the territory of the Native Humpback Chub. So why waste our time and tax dollars for a pointless idea. If you are trying to save the Native fish then kill the Brown trout in the area that they live or would that make too much sense.

296

I shudder to think of this shock treatment happening in these beautiful water. I feel that this is going to damage the fishing in this region Are the chubs that are needing the protection from the Browns even in these cold waters, or are they much further downstream? I feel that this is a huge waste of taxpayer resources and that the effort and dollars could be placed in other areas.

297

I hate to see you get rid of the brown trout at Lees Ferry. It could be an awesome fishery. Manage the native chubs if you must. But the brown trout can be managed as well. It is one of the most beautiful places in the world to fish, but the large brown trout are what can make it an amazing place to fish. The native chub is useless and brings no one.

298

After attending the public meeting in Flagstaff I would like to make the comment that I would hope that every effort be made to protect the Rainbow Trout fishery at Lee's Ferry. It is hard to understand how Mechanical Control methods such as electroshock could capture the Brown

Trout and not Rainbow Trout.

I would suggest that other proposed methods such as the bounty system catch and keep would be less disruptive and also help the economics of the area.

299

I have read over the purpose and need for the EA and the alternatives. I do not support at all electroshocking of ANY trout at Lees Ferry! Not only is there no evidence that such an endeavor would have a positive effect on what the NPS is trying to do, but just consider the damage that will be done not only to the rainbow trout population, but the damage that will be done to the economy of the area! The economy up there has suffered very much over the past few years what with HFEs and how they are both executed and publicized: they do not need anything like this! Please forward my thoughts to anyone at NPS who will listen to us. This can do nothing but have a negative impact on both the fishery and the local economy.

300

I am a fly fisherman from Michigan and recently received an e-mail from a close friend of mine who lives and fly fishes in Arizona. He shared the National Park Services Environmental Assessment plan with me that includes the electrocution of various fish species in the Lees Ferry/Glen Canyon region.

I greatly oppose the use of this method, and am extremely disappointed in the Park Service's willingness to consider incorporating such a method since I believe this would serious damage the excellent fly fishing experience currently enjoyed by fly fisherman that fish these waters.

I had hoped to enjoy a fly fishing experience myself in the Lees Ferry/Glen Canyon waters in the next year or two with my friend. This won't happen, if this method is used. as I believe it will seriously cripple the rainbow trout and brown trout populations in these waters.

Please seriously consider eliminating this approach from your plan.

301

The Brown Trout kill and electroshocking event is an absolutely awful idea. The only thing you will accomplish is ruining one of Arizona's only world class fisheries. It's an egregious error and will desecrate the lively hoods of the people who make a living there. The brown trout always come back. They are in the system. It would be a massive waste of tax payer dollars to fund the continous effort it would take to truly remove them. The only thing that will be accomplished is ruining a prime fishery.

302

I am writing in regards to the brown trout removal plan at Lee's Ferry on the Colorado River. I do not support removing the brown trout. I believe the fishery should be left alone. I am a serious fly fisherman who loves Lee's Ferry. I have fly fished here for over 20 years, and have seen the fishery go through it's ups and downs. As the river is bouncing back at the moment, I would not

like to see any process take place that could jeopardize the recovery of the fishery. I have been on the river many days and have never caught a brown. Catching a brown would be very exciting as they are less common and seem to grow to good sizes there. I have fished many streams and rivers all over the West that have healthy populations of brown trout, rainbow trout, and many other species of native fish that live in harmony. Who's to say that the rainbows are not eating native species at Lee's Ferry. I do not believe the browns should be killed and removed from the river. I am just ready for the river and fishery to be back to where it was many years ago.

303

I am against the listed non native shocking an purchase a fishing license in this state specifically for lees ferry along with aevwral out of state persons. Fishing here would suffer and I believe license sales would also.

304

As member of the Board of Directors for the Zane Grey Chapter of Trout Unlimited and a member of Arizona Fly Casters and Desert Fly Casters, I am eager to provide feedback on the EA. I participated in the initial webinar and in the face-to-face meeting in Phoenix.

I am completely supportive of protecting native fish, including the Chub. I am passionately committed to protecting the Rainbow Trout Fishery. And I am a fan of a population of Brown Trout that don't endanger the Chubs. I have not seen evidence that the Brown Trout population is endangering the Chub population. I would advocate for trying to enable these three types of fish to co-exist in their respective areas of the river.

The increases in Brown Trout, up to 3%, a few years ago, seems to have subsided. The fact that the Study Group has identified a few hypotheses for this increase, which are still being evaluated, indicates that further science-based discovery needs to be executed before any conclusions can be drawn. I support this continued study. Until there is clear evidence of a long-term change in the population of Brown Trout and clear evidence that they are a real threat to the Chub population, I believe that monitoring and learning are the proper course of action.

In the event that a real threat to the Chub by the Brown Trout is clearly identified, I would support intervention, with the exception of mechanical removal. "...long-term, intensive and repeated electrofishing" presents a significant threat to the Rainbow Trout population which is much larger than the Brown Trout population. The Arizona Council of Trout Unlimited has provided a comprehensive submission on why we object to mechanical removal, and electrofishing specifically, as a way of removing Brown Trout. I won't repeat all of those points here, but I fully support that input.

I understand that this EA is intended to define the scope of actions that CAN be taken, based on the judgement of leadership in specific circumstances. I strongly encourage you to eliminate mechanical removal as an option in managing non-native aquatic species.

305

NO MECHANICAL Brown Trout Removal above The Navajo Bridge @ Lees Ferry.

306

I am writing in regards to the proposed brown trout removal at Lee's Ferry. I do not think the Browns should be removed. I would hate to see anything become detrimental to the current trout population (Browns and Rainbows). The fishery should left as is especially how well the population has come back.

307

Please DO NOT move forward with plans to eradicate the Brown trout population at Lee's Ferry. This will have a net negative impact on the fishery and those who enjoy and make a living on it.

308

As a full time fishing guide at Lees Ferry I strongly oppose the proposed electrofishing mechanical removal of brown trout from the fishery. The impact of the proposed targeting of brown trout will inevitably also negatively impact the rainbow trout population. In addition there has been no evidence that such a project will in fact produce the desired outcome.

The collateral damage to the fishery will significantly impact the economy of the area and directly impact my livelihood as a fishing guide. Many families that count on anglers enjoying the fishery will be negatively impacted.

Please do not move forward with this project.

309

I am writing to request you not proceed with electrofishing at Lees Ferry. This will cause immeasurable harm to the area with what has been recognized to be ineffective results of the intended target. Please consider another way and do not ruin the fishing at Lees Ferry.

310

Please don't mess with the natural evolution of the fish habitat. The human element is always the weakest link in any chain.

311

Do not remove the brown trout from Lees Ferry. It is a reckless decision by the government and it will be detrimental to the anglers.

312

I have been fishing the Ferry for years, and I truly value and look forward to my time spent up there.

With that, I cannot help but believe that this action will have nothing but negative ramifications on the wildlife of the river.

I strongly plead for you to reconsider this process. There are far more negative ramifications than there are positive outcomes. Not only for the health of the fish in the river still, but also the fantastic groups of guides there who will more than likely be impacted heavily by this.

If this action is carried out, I will no longer feel comfortable fishing the Ferry knowing that it is not the same place that I fell in love with.

313

Please do not implement your proposed policy of "long-term, intensive and repeated electrofishing" in Lee's Ferry/Glen Canyon.

Such an extreme practice for the small percentage of brown trout elimination is neither logical or practical. Collateral damage to the rainbow trout would be excessive and possibly ruin a beautiful fishery beyond repair.

Also, the expense for this operation, I am sure could be used for other important projects on your agenda.

We strongly oppose this action.

Lee's Ferry is already stressed with the decrease in scud population which I hope is finally in a recovery phase.

Does the EA actually know what has been and is currently going on in this sacred and beautiful fishery? Is there a concerted effort not to want to work cooperatively with the AZGF our local authority on their recommendations? I hope that you have not only considered your goal of removing the brown trout population but also the long term effect it will have on the total fish population.

Please be careful what you are asking for!

314

I have fished this area for years now and I do not see how this program could do anything but harm the entire area. I feel as though this does nothing to benefit the area and I would feel very uncomfortable to fish this area again. Please reconsider these actions.

315

I do not understand how the parks department insists on potentially harming a full ecosystem in an attempt to kill brown trout. Clearly have not thought this through. I enjoy my time at Lees Ferry fishing and plan to visit again soon. I hope you reconsider.

316

I am angry that once again "Federal" Is Stepping on the toes of Our Local Area! Leave The Fish ALONE. Many Life Sustaining Industries in our Area have been shut down all together. If We are expected to Survive Off of a Tourist Dollar, Then Please allow the Beautiful, Brown and Rainbow Trout to thrive in the Mighty Colorado River.... To Hell with Garbage Fish Like Chub! So Tired and Sick of Government getting involved in this type of stuff, Just Leave Things Alone! I Implore You You To Do The Right Thing.

317

Please stop meddling with the Colorado River near Lee's Ferry. The fight to bring back the chub and high water events have already negatively affected this once great fishery. Any efforts to remove the brown trout will unfortunately do even more damage? As a resident of Arizona I have been very disappointed to see how the river has been managed over the past 5-6 years. Now I beg that you avoid long-term electro fishing for non-native species.

318

I don't believe that introducing non-native fish to control brown trout and sunfish populations is in the best interest of the NPS. Many times there are unintended and unseen consequences of introducing these non-native species. Electroshocking is also not in your best interest as this causes unnecessary stress on the species that you are trying to protect. I understand that this is a blue ribbon rainbow trout fishery but many people enjoy catching wild brown trout as well. There may be an increase in brown trout and sunfish but there are many people who are opposed to the actions you are planning to take. It has been shown many times over that rainbow trout and brown trout can coexist in the same stretch of river. I ask that you please leave the brown trout alone to coexist with the rainbow trout. We do not need a non-native species introduced into this stretch of river and we do not need to stress and kill the rainbow trout you are trying to protect through electroshocking the river, which has been shown to not be effective. As a frequent angler at Lees Ferry, I ask you to leave this stretch of river alone for the enjoyment of the anglers and the people who recreate here frequently.

319

Electrofishing mechanical removal of brown trout, while it may have good intentions, is an ineffective, cost prohibitive, offensive and damaging approach to managing the situation. Please consider other options to protect and respect this area.

320

Please do not do this to the Brown trout Population. I have been fishing the Ferry for over thirty years and believe what you are planning with disrupt and ruin the habitat and fishing for years to come.

321

What is wrong with both types of fish being in the river at Lee's Ferry??

322

I have been sportfishing (flyfishing) at Lees Ferry for 28 consecutive years and consider this place and this activity one of my life highlights as a 70 year old guy.

My personal opinion is that the proposal to remove the brown trout by electroshocking is a huge mistake, unnecessary with enormous undesirable repercussions.

The rainbow trout fishery was substantially created by Glen Canyon Dam, and as long as the dam is in place , will continue to some degree, although it appears the rainbow trout fishery is too far down the various authority programs to do well.

My personal research into electroshocking from a layman's point of view is that it is hugely detrimental to all of the fish in the river, not just brown trout.

To damage the rainbow trout fishery to this extent, for a questionable goal, with an inefficient environmental destructive method is unwarranted.

I believe the national Park Services should terminate this program immediately.

My other suggestion would be to have one of the interested authority parties do a market study regarding the economic value of the sport fishery to the citizens of Marble Canyon, Page and other communities that supply the fishermen on the river.

My personal guess as a retired Urban Land Economist grad would be that millions of dollars per year are directly tied to the rainbow trout fishery (and a little bit to the limited brown trout fishery)

I am available and would be pleased to answer any questions or provide additional comments if so requested.

Please do NOT harm the environment and fishery that is now in place.

323

The mere idea that it is necessary to remove a species of Trout from Lee's Ferry is completely ridiculous. The river is so beautiful as is. The more species of Trout that are there, the better it becomes. The trauma that would result due to 'shocking' the fish would be so detrimental to the Rainbows that it may interfere with their ability to spawn. Please do not damage this pristine river any more than has already been done to it.

324

Do not ruin the fishing by trying to remove the brown trout this is just another government "We have to do something to justify our agency and budget".

325

I AM FOR KEEPING RAINBOW TROUT & GERMAN BROWN TROUT IN THE COLORADO RIVER.

326

I oppose electrical/mechanical removal of the brown trout in the region of the Colorado around Lees Ferry and up to the dam. I believe it would negatively affect the rainbow trout there and thereby negatively affect the economic well being of the local people and businesses, which ultimately affects all of us.

I don't claim to have an answer but ask that the NPS waits and discovers a less damaging alternative. Possibly make catch and release mandatory for rainbows and catch and keep or discard for brown trout. Possibly netting to harvest the Browns and release the Rainbows.

327

Please NO electrofishing to remove brown trout from the Lees Ferry area. The Chubs can survive further downstream in the warmer water.

328

During the past 40 years, I've seen and experienced some pretty interesting management scenarios that have been applied to the fishery at Lee's Ferry. The thought of electrofishing for removal of brown trout in this area of Glen Canyon appears quite out of place and obtrusive to this fly fisherman especially since this reach contains such an insignificant number of the species in question.

My recommendations are: Let the fishermen at Lee's Ferry reduce the brown trout population. I am suggesting new fishing regulations that require the immediate killing and retention of all brown trout brought to the net. And, let me rest in peace - please terminate any thoughts of electrofishing in one of my favorite places to fly-fish.

329

we as Arizona residents and more importantly as Americans must preserve the ability and right to fish at Lee's Ferry. The NPS plan for it's future use (or no use) is terribly flawed.

please do not move forward with the current NPS plan.

330

After review of the NPS Expanded Non-native EA report, I am writing in opposition to mechanical removal of brown trout in Lees Ferry/Glen Canyon. There are many reasons for my opposition to this approach.

First, this endeavor would be very expensive, with the end result most likely being that the small percent of brown trout that currently exist in the system would be decreased but not totally eliminated. Thus the problem that you outline would still exist.

You mention in the title the non-native status of the brown trout. The species that you wish to protect, Rainbow Trout, are also non-native to the system. I understand that the brown trout are predatory and that the Rainbow Trout are the species that make Lees Ferry a blue ribbon fishery. Yet, the percentage of brown trout is around 3% and currently have not posed a problem to the Rainbow trout fishery.

The use of electro-fishing to remove the brown trout will pose health issues to the Rainbow trout that will also be shocked repeatedly during ongoing efforts. This stress will most likely cause some mortality to rainbow trout, possibly equalling the percentage of brown trout currently in the system, and may very well affect spawning. There will also be impacts to the fishermen during and after these efforts.

Rather, than spending huge amounts of funds and efforts through electro-shocking I would suggest that the brown trout issue be resolved through habitat alteration/ manipulation to their spawning areas which would not affect rainbow trout due to different spawning seasons. Additionally, working with AZGFD to alter fishing regulations to allow for the take of brown trout once caught would assist in maintaining, or reducing the brown trout population. Along with regulation changes it would be imperative to educate the fishing public and guides to the need for brown trout removal, to intrust the river system as a Rainbow Trout fishery.

331

I think that while the intent of this exercise is noble, it is fundamentally flawed because it fails to address reality. The reality is there is a lake and a dam involved. The river today is not the river that existed before the lake and the dam. The water is colder, has less and different sediment, and the flow cycles are completely different. While the flow cycles have been experimented with in stages to attempt to mimic previous flows before the lake and the dam, from what I've observed, other than possibly creating some sand distribution similarities in some areas, these have been totally unsuccessful. Expecting to recreate the same species populations in a completely different environment is nuts. You are not and can not succeed. Trying to do so only hurts the existing species that live in the new reality. I realize you are trying to appease groups that basically don't want the lake and the dam there. I think it is time to stop wasting time and money trying to appease them and get right to the core of the argument - is the lake and dam staying or not. Time to call the bluff. If it's staying, then manage the downstream river in the current reality and stop trying to make it something it can no longer be. I know that realistically the lake and the dam are not going to be removed. The expense alone would be prohibitive. Then there is the matter of all the silt and sand that has accumulated in the lake. Getting that flushed down stream and returning

the river to it's former state would take decades. I just don't see how that is going to make anything better. Time to stop the madness and waste. Endless studies and experiments will not change reality. The environment does not support the former native species.

332

Do not eradicate brown trout at lees ferry. They love it and it would do more harm thab good. Talk to the people that wprk snd live therr

333

Please reconsider your plan to electroshock Lees Gerry in order to remove brown trout. The plan will harm a fishery that I frequent at least once a year. Additionally it appears you are not using science as a basis for your plan and you are attempting to fix something that is not an issue. Please leave fishing and hunting management to the arizona department of game and fish and stop overstepping your boundaries.

334

This action would have a catastrophic impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. I strongly oppose this action for the following reasons:

(a) I am unaware of any scientific data which indicates that electrofishing mechanical removal will be an effective tool for controlling brown trout in the main stem of the Colorado River. In fact, intense, repeated and long term main stem electrofishing throughout the upper Colorado River Basin has been largely ineffective at managing or controlling nonnative fish. The proposed removal action as a means to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

(b) Many more rainbow trout would be shocked for each brown trout captured. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature that shows that the behavior of salmonids that are subject to electrofishing is affected by the electrofishing, which would impact angler catch rates and satisfaction.

(c) The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations. In addition, National Park Service and Bureau of Reclamation opposition to actions that would benefit the trout fishery has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

(d) Native American tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such we believe it is unacceptable for the National Park Service to propose mechanical removal as a strategy for managing brown trout in Lees Ferry/Glen Canyon.

(e) The cost for implementing long term intensive and repeated electrofishing would be very

high and put a major drain on Department of Interior Agencies budgets which could be used to address other priorities.

(f) Possible or potential causes for the recent increase in brown trout are ignored i.e. sequential fall High Flow Events, warmer water temperature, and fall High Flow Event related aquatic food base shift, etc.

(g) Recent sampling results are ignored that show a potential halt or change in the direction of brown trout numbers,

(h) Marble Canyon, the sixty river miles between Lees Ferry and native fish at the Little Colorado River, is ignored. No actions are proposed in Marble Canyon to address present or future and immediate threats to native fish in Marble Canyon or at the Little Colorado River,

(i) Park Service authority and control are asserted over the Colorado River fishery by relegating Arizona Game and Fish Department to a coordinating/cooperating agency as a fishery manager with only the Park Service having decisional authority,

(j) The Bureau of Reclamation that has authority over dam operations isn't included in the EA and therefore potential flow related causes and related corrective actions are not available.

335

Thank you for the opportunity to provide a comment on this proposal. As an avid recreational angler, I strongly oppose any attempt to remove non-native fish from the waters around Lee's Ferry. In my experience this area provides a unique and precious experience for anglers of all ages. The small community that relies on tourist angler dollars would likely be severely impacted by efforts to remove Brown Trout from the river. Catching a Brown in this area is rare and isn't likely to pose any deleterious effects to native populations in the area. I urge you to stop any present or future plans to remove any Browns from these waters.

336

The planned eradication of the non native species in Glen Canyon is another misguided decision by a government agency that will do far more harm than good. Leave we'll enough alone as the Canyon has already evolved and adapted to the new species. Nothing will be improved by moving forward with this plan. Decisions by the few rarely benefit the many. Please Stop!

337

Please consider the suspension of this project as its effects on the rainbow trout fishery have the potential to be devastating. Might not the populations of non-native fish be managed by fisherman with appropriate bag limits? The methods used in this project are overkill and not necessary.

338

The brown trout is a non-native, introduced, invasive species. And as an species predator, brown trout damage native species in numerous ways. Please manage our waters with a priority for the native fish species.

339

Once again you prove your ignorance by ridding the Browns out of Lee's ferry listen to the anglers don't do it.

340

Please do not eradicate the brown trout population at Lee's Ferry. I have been on numerous fishing trips to Lee's Ferry, and while I have never caught one of the amazing brown trout out of this section of river, I am always targeting them because I love the fight brown trout put up and I would consider it a major accomplishment to net one at Lee's Ferry. If anything, make efforts to encourage the brown trout population.

341

electrofishing mechanical removal of brown trout

I have been bringing my family fishing to Lee's ferry for years. This is ridiculous that you want to eliminate the brown trout from these waters. In a world where no one has any common sense, lets find some here....Thanks!

342

In a span of over 100 years the German Brown Trout has become an established species on the Colorado River, particularly in proximity to Less Ferry. The proposed action to eradicate brown trout from this area of the Colorado River via electro-shocking would not only prove to be ineffective, it would place the population of Rainbow Trout that thrive in this area at risk. The Lees Ferry area of the Colorado River is a sport fishing paradise and any effort to negate a species here places one of America's 'Blue-Ribbon' fisheries at risk and threatens the economic livelihood of hundreds of people living in the area. Please reconsider your proposal to illuminate "non-native" species from the Lee's Ferry area of the Colorado River.

343

I ask that you please reconsider your actions at Lee's Ferry. **LEAVE THE BROWN TROUT ALONE!**

344

As the recreational representatives of the Glen Canyon Dam Adaptive Management Program, we'd like to submit the following comments for your consideration. We support the least invasive actions to Alternative B, with a priority on efficient, long-term solutions to the green sunfish (GSF) problem in the slough.

We believe pre-dam conditions would never see a condition that the slough is providing now. For a long-term solution we support the EA analyzing in detail an alternative to channelize the slough such that cold water runs through it to eliminate the existing aquatic conditions supporting GSF.

We also support unlimited take by anglers of non-native aquatic species. Applying rotenone or ammonia to the system has shown to be an effective short-term solution- but doesn't prevent the GSF from returning.

We do not support adding YY chromosome brown trout to the system unless results from the

brown trout workshop/whitepaper supports doing so as a long-term solution. We also suggest the EA disclose that the brown trout issue is being analyzed concurrently while the EA is considers possible solutions to eliminating GSF.

Alternative B proposes a lot of creative and interesting solutions, but we believe the preferred alternative should be kept as simple as possible by focusing on removing the non-native green sunfish from the slough through alterations to the aquatic environmental conditions of the slough. Methods used should be the least invasive, while as effective as possible.

345

Please consider the comments of Terry Gunn who is an expert in this subject. Could you please send me information as to why you want to remove the brown trout.

Here is my comment:

Comments on the National Park Service Expanded Non Native Aquatic Species Management Plan Environmental Assessment

Thank you for the opportunity to comment on this EA. Qualifications upon which my comments are based include my career as a full time fishing guide on the Colorado River since 1983.

During that time I have spent more than 8,000 days or 80,000 hours on the river in pursuit of trout. By the way, during all this time on the river, I have seen two brown trout, both caught by my customers. I have logged in excess of 240,000 miles traveling up and down the Colorado River between Lees Ferry and Glen Canyon Dam. My job and success is totally dependent on my ability to provide fish to be caught by my angling customer. In order to do this successfully, I have to be a student of fish behavior, water quality and dam operations, aquatic entomology, weather and ichthyology. Additionally, I have written two books: *The 50 Best Tailwaters to Fly Fish* (which chronicles the 56 best tailwaters in North America to fish which goes into exhaustive detail on how and when to fish each tailwater and details the history and the ecology of each featured tailwater); along with *The 25 Best National Parks to Fly Fish*, which includes the Colorado River, Grand Canyon and Glen Canyon.

I own and operate Lees Ferry Anglers and Cliff Dwellers Lodge. We are a large employer in a small community and provide both year-around and seasonal jobs to more than 45 men and women, primarily local. The operation of our business and employment of my staff is 100% dependent on a healthy Lees Ferry recreational fishery.

For reasons that at this point can only be speculative, brown trout have recently become established in the stretch of river at Lees Ferry. Perhaps they have discovered it to be more suitable habitat than their previous range in the Grand Canyon where they have lived alongside native fish ever since the brown trout's introduction by the National Park Service in the early 1920's. The fact that brown trout are now seeking to live in area of the river that are as far away as they can possibly travel from native fish habitat is something that should be celebrated by all, some 60 to 75 miles!

One of the things that I discovered in researching *50 Best Tailwaters* is that virtually every cold tailwater in North America contains a healthy population of both rainbow and brown trout living in equilibrium; many have native fish as part of the mix. There are two other notable tailwaters in the western U.S. where brown and rainbow trout coexist amongst themselves and native fish; both the San Juan and Green Rivers are world famous trout fishing destinations. On each of these tailwaters, both rainbow trout and brown trout are part of the daily catch by anglers who travel great distances and provide a local economy that is based solely on the sport fishing industry that

these tailwaters provide. Anglers on these two rivers and on other cold water rivers in North America place great value on being able to catch both of these trout species on the same body of water.

I strongly urge the National Park Service to step back, take a deep breath, and look into the rationale for any brown trout removal measures at Lees Ferry. Furthermore, I implore the National Park Service to abandon all plans to remove brown trout from the Lees Ferry reach by electroshocking the river. It has been repeatedly proven in scientific studies that river-dwelling, non-anachronous-brown-trout do not move around in rivers. In fact, in numerous studies, displacement from established home ranges was not observed for any fish other than those spawning. So, the theory that brown trout might migrate 60 to 75 miles downstream, away from prime habitat, to potentially impact native fish populations is based purely on emotional speculation. This brown trout removal plan has no factual scientific basis whatsoever and to instigate a brown trout removal strategy at Lees Ferry based upon this premise is dangerous, irresponsible, and reckless and is likely outside of the NEPA planning process.

The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations including High Flow Experiments. In addition, National Park Service and Bureau of Reclamation opposition to actions benefiting the trout fishery (trout stocking) has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

It has been previously established that authority and control over the Colorado River fishery is the sole responsibility of the Arizona Game and Fish Department. For the National Park Service to make decisions and enforce actions outside of their authority and without the cooperation of the Arizona Game and Fish Department could be construed as to instigate an illegal "take" of sportfish.

I know that this is an emotional issue. I'm sure that you have seen an outpouring of support for no action on removal of brown trout. Please consider each of these comments to reflect the desires and opinions of the people who actually utilize the resource and recreate there.

Please do nothing to harm the fish, the resource or the local fishing-based economy. Plan only a course that will actually benefit the native fish, local recreation, and local economy.

346

Thank you for the opportunity to comment on the aforementioned NPS non-native species initiative.

As a undergrad in environmental sciences and poli-sci at UC Santa Cruz, non-native species programs was one of many topics I studied. I have a fair amount of familiarity with eradication programs and their history in Western species management. I'm also an avid angler who has traveled to the Lee's Ferry area over a decade to fish the Colorado below Glen Canyon. It's one of the most unique fisheries that I've been to, and that includes most of the states west of the Mississippi. The thriving rainbow trout fishery in this tailwater are absolutely a source of economic well being in the Marble Canyon region. It's a good ten hour drive from the LA metro to the Ferry, yet myself and thousands of other Angeleno flyfishermen travel annually to fish the river with the help of local guides. Every time anglers from across the country (and indeed the world) come to Lee's Ferry, they pump money into the local economy in totals often exceeding a few thousand dollars per trip.

The potential collateral damage caused by the NPS initiative to cleanse the Ferry of brown trout is immense. The brown trout population in this part of the river is quite small, amounting to less than 5 percent of the total trout population. They are neither a dominant predator in the ecosystem, nor do they possess breeding numbers sufficient to displace rainbow trout as the top of the aquatic food chain. Yet the initiative calls for electrofishing methods to weed out the browns in the river. Electrofishing is not an exact method, often killing non-targeted species as well. If the NPS chooses to go forth with their project, at what cost will it be to the vital rainbow fishery?

Since the fishery will undoubtedly suffer from this project and along with it the local economy...can NPS actually prove the efficiency of their projected eradication efforts? Electroshocking has depth limitations in regards to how effective the electric current is as water depth increases. Water current also has an effect on the dispersal of electrical current in the water column. The Colorado at Lee's Ferry is a fairly deep and swift moving river. Can NPS actually achieve the goal of permanently reducing the brown trout population at Lee's Ferry? If the electroshocking misses even a few dozen browns, the population will continue to spawn and rebuild itself. Is NPS going to waste the money of federal taxpayers on a project that will likely need to be refunded for additional effort in under a decade?

The browns at Lee's Ferry are being targeted for their impact on native fishes species. Many of these species are found 50 miles downstream from the terminus of the trout habitat at the Ferry. May I ask what is truly blocking the natives from returning to this section of river? Is it the small population of semi-piscovorous browns? Or is the differences in habitat, water temperature, and water clarity that result from the Glen Canyon Dam? In retrospect, it would be better to spend the projected funds for the eradication effort on habitat rehabilitation efforts for those native fish already established at the upper limits of their current range. Killing off browns and potentially thousands of rainbows in the process is the equivalent of cutting off one's finger because the entire hand is gangrenous.

Please consider the impact that this project will have on local businesses and their clientele. Brown trout have remained a minority of the trout population at Lee's Ferry since their introduction, and there's no sign that they will expand exponentially in the future. Is the NPS going to continue with their efforts, knowing that the impact on native species will likely be negligible?

347

Do not shock or remove the thought from Lee's Ferry

348

We are writing to provide comments on the National Park Service's (NPS) Environmental Assessment (EA) for an Expanded Non-native Aquatic Species Management Plan in Grand Canyon National Park and Glen Canyon National Recreation Area below Glen Canyon Dam. Since 1964, with the completion of the Glen Canyon Dam, the Lees Ferry tailwater has hosted a recreational trout fishery that has grown in importance and reputation locally, regionally, nationally, and internationally. Anglers from around the world travel to Lees Ferry to fish for

high quality rainbow trout in the large, clear, swift-flowing Colorado River as it winds its way through the lower, scenic segment of Glen Canyon. This blue ribbon recreational sport fishery has also become a financial and economic mainstay for the small community of Marble Canyon and Coconino County, supporting fishing guide services, hotels, restaurants, fishing and outdoor recreation equipment and supplies, and visitor services.

Our comments are aimed at maintaining and enhancing a blue-ribbon rainbow trout fishery at Lees Ferry that does not adversely affect the native aquatic community in Grand Canyon National Park.

1. In September 2017, based on a unanimous recommendation from the Glen Canyon Dam Adaptive Management Work Group, the NPS, the US Geological Survey, and the Arizona Game and Fish Department (AZGFD) conducted a Brown Trout Workshop specifically to inform the scope and direction of brown trout control and management in the Colorado River below Glen Canyon Dam. The final workshop report has been delayed until January 2018 and is not available to help inform our comments on the appropriate scope of the EA. As such, scoping comments on the EA should be extended until the workshop report is finalized and available to stakeholders and the public for review.

2. A central element of the NPS's Proposed Action includes "long-term intensive and repeated electrofishing and trapping of all age classes of harmful non-natives, and site-specific use in the Glen Canyon reach to target brown trout.....". This action would have a significant adverse impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. This action is unacceptable for the following reasons:

a. While electrofishing has been effective for managing trout in small streams like Bright Angel Creek, there is no evidence that it will be effective for controlling brown trout in the mainstem of the Colorado River. Intense, repeated and long term mainstem electrofishing throughout the Colorado River basin has been largely ineffective at managing or controlling nonnative fish (Mueller, 2005; Zelasko, et al. 2016).

b. Many more rainbow trout would be shocked for each brown trout captured. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, there is ample scientific literature showing that the behavior of salmonids that are subjected to electrofishing is negatively affected which would impact angler catch rates and satisfaction (Fredricks, et al 2012, Mesa and Schreck, 1989; Snyder, 2003).

c. The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the negative public perception it creates will significantly harm an already distressed economic community that has been impacted by dam operations. The cumulative effects of long term, intensive mechanical removal along with NPS/Bureau of Reclamation (BOR) opposition to actions that would benefit the trout fishery (e.g. stocking and spring high flow experiments) will significantly damage visitor use and have deleterious socioeconomic and environmental justice effects on the local community.

d. Native American tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs. As such, it is inappropriate for the NPS to propose mechanical removal as a primary strategy for managing brown trout.

- e. The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior (DOI) agencies budgets which could be used to address other priorities.
- f. In 2017, the Secretary of the Interior issued Secretary Orders 3347 and 3356 with the purpose of advancing conservation stewardship and increasing outdoor recreation opportunities, including hunting and fishing, and improving the management of game species and their habitat. Long-term intensive and repeated electrofishing and trapping will negatively impact catch rates and potential population abundance of the rainbow trout fishery and violate the spirit and intent of the Secretary's Orders.
- g. As a public trust fishery on a navigable water in the State of Arizona and further protected through the Colorado River Storage Project Act and the Fish and Wildlife Coordination Act, any potential negative impact to the rainbow trout fishery caused by long-term intensive and repeated electrofishing and trapping must be mitigated as part of the proposed action. Failure to address and mitigate these impacts creates a substantial liability to the National Park Service. Compensation would be needed for the economic impacts and lost opportunities, even over a small amount of time.

We believe that an Environmental Impact Statement (not just an EA) will be needed to fully evaluate the impacts of long term intensive mechanical removal in Glen Canyon.

- 3. Rather than pursuing an unacceptable intensive mechanical removal effort, we recommend that the NPS pursue other more cost-effective and less damaging strategies such as a brown trout bounty program or making changes in Glen Canyon dam operations to disadvantage brown trout spawning or recruitment.
- 4. The actions outlined in the EA along with actions included in the Long Term Experimental Management Plan (LTEMP) and Comprehensive Fisheries Management Plan (CFMP) will not achieve the Purpose and Need for the Project. A goal of the EA is "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." This goal can only be accomplished by working with BOR to address the most likely root causes of the recent increases in the brown trout numbers in Glen Canyon e.g., rising warmer water temperature, sequential fall HFE's. Actions to address the root causes, which are not addressed in the EA, may include shifting the emphasis of high flow experiments from the fall to the spring, implementing a temperature control device to regulate the temperature of water releases from Glen Canyon Dam, and/or testing the use of "trout management flows" to reduce brown trout spawning and/or recruitment. To address these actions NPS and BOR should work together as co-leads for this EA (as they did on the LTEMP EIS).
- 5. We do not believe it is appropriate to introduce the endangered Colorado pikeminnow (CPM) or humpback chub (HBC) into the upper slough at river mile -12 as a means for controlling warm water nonnative fishes (e.g., green sunfish). In general, due to the cold water immediately below in Glen Canyon Dam, Glen Canyon is unsuitable habitat for recovery of CPM or HBC. Assurance would need to be provided that the introduction of HBC or CPM which may escape from the slough into Glen Canyon would not interfere with recreational fishing. We are also concerned that the introduction of HBC or CPM could limit the implementation of other

nonnative action that would result in "take" of HBC or CPM (e.g., chemical treatment of the slough).

6. The Arizona Game and Fish Department (AZGFD) is the management agency with primary statutory responsibility for resident fish and wildlife in the State of Arizona. AZGFD's authorities includes jurisdiction over fish, both native and non-native, residing in the Colorado River below Glen Canyon Dam. In September 2015, AZGFD approved its Fisheries Management Plan, Colorado River-Lees Ferry 2015-2025 (Plan). The goal of the Plan, which we fully support, is to maintain and enhance a blue ribbon rainbow trout fishery at Lees Ferry that does not adversely affect the native aquatic community in Grand Canyon National Park. The EA should clearly state that any proposed actions will only be carried out in coordination with and upon concurrence from the AZGFD.

In summary, the NPS proposed long term intensive mechanical removal action threatens rather than advances the goals of the NPS CFMP and the AZGFD Plan which is to manage a "for a quality recreational rainbow trout fishery within Glen Canyon National Recreation Area (NPS 2013 and AZFGD 2015)." Brown trout are not new to the Grand Canyon Nation Park. They were stocked by NPS in 1923 and their numbers have fluctuated over recent years in areas where juvenile and vulnerable endangered species live. It is worth noting that the increase in juvenile brown trout in Glen Canyon that were observed on 2015 and 2016 has slowed in 2017.

We look forward to your response to our comments. We also would welcome the opportunity to work with NPS to develop an alternative that will effectively manage brown trout and other nonnatives while maintaining a quality Lee Ferry recreational fishery.

Lees Ferry anglers, guides, and businesses are fully united in their support of these comments on the scope of the EA (see attached).

Attachment 1. Supporting comment letter.

cc Acting Secretary's Designee, GCD AMP
Superintendent, Grand Canyon National Park
Superintendent, Glen Canyon National Recreation Area
Regional Director, Upper Colorado River Region, Bureau of Reclamation
Director, Arizona Game and Fish Department
Senator Jeff Flake
Senator John McCain
Congressman Tom O'Halloran
Congressman Paul Gosar

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Attachment 1.

We the undersigned are writing to provide comments on the National Park Service's (NPS) Environmental Assessment (EA) for an Expanded Non-native Aquatic Species Management Plan in Grand Canyon National Park and Glen Canyon National Recreation Area below Glen Canyon Dam. Since 1964, with the completion of the Glen Canyon Dam, the Lees Ferry tailwater has hosted a recreational trout fishery that has grown in importance and reputation locally, regionally, nationally, and internationally. This blue ribbon recreational sport fishery has also become a financial and economic mainstay for the small community of Marble Canyon and Coconino County, supporting fishing guide services, hotels, restaurants, fishing and outdoor recreation equipment and supplies, and visitor services.

Our comments are aimed at maintaining and enhancing a blue-ribbon rainbow trout fishery at Lees Ferry that does not adversely affect the native aquatic community in Grand Canyon National Park.

1. A central element of the NPS's Proposed Action includes "long-term intensive and repeated electrofishing and trapping of all age classes of harmful non-natives, and site-specific use in the Glen Canyon reach to target brown trout". This action would have a significant adverse impact on the quality of the Lee Ferry trout fishery, the welfare of the local community, and the regional economic benefits tied to the fishery. This action is unacceptable for the following reasons:

- a. While electrofishing has been effective for managing trout in small streams like Bright Angel Creek, there is no evidence that it will be effective for controlling brown trout in the mainstem of the Colorado River.
- b. Many more rainbow trout would be shocked for each brown trout captured. The focus of mechanical removal would be on shoreline areas that are also prime fishing areas. In addition to direct rainbow trout mortality, the behavior of salmonids that are subjected to electrofishing is negatively affected which would impact angler catch rates and satisfaction.
- c. The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the negative public perception it creates will significantly harm an already distressed economic community that has been impacted by dam operations.

d. In 2017, the Secretary of the Interior issued Secretary Orders 3347 and 3356 with the purpose of increasing outdoor recreation opportunities, including hunting and fishing, and improving the management of game species and their habitat. Long-term intensive and repeated electrofishing and trapping will negatively impact catch rates and potential population abundance of the rainbow trout fishery and violates the spirit and intent of the Secretary's Orders.

We believe that an Environmental Impact Statement (not just an EA) will be needed to fully evaluate the impacts of long term intensive mechanical removal in Glen Canyon.

2. Rather than pursuing an unacceptable intensive mechanical removal effort, we recommend that the NPS pursue other more cost-effective and less damaging strategies such as a brown trout bounty program or making changes in Glen Canyon dam operations to disadvantage brown trout spawning or recruitment.

3. The actions outlined in the EA will not achieve the Purpose and Need for the Project. A goal of the EA is "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." This goal can only be accomplished by working with Bureau of Reclamation (BOR) to address the most likely root causes of the recent increases in the brown trout numbers in Glen Canyon e.g., rising warmer water temperature, sequential fall HFE's. Actions to address the root causes, which are not addressed in the EA, may include shifting the emphasis of high flow experiments from the fall to the spring, implementing a temperature control device to regulate the temperature of water releases from Glen Canyon Dam, and/or testing the use of "trout management flows" to reduce brown trout spawning and/or recruitment. To address these actions NPS and BOR should work together as co-leads for this EA.

4. The Arizona Game and Fish Department (AGFD) is the management agency with primary statutory responsibility for resident fish and wildlife in the State of Arizona. In September 2015, AZGFD approved its Fisheries Management Plan, Colorado River-Lees Ferry 2015-2025 (Plan). The EA should clearly state that any proposed actions will only be carried out in coordination with and upon concurrence from the AZGFD.

In summary, the NPS proposed intensive, long term mechanical removal action threatens rather than advances the goals of the NPS CFMP and the AZGFD Plan which is to manage a "for a quality recreational rainbow trout fishery within Glen Canyon National Recreation Area (NPS 2013 and AZFGD 2015)." We look forward to your response to our comments.

349

The proposed plan from the National Park Service to eradicate brown trout at Lees Ferry will have significant negative impact to the entire fishery and those of us that enjoy Lees Ferry.

Please come up with a different plan.

350

Please leave the Brown trout alone. You have no business in killing this species at Lee's Ferry.

351

Do not take the Brown Trout out of the Colorado River and Lees Ferry. Much of the only good trout fishing we have left in the U.S. is for the Brown Trout, and that fishing is sadly, often declining in many places too. Don't take them away from places where they are doing well. If the entire Nation goes back to only native trout species you'll only have brookies in the East, cutthroat in the West, some Pacific range rainbows, lakers and bull trout. Keep the hard fighting trout, Brown Trout and rainbows in American waters, like we've had them for over a century!

352

I vehemently object to killing the few brown trout in the Colorado River. I have not fished it in 5 years but we have a treasure of a river. When living in Flagstaff AZ in the late 80s i routinely fished the river and i dont believe at anytime did i catch a brown trout as they are so few and far between. By electro fishing it could have a negative impact on the rich abundance of existing rainbow trout. Let the biologists of the game and fish do their job and do not encroach in an area that is working today.

353

No mechanical removal of brown trout in the Lees Ferry reach.

354

Thank you for the opportunity to comment on this EA.

Qualifications upon which my comments are based include my career as a full time fishing guide on the Colorado River since 1983. During that time I have spent more than 8,000 days or 80,000 hours on the river in pursuit of trout. By the way, during all this time on the river, I have seen two brown trout, both caught by my customers. I have logged in excess of 240,000 miles traveling up and down the Colorado River between Lees Ferry and Glen Canyon Dam. My job and success is totally dependent on my ability to provide fish to be caught by my angling customer. In order to do this successfully, I have to be a student of fish behavior, water quality and dam operations, aquatic entomology, weather and ichthyology. Additionally, I have written two books: *The 50 Best Tailwaters to Fly Fish* (which chronicles the 56 best tailwaters in North America to fish which goes into exhaustive detail on how and when to fish each tailwater and details the history and the ecology of each featured tailwater); along with *The 25 Best National Parks to Fly Fish*, which includes the Colorado River, Grand Canyon and Glen Canyon.

I own and operate Lees Ferry Anglers and Cliff Dwellers Lodge. We are a large employer in a small community and provide both year-around and seasonal jobs to more than 45 men and women, primarily local. The operation of our business and employment of my staff is 100% dependent on a healthy Lees Ferry recreational fishery.

For reasons that at this point can only be speculative, brown trout have recently become established in the stretch of river at Lees Ferry. Perhaps they have discovered it to be more suitable habitat than their previous range in the Grand Canyon where they have lived alongside native fish ever since the brown trout's introduction by the National Park Service in the early 1920's. The fact that brown trout are now seeking to live in area of the river that are as far away as they can possibly travel from native fish habitat is something that should be celebrated by all,

some 60 to 75 miles!

One of the things that I discovered in researching 50 Best Tailwaters is that virtually every cold tailwater in North America contains a healthy population of both rainbow and brown trout living in equilibrium; many have native fish as part of the mix. There are two other notable tailwaters in the western U.S. where brown and rainbow trout coexist amongst themselves and native fish; both the San Juan and Green Rivers are world famous trout fishing destinations. On each of these tailwaters, both rainbow trout and brown trout are part of the daily catch by anglers who travel great distances and provide a local economy that is based solely on the sport fishing industry that these tailwaters provide. Anglers on these two rivers and on other cold water rivers in North America place great value on being able to catch both of these trout species on the same body of water.

I strongly urge the National Park Service to step back, take a deep breath, and look into the rationale for any brown trout removal measures at Lees Ferry. Furthermore, I implore the National Park Service to abandon all plans to remove brown trout from the Lees Ferry reach by electroshocking the river. It has been repeatedly proven in scientific studies that river-dwelling, non-anachronous-brown-trout do not move around in rivers. In fact, in numerous studies, displacement from established home ranges was not observed for any fish other than those spawning. So, the theory that brown trout might migrate 60 to 75 miles downstream, away from prime habitat, to potentially impact native fish populations is based purely on emotional speculation. This brown trout removal plan has no factual scientific basis whatsoever and to instigate a brown trout removal strategy at Lees Ferry based upon this premise is dangerous, irresponsible, and reckless and is likely outside of the NEPA planning process.

The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been impacted by dam operations including High Flow Experiments. In addition, National Park Service and Bureau of Reclamation opposition to actions benefiting the trout fishery (trout stocking) has resulted in ongoing damage to visitor use and experience and has had a deleterious socioeconomic and environmental social justice effect on the local community.

It has been previously established that authority and control over the Colorado River fishery is the sole responsibility of the Arizona Game and Fish Department. For the National Park Service to make decisions and enforce actions outside of their authority and without the cooperation of the Arizona Game and Fish Department could be construed as to instigate an illegal "take" of sportfish.

I know that this is an emotional issue. I'm sure that you have seen an outpouring of support for no action on removal of brown trout. Please consider each of these comments to reflect the desires and opinions of the people who actually utilize the resource and recreate there.

Please do nothing to harm the fish, the resource or the local fishing-based economy. Plan only a course that will actually benefit the native fish, local recreation, and local economy.

I have been fishing Lee's Ferry for over 30 years. A magnificent fishery thru the years, and certainly has seen its ups and downs. Why now are you considering removing brown trout? Seems to be a move to satisfy the few while discounting the many - - - both in fish and fishermen. The science does not show how removal will improve the native population, which has been tried before and failed. Man made floods by opening the damn - - - and trout fishing recovered very well!

No consideration either for the many who earn a living in this piece of God's country - - - leave the fishery alone and that process may treat us all a lesson. Doing nothing is many times a decent strategy.

356

Please do not kill any Brown trout at Lee's Ferry. My family and friends have fished Lee's Ferry for many years and the fishery is the best in West.

357

Commenting on the NPS plan to exterminate the Brown Trout from Lees Ferry. This program is a travesty to exterminate a species of fish that not only make up 5% of the fish population in the area but main food source is Raonbow Trout. I would ask the NPS not to destroy the Blue Ribbon fishery the Lees Ferry is know for across the world until more data can be collected. The Humpback Chub should be protected and preserved but we, as humans, owe it to another species not to condemn that species until more facts are learned.

Why would we murder the Brown Trout around Lees Ferry if that environment does not support the Humpback Chub? We (man) have built dams and changed the environment, the by product has become the best Trout fishery in AZ and one of the top 50 in the US. Why do we continue to destroy good things?

358

Do not kill the Brown Trout!

There is no valid reason to do this and thousands of other fish will be killed in the process. I live 150 from Lees Ferry in St. George Utah and it is my "go to" spot, over anyplace in Utah. Last year I visited and fished on 10 seperate trips through there. Killing those fish will be ruining one of the best attractions about that area. Don't kill the Brown Trout!

359

This is rediclous. It is not the job of the National Park Service to manage The Fishery. There is no science to prove that these brown trout travel Downstream where the native humpback chub live. The first time they killed brown trout at Lee's Ferry they did so without letting the public know tried to hide it and did it illegally without a permit from the Arizona fish and game who manages the fishery. The public will not tolerate lies and the pointless Slaughter of brown trout in what used to be a world-class Fishery. Why don't you guys do something worthwhile instead of wasting money and resources and killing fish that should be left alone to thrive

360

I am providing these comments to oppose the National Park Service (NPS) proposed electro-mechanical removal of Brown trout in the main stem of the Colorado River for the following reasons: 1. The proposed removal action to control brown trout on the scale and in a setting like Glen Canyon has little to no prospect of achieving the Environmental Assessment's (EA) purpose and need objective.

2. More rainbow trout would be shocked and would be negatively affected for each brown trout captured.

3. The collateral damage to the Lees Ferry rainbow trout fishery from mechanical removal and the public perception it creates will decimate an already distressed economic community that has been repeatedly impacted by dam operations.

4. Native American Tribes have long objected to mechanical removal efforts below Glen Canyon Dam as an affront to their religious and spiritual beliefs.

5. The cost for implementing long term intensive and repeated electrofishing would be very high and put a major drain on Department of Interior Agencies budgets.

6. The Environmental Assessment (EA) ignores possible or potential causes for the recent increase in brown trout i.e. sequential fall High Flow Events, warmer water temperature, and the fall High Flow Event related aquatic food base shift, etc.

7. The most recent fish population sampling results show a potential halt or decline in brown trout numbers, yet this data appears to be ignored.

8. Marble Canyon is ignored in the EA and no actions are proposed to address present or future immediate threats to native fish in Marble Canyon or at the Little Colorado River.

9. The National Park Service is subordinating the Arizona Game and Fish Department (AZGFD) to a cooperating agency role rather than a coequal decision authority over the Colorado River fishery. AZGFD should have co-equal decision authority.

I frequently take out of state guests to Lees Ferry for fishing trips. The memorable experiences that have resulted are continually mentioned by these guests to others. The opportunity to continue to have Lees Ferry be a tailwater fishery mentioned as a destination like others in the West should not be put at risk unnecessarily.

I request you consider my reasons for my objections and seek alternative solutions to what appears to many not to be a problem.

361

Please leave the Brown Trout at Lee's Ferry alone. The amount of potential irreversible damage to the other aquatic life in the river is not worth the removal of such a small amount of reward. The river in that location can, and has sustained much more fish population, and right now the river is thriving. I am positive that are better things, and locations to assign this funding towards.

Fish population decline, so with those who contribute to the local economy who enjoy fishing there. The risk versus reward doesn't add up. Please let the river, and the fish be.

362

It's sad to hear the only way to "control" is by killing with little regard to the effects it will have to other fish, the community, the economy, tourism, etc. National Park Service is to oversee the parks, not make decisions as an owner of said parks. Many decisions made should be voted on by the community it affects - the community that pays the taxes that also finances the park service. Just like any government service you work for us. I do hope you listen to the people that financially support your service and stop making hair-brained plans (very misguided, little to no scientific backing). National Park Service has no right in deciding what lives and what dies, nor the way it dies - electrocuting sounds rather barbaric. Millions go to bed hungry every day in the USA and here you are killing food that could be feeding them.

363

I understand the endangered species list but you also need to take into account the people you will affect in making this decision. Many individuals depend upon the excellent trout fishery at Lee's Ferry. By killing all of the trout, the fishery will be non-existent with the exception of the chubs. Please reconsider your decision. In addition all of the businesses along 89a will be impacted & there will be no revenue for them to count on. Cliff Dwellers, Marble Canyon, & the Tribe's businesses will be greatly impacted. Please consider this as you move forward with your decision.

364

These are personal comments based on knowledge and experience from representing recreational angling on the Glen Canyon Dam's Adaptive Management Program's Adaptive Management Work Group. The opportunity to provide comments is appreciated. The EA scoping fails to address the following questions that are critical for the proposed EA: Why the Park Service doesn't value and support the Lees Ferry recreational trout fishery compared to other resources. Proposing mechanical removal (MR) in the Lees Ferry trout fishery reflects a cultural attitude within the Park Service that considers the Lees Ferry trout fishery indifferently at best and as a nuisance at worst. The inclusion of MR in the EA demonstrates a mindset that the Glen Canyon Lees Ferry trout fishery is just another fifteen miles of three hundred miles of the Colorado River between Glen Canyon Dam and Lake Mead rather than a unique and valued recreational element to be nurtured and cultivated as part of the Glen Canyon National Recreation Area. Great efforts are made and resources expended in demonstrable support for recreational rafting, tribal cultural interests, riparian vegetation, and native fish. Dam operations and water discharges with costly impacts to hydroelectric power are adjusted and modified solely for the benefit of these privileged resources. At the same time other than abstract research projects and verbal commitments the Lees Ferry trout fishery is treated with benign neglect at best.

Why electrofishing MR in Lees Ferry will not damage the fishery and angler fishing conditions. The proposed MR in the Lees Ferry trout fishery will move the management of the fishery beyond neglect to determined damage. The damage will be both to the quality and the perception of the fishery. Long-term intensive and repeated electrofishing MR and trapping of all age-classes of harmful nonnatives in the Glen Canyon reach to target brown trout for the

purposes of the EA cannot be accomplished without devastating fishing quality in the process. Leaving aside the detrimental effect on rainbow trout from repetitive and intensive electroshocking, the angling environment will be diminished to the point of being barely worth the effort for month(s) at a time while massive attempts are conducted to remove minimal numbers of brown trout further compounding the lost fishing weeks from repeated high flow events. This isn't an esoterically issue that is irrelevant but rather one that strikes at the heart of the economic livelihood of the dependent local community. There is little consolation that rafting isn't impacted and only half of the economy is damaged; a consolation that no proponent of MR would accept in their personal sphere.

Why the public perception of killing trout in Lees Ferry will not damage the reputation of the trout fishery. The present public perception of Lees Ferry is of a once great fishery driven down to the point of being barely adequate. It's discouraging that has been allowed to occur within a Park Service National Recreational Area. The absence of support actions for the fishery has contributed to the quality decline while at the same time the perception has unnecessarily suffered from the apparent indifference towards the fishery. The general public will not grasp the nuance of any explanation presented for initiating MR in Lees Ferry. The only message that will compute is that the Park Service is killing the Lees Ferry trout. A message that translates to "why fish Lees Ferry?".

Why MR as an available action in Glen Canyon doesn't diminish, devalue, and threaten the trout fishery and the economically dependent local community. Any representation that Glen Canyon MR is a tool in a fishery management tool box, even if only conditionally available, is a misnomer. Lees Ferry wide MR isn't a management tool it's a license to kill trout on a massive a scale. Putting forth the concept of any kind of limited or targeted MR is also a false charade of appearing to do something meaningful that is as certain to fail as it is to succeed in critically damaging the perception of the fishery. MR availability in Glen Canyon encumbers the value of the trout fishery value in fact and perception in the same way that land encumbrances devalue real property. MR would hang over the head of the fishery like the sword hung over Damocles head. At any time it could come crashing down to the detriment of all utilizing or depending on the trout fishery.

Why sixty miles of Marble Canyon aren't a protective buffer zone for native fish above the LCR. The Park Service represents that the LTEMP EIS and the CFMP provide all necessary compliance for "long-term intensive and repeated electrofishing and trapping of all age-classes of harmful nonnatives" within Grand Canyon National Park. If that is the case then the entire river within Marble Canyon and Grand Canyon is available to do by whatever means and however is wanted the removal of non native species. Marble Canyon is a sixty mile effective barrier for any real or perceived threats to native fish. It borders beyond reason that the EA devalues the Lees Ferry trout fishery to the point of empowering the Park Service to decimate the trout fishery in Glen Canyon via MR in lieu of Marble Canyon. Grand Canyon National Park has three hundred miles of river to manage for the benefit of native fish. Anglers cooperatively agreed to trout removal in historic trout habitat sections of the main stem from the Little Colorado River to the Bright Angel Creek outlet and in Bright Angel Creek. In comparison Glen Canyon National Recreation Area allocates only fifteen miles of river for managing as a blue ribbon trout fishery. It's not too much to ask for that small section of the river to be left

alone and actively supported as a recreational trout fishery.

Why the proposed EA shouldn't be an EIS instead. The scale of killing trout in Glen Canyon contemplated by the proposed action (1) reaches an unprecedented level for ignoring, offending, and impacting Native American core beliefs, and (2) affects the social and economic well being of an already depressed dependent community. The social impacts of the proposed action will significantly affect the quality of the human environment for the impacted parties to the extent of being beyond an honest finding on no significant impact for an EA.

Why the proposed EA doesn't recognize AZ GFD as the controlling entity for managing fishery waters on the Colorado River. The Arizona Game and Fish Department (AZGFD) is the management agency with primary statutory responsibility for resident fish and wildlife in the State of Arizona. AZGFD's authority includes jurisdiction over fish, both native and non-native, residing in the Colorado River below Glen Canyon Dam. The proposed EA in the form presented encroaches on that authority

Why the proposed EA counters Secretary Orders 3347 and 3356. In 2017, the Secretary of the Interior issued Secretary Orders 3347 and 3356 with the purpose of advancing conservation stewardship and increasing outdoor recreation opportunities, including hunting and fishing, and improving the management of game species and their habitat. Long-term intensive and repeated electrofishing MR and trapping will negatively impact catch rates and potential population abundance of the rainbow trout fishery and violates the spirit and intent of the Secretary's Orders.

365

Not good for the people of AZ. Not good to kill/remove Brown Trout, not good to endanger the Rainbow trout. Not good to destroy the local fishing business, and related tourist business. Saving the chubs is not worth the sacrifice we will experience.

366

Not good for the people of AZ. Not good to kill/remove Brown Trout, not good to endanger the Rainbow trout. Not good to destroy the local fishing business, and related tourist business. Saving the chubs is not worth the sacrifice we will experience.

367

Yeah, don't electrofish the browns out if Lee's Ferry. Just leave that place alone for once.

368

Keep wild wild and let nature be natural. Please let the Brown trout stay at Lee's Ferry. This fishery has suffered enough with the experimental floods and electro shocking hundreds/thousands of fish to kill a few brown trout will no doubt only add insult to injury.

369

I strongly object to the plan to remove Brown Trout from the Lees Ferry Fishery. I have spent too many memorable trips fishing with Skip Dixon to see this disappear.

370

The time, money and thought spent seeking to eradicate the brown trout from Lee's Ferry is truly a energy that could be redirected in a more thoughtful and mutually lucrative project. I've spent 15 trips to Lee's Ferry flyfishing for trout, not rainbow trout....and I've never once been lucky enough or in the company of someone who's caught one, thats how rare they are. So, in short, they are not a detriment to the habitat.

Lets focus on stream enhancements and projects along the Mogollon Rim and Eastern AZ.

371

Save the Brown Trout located on the Colorado River below lake Powell. They are a very important resource and a high economic value for fisherman that pay to fish and stay in the area. This is an area that fisherman from all over the Country go to fish for these fantastic Brown Trout. If these fish are destroyed myself and many other fisherman will never be back to the area

This is a resource that the area cannot afford to lose!

372

I do not support removing the Brown Trout from Lees Ferry.

I have many friends who travel from as far away as Hong Kong and France to fish at Lees Ferry to fish for brown trout.

373

Brown trout represent a major sporting opportunity in the Lees Ferry fishery. Please preserve the species for recreational fishing. The species certainly does not displace the native Rainbow Trout population enough to warrant a full eradication. I have caught 1 in five years and numerous trips with experienced guides from Lees Ferry Anglers. These fish are elusive at best and challenging to catch when you find them. This is a positive attraction for sports fishermen - rarity and challenging. The NPS should be preserving these fish, not destroying themPlease reconsider any plans to remove Brown Trout from Lees Ferry

374

No! I do not want the Browns or any fish to be removed! No! No! No!

375

Please do NOT eliminate brown trout from the Grand Canyon. It is too valuable a resource to lose.

376

I disagree with the plan to mechanically remove brown trout from the Lees Ferry/Marble Canyon area for two main reasons.

The first is that the NPS is acting as though this fish removal is to benefit the rainbow trout fishery. The NPS should not be pretending to manage a non-native species to protect another non-native species, as evidenced by multiple signs put up around the Lees Ferry area. Firstly, if they are managing for anglers (trout species), then many anglers enjoy catching brown trout as well, so leave them in. Second, a little honesty would be appreciated in the future, please just say you are doing it for native fish in the river (chub and suckers), don't pretend to take the rainbow trout's side.

Second is that large scale mechanical removal of non-native fish in a river as large as the Colorado has no probability of true success, sure the numbers will decrease for a little but they will rebound right back up. There is no historical precedence of large scale mechanical removal working in a river of this size. This will not only be a waste of tax payer dollars because it is ineffective, but it will hurt those very same tax payers who rely on the river and its trout fishery. If the NPS does care about the rainbow trout fishery like their signs claim, then protect the fishery by not shocking large amounts of fish within it. Thank you for allowing public comments and I hope you take them into consideration when considering the implementation of this plan.

377

Do NOT kill the trout in the Mighty Colorado River! We have a world famous trout fishery, why would you even consider killing them? Who made you federal employees GOD? Stop playing God, leave our river & it's fish alone. As a local citizen, I am demanding this to stop!

378

This proposal is the worst thing that could possibly happen to the Lees Ferry section of the Colorado River for the following reasons:

* Since the implementation of the Glen Canyon Dam, water temperatures of the Colorado River declined to a point where native species like the Humpback Chub became endangered. Given water temperatures downriver 40-60 miles are warmer and chub populations are thriving. Before ANY action is taken relative to the eradication of non-native species, a full and comprehensive study must be performed, leading to my next point- what is a non-native species?

* This proposal does not make any sense at all. Rainbow Trout are non-native yet GCNRC is proposing an action to mechanically remove just Brown Trout. This seems completely oxymoronic to me. If the intent is to "save" the rainbows by removing the Browns, I would encourage additional research to be done on the dozens of other tailwaters nationally where Browns and Rainbows coexist in perfect harmony and have for decades. Perhaps the focus of this study should shift towards a study of the aquatic food base. A healthier food base equals less competition by fish to eat.

* Mechanical removal of any fish has bycatch. Killing Browns will also kill rainbows and other native species that live in the river. This method is responsible for killing the fish you are attempting to save. Makes no sense whatsoever. I have the pictures to prove it and mechanical removal of fish is simply not an option.

Please do not destroy an already compromised ecosystem and fishery. The recent "study" that took place last January resulted in the killing of hundreds of fish. This is a disgrace to conservation. Please do not allow for mechanical removal of ANY fish in the Lees Ferry section of river.

379

Very poor judgement to kill all the browns out of Lee's Ferry. You should put a stop to the fish kill. It is ludicrous to think that it is a good idea!

380

This comment is pertaining to the removal of brown trout from the Lee's Ferry area of the Colorado River below Glen Canyon dam. I have been a professional fly fishing guide for over 25 years now and have fished Lee's Ferry several times over the last 30 years. I have never even seen a brown trout or heard of their existence in Lee's Ferry until recently. I've seen a couple of pictures of these beautiful trout and can't imagine for the life of me why anyone would want to kill them. I know that by shocking the river there would be more than just brown trout killed. There would be a lot of collateral damage.

Lee's Ferry has been one of our nation's top 5 Blue Ribbon tail water trout fisheries for more than the 60 years I've been on this earth. I can't imagine it being anything else. Please reconsider your plans to take the brown trout out.

Also, sport fishing there is so important to the local economy. There are too many negatives that could come of this. As a guide, catching a big beautiful brown trout is a celebration! They are spectacular fish!! Please don't kill them ... a concerned trout bum ...

381

**DO NOT KILL THE BROWNS IN LEE'S FERRY. HORRIBLE HORRIBLE DECISION!
DON'T DO IT**

382

Cold water fisheries need protection, Tail waters or not, please re think the eradication of any species, especially when dealing with an established fisheriy YOU, the government put in place then let the good hearted American people thrive on it through helpful, conservation minded business like the ones on Lee's Ferry. This is just a bad beurocratic decision, thank you

383

As president of the Gila Trout Chapter of Trout Unlimited I am writing to express the tremendous concern our some 75 members have over the National Park Service (NPS) plans regarding the proposed Environmental Assessment (EA) for an Expanded Non-native Aquatic Species Management Plan specifically regarding Lees Ferry. We believe that proposed elements of these plans will have a devastating impact on this protected blue ribbon rainbow trout fishery.

The actions proposed in this EA in the Lees Ferry reach could cause the destruction of this protected blue ribbon rainbow trout fishery. The plan calls for long-term, intensive, and repeated electroshocking throughout the Lees Ferry area to eliminate what the NPS has described as a threat from invasive brown trout in the Colorado River. There are several problems with this

plan. The actual number of brown trout in the area is perhaps less than 3 brown trout for every 100 rainbow trout that would be exposed to this long-term, intensive, and repeated electroshocking effort that would likely require several weeks, if not months. This effort will likely result in the mortality of countless rainbow trout exposed to multiple electroshocking runs. Fish that survive will be impacted to the point that their natural feeding inclinations will be diminished. This will have a critical effect on their health, as well as the health of the businesses and residents in the area that depend on the trout fishermen that come from all over the country to fish in this famous and incredibly beautiful setting.

There is nothing in the EA that notes the scientific rationale for this effort. Trout Unlimited at the public meetings held in November and December repeatedly asked for this EA to be delayed so that the final report from the Brown Trout Workshop held in September, 2017 could be considered before any actions were proposed. During that Workshop, many presenters noted possible solutions that would require collaboration with other agencies such as the Bureau of Reclamation (BOR) and Arizona Game and Fish Department (AZGFD). Some of these recommendations included adjusting the temperature of the water coming out of the dam to make it less conducive to brown trout, changing the high flow events (HFEs) from the Fall to the Spring to negatively impact spawning and the survival of young brown trout, attending to the impact flows have on the food base such as dissolved oxygen content and nutrients that would be released from the dam, regular assessment of all populations of trout in the system at various reaches as well as humpback chub (HBC) numbers in known locations. The Workshop presenters did not advocate long-term, intensive, and repeated electroshocking in Lees Ferry as an effective management tool to address brown trout controls in the Colorado River system. In fact, scientific opinion is that this tactic, where effective in small streams, is ineffective in large rivers.

The plan to target brown trout 61 river miles away from the Lower Colorado River (LCR) confluence where the main concern for HBC predation could occur seems misguided. There is no mention of efforts in this EA of plans to eradicate brown trout in Marble Canyon or at the LCR confluence, where any brown trout in the river would pose a substantially greater risk on the resident humpback chubs. There is no scientific evidence presented that brown trout migration from Lees Ferry is really a problem. There was some evidence in the Brown Trout Workshop that suggested that a more likely source of brown trout in the LCR area might actually be from displaced brown trout from Bright Angel Creek, which is much closer to the LCR.

The Arizona Game and Fish Department has the management responsibility for the Lees Ferry Fishery. They have provided a Lees Ferry Fisheries Management Plan (September 2015) which we believe should be followed and with which any NPS actions should be in compliance.

In addition to these concerns, I wanted to remind you on behalf of our members of the Department of the Interior's Secretary Orders 3347 and 3356. Any efforts such as long-term, intensive, repeated electroshocking in Arizona's only flowing water blue ribbon trout fishery will severely impact fishing and would be in direct conflict with those orders.

The biological control plans to address the green sunfish population in the sloughs in the Lees Ferry reach are also a concern to us. We are confused and worried by the suggested use of

common carp, humpback chub, and Colorado pikeminnow as biological control considerations.

Common carp are an invasive species to the river system that to our knowledge have not been targeted for eradication. Why is that, when common carp would seem to be a serious threat since they would prefer similar environments to the HBC, could themselves be preying on the HBC, and certainly would compete for similar foods? Instead, the NPS plan calls for stocking of common carp in the sloughs, which would be a preferred warmer water environment for them and then expect that they will eat green sunfish eggs, reduce the dissolved oxygen, and create a nutrient toxic environment killing the introduced carp along with the green sunfish in the sloughs. It seems that this particular biological control plan would be particularly objectionable to Tribal concerns given their strong advocacy for respectful treatment of the fish in the river system.

The use of humpback chubs in the sloughs seems equally baiting. Introducing this Protected fish into the sloughs with the very species that the NPS is concerned will negatively impact the HBC population downstream seems grossly irresponsible. We understand that the Colorado pikeminnow was historically present in the river. This predator, known historically to attain a length of six feet seems a much greater potential threat to the system than brown trout will ever be. If there is any escapement from the sloughs, the rainbow trout fishery is immediately threatened, followed by the humpback chub and razorback sucker populations downstream. Given the devastating impact that pikeminnows have had on young salmon below dams in the Northwest, we strongly urge you to NOT stock Colorado pikeminnows into the sloughs.

Finally, we advocate for more study of the problem, utilizing scientific data, and relying on cooperating agencies to monitor any potential increase in brown trout and their mobility in the river. We also strongly recommend a comprehensive plan that involves all agencies and interested parties that can provide expertise, and advice rather than what appears a unilateral effort on the part of the National Park Service.

384

I need to express my concern about the upcoming plan to remove brown trout from Lees Ferry. I do not see that enough research has been put into the greater implications of the method of removal and that it would not negatively affect both the rainbow trout there but also possibly the surrounding ecosystem.

My family and friends greatly enjoy the fishery, the surrounding beauty of Lees Ferry, and depend on the guides there, where the fishing of the trout is their livelihood. We are all deeply concerned if this plan moves forward without further research and understanding that all of the above could be negatively impacted.

Though not native, the brown trout in question are thriving, just as the rainbow have that were also introduced and are not native to this area. More research is needed to understand why before any removal occurs and a more sustainable method than the electro shock and mechanical removal of this plan should be suggested.

Thank you for considering the thoughts and opinions of concerned citizens.

385

Between the angler pressure and constant change in flows the fact that this fishery even exists is pretty impressive. Shocking an already stressed fishery should be the last resort. Surely there are better places to start than this?

386

I would ask that the NPS reconsider their stance on the removal of brown trout from Lees Ferry. I understand the importance of protecting the native fish species within the Colorado River. With that being said, I would ask that the area from Lees Ferry upriver to the damn be utilized as a valuable sport fishery. Destroying large brown trout from this section of river is a huge waste of a very valuable resource. Fisherman come from all over the world to experience Lees Ferry and pour millions of dollars into the local economy.

I can understand removal of brown trout from areas of the river such as at the mouth of the Little Colorado River. This has been shown as an important area for the humpback job. However, I believe it to be extremely irresponsible to eradicate brown trout from all sections of the river, especially those being used as for recreation/sport fishing.

I would ask that at the very minimum that the NPS do some more studies on just how far these brown trout that live in the upper sections of the river are migrating. I believe that there has to be some sort of solution where the trout as well as the native fish can cohabitate within the canyon. I would like to see the NPS work with the sport fishing and local fishing guide community to come up with a better solution than simply just destroying this very valuable resource.

387

I just got word on your plans to eradicate the brown trout population in the Lees Ferry area. Please don't kill those brown trout. They are for more difficult to catch than the rainbows in the river and more beautiful too! Brown trout are my favorite fly fishing quarry! Rainbows eat those Chubs too, you know!

In any event, if you chose to remove the Browns from that fishery, please don't do it by electroshocking. That'll mess up ALL the fish, not just the browns. As you know, the big fish are hit the hardest by electroshocking, so please chose another alternative.

388

Before preceding any further with the EA, I think it prudent to establish the effects of current management practices in terms of achieving the goals set forth in the LTEMP FEIS. Good environmental stewardship demands understanding the effects and outcomes of current management practices. How can the agencies involved be sure they are not creating a new problem, making the current situation worse, or not achieving the conditions and goals set out in the LTEMP FEIS without a data based appraisal of current management practices.

The LTEMP FEIS adopted Alternative D as the management protocol for the subject area in October of 2016. The following is taken from the Record of Decision (RoD) for the LTENP FEIS.

3.1 Environmentally Preferred Alternative

The preferred alternative, Alternative D, is the environmentally preferred alternative, based on its relative impacts (compared to other alternatives) on the full range of environmental resources. Alternative D is expected to result in an improvement in conditions for humpback chub, trout, and the aquatic food base; have the least impact on vegetation, wetlands, and terrestrial wildlife; improve sandbar building potential and conserve sediment; sustain or improve conditions for reservoir and river recreation; improve preservation of cultural resources; respect and enhance Tribal resources and values; and have limited impacts on hydropower resources.

The LTEMP states that Alternative D management procedures are expected to result in an improvement in conditions for humpback chub, trout, and the aquatic food base. What has been achieved by current practices and if so where are the data and studies?

What has been the effect of the HFE and TME releases on the food chain since implementation current management practices? Studies presented in the LTEMP FEIS indicate a >50% decline in the Gammurs, midge and black fly populations in the upper reaches of the study area following some of the earlier HFE releases. A corresponding increase of these macro invertebrates in the lower reaches was also documented. Has this pattern continued? Has the aquatic food base improved in the lower reaches? Has the aquatic food base improved in the upper reaches under current management practices? What is the mortality rate for trout in the 2-4 months following a HFE or TME event?

The LTEMP FEIS RoD states Alternative D is expected to maintain trout abundance at a level similar to the No-Action Alternative by implementing TMFs frequently and mechanical removal when necessary.

Has this been achieved and is trout abundance at a level similar to the No-Action Alternative? What effects has mechanical removal of brown trout had on rainbow trout and other species populations? What is the mortality rate for rainbow trout and other species following mechanical removal of brown trout? Qualitative observations by trout anglers in the Glenn Canyon reach of the river indicate a severe decline in the numbers of trout caught. Where are the empirical studies and data on the effects of these management procedures?

Appendix F of the LTEMP FEIS contains predictive models of various aspects of the rainbow trout and humpback chub populations. How well has the model of rainbow trout population dynamics in the Lees Ferry reach matched real world observations? Has empirical data even been collected? The same questions apply to the trout routing model, and the model of the response of humpback chub population dynamics in the Little Colorado River and Colorado River to monthly mainstem temperatures and monthly trout abundances. Does recent empirical data support chub and trout population projections contained in the models? The same question is posed regarding the size projections for both chubs and trout. Has the angler catch rate and the size of trout caught matched model projections?

One of the more significant model uncertainties stated in Appendix F of the FEIS is The humpback chub model does not consider the potential effects of other fish species besides rainbow trout that are already relatively common in the system and known to eat humpback chub (e.g., brown trout and various catfish species), nor does it attempt to account for the negative

effects of other warmwater nonnative fishes that could become prevalent if temperatures above 16 C (61 F) become common. Potential effects of cannibalism by humpback chub are also not directly considered by the model. Have the models been updated with recent empirical studies to address these data gaps, thereby reducing the model uncertainties? Most glaring fact in the above quote is that the potential effects of brown trout preying on the humpback chub was not even considered in the models. The removal of brown trout from the ecosystem is at the very heart of current management practices, yet their predatory effect on the chubs was not considered during modeling?

The Brown Trout White Paper, page 37, states, Our understanding of long-distance movement by brown trout in the Colorado River ecosystem is poor. Learning about long-distance movement is difficult because brown trout are still relatively uncommon in the catch, fish capture probabilities are generally low, and the Colorado River ecosystem is very large.

Without having an empirical database to understand the movement of brown trout, nor, apparently empirical data on the brown trouts predatory behavior with respect to the chubs, how can effective, logical and environmentally safe management procedures and practices be developed? Many of the current and proposed management practices could be harmful to other species in the ecosystem and produce outcomes not even relevant to the LTEMP goals.

The following is a chart taken from the LTEMP FEIS showing water temperature data from 4 gauging stations located in the subject area.(Chart will not import, LTEMP FEIS vol.1 Figure 3.2-6)

The next chart is also taken from the LTEMP FEIS and shows the water temperature ranges for spawning growth and development for the native and introduced fish species in the subject area.(Chart will not import, LTEMP FEIS Vol. 1 Figure 3.5.1)

A simple comparison of the temperature ranges in both charts show only one reach of the river where marginally adequate water temperatures occur for the spawning of humpback chubs, Diamond Creek, 225 river miles down stream of the Lees Ferry RM-0 baseline. Have the water temperature ranges changed? How will any of the four proposed EA alternatives improve the chubs spawning habitat in light of the rivers current water temperatures?

Surviving populations of humpback chubs currently exist in isolated small populations in tributaries to the Colorado River. None of the proposed EAs alternatives nor did the LTEMP FEIS evaluate: 1) the impact of disease, parasitical or fungal infestation devastating one or more of the small existing population groups, 2) the impact of such events on the genetic viability of the species or, 3) the genetic ramifications of in-breeding in limited isolated breeding populations. How can the long-term viability of the humpback chub be analyzed without detailed studies in these areas?

One final question, how is it, less than one year past between the approval of LTEMP FEIPS, and the need was determined to introduce the Expanded Non-native Aquatic Species Management Plan? What changed in the environment? Was the LTEMP Final Environmental Impact Feasibility Study an incomplete analysis? Was data or planned future actions by the

relevant agencies withheld? Was the Record of Decision rushed by undue bureaucratic or political pressure before all data and options had been adequately considered, analyzed and management procedures developed?

In light of all the above questions and lack of data/empirical studies in key areas, I believe that the EA format is inadequate for the Expanded Non-native Aquatic Species Management Plan and a full Environmental Impact Study is need in order to determine which of the proposed alternative management plans is best suited for the Grand Canyon ecosystem. Until such time, there should be no change in current procedures or practices. Given the cost to the taxpayer involved each and every time there is a perceived need to change management practices would it not be in the interest of all parties to take the time and "get it right, rather than repeat this process year after year?

If the goal of the National Parks Service, other relevant government agencies and contributing NGOs truly is preservation of the humpback chubs and other endangered species of the Colorado River, the best use of tax payer money might be the establishment of multiple hatchery facilities and preserve a relatively large, genetically healthy and viable population of the chubs, suckers and dace until such time as the dam is removed or Lake Powell is in-filled and water temperatures return to pre-dam ranges. Why has this alternative not been accessed?

389

I am a professional flyfishing guide in Colorado traveling angler and freelance writer from numerous fly fishing magazines . Please don't eradicate the brown trout from the Glen Canyon dam to Lee's ferry stretch. Any eradication of brown trout should be from Lee's ferry downstream.

390

I can't believe taking out the Browns. The Rainbows are nor native to the Lees Ferry area. I fave this area many times and have seen it in good time and bad. I think Brown Trout are a added bonus to the river.

391

Stop killing the Brown Trout. They are a huge part to fishing at Lee's Ferry and I'm certain that many people will not enjoy this fishery without them present.

392

I want to voice my opposition to the proposed plan to eradicate non native species in the Lees Ferry/Glen Canyon. The action of removing Brown Trout by mechanical electrofishing will kill a large number of Rainbow Trout as well, it will have a negative impact on the fishery, and the large number of citizens who make their living there, or that love to fly fish at Lees Ferry.

I ask you to please cancel this plan, and preserve the Lees Ferry/Glen Canyon area as is.

393

I support the protection of native fish. Assuming that you have done your due diligence and your Fisheries biologists feel confident that eradicating brown trout will help improve habitat for Native fish then I am in favor of your plan.

I am an avid fly fisherman and enjoy catching trout until water Fisheries. But protecting the rare habitat of our precious desert waterways so that native fish can persist is more important than my recreational sport.

Habitat take over by non-native species is leading to homogenisation of are ecosystems. Much of this is human-caused. It's important that we take opportunities when available to mitigate this damage and remove non-native species if it benefits threatened or endangered natives.

394

I fail to understand why there is a need to eradicate Brown trout from the Lees Ferry tail water, neither Rainbow or Brown trout are a indigenous species in the first place to that watershed. It is not in my opinion a justified management policy.

As a matter of interest my local river is the White river here in Arkansas, a river that has produced numerous world class brown trout, interesting further is it is a river stocked with 4 different species of trout. It is by far the trophy browns that draw anglers from all over the world to fish here. Fact is Nationally it is the Brown trout that is more favored by anglers than the Rainbow, more to the point it is the most widely spread salmonid species Nationally.I appreciate your concerns, and trust that you will re-consider not to undertake this policy.

395

I don't understand why you folks want tho remove the brown trout?

I know you think that the browns eat the sucker fry or eggs.. But it is the fact the water in the said area is too cold for the suckers to spawn. They spawn in other areas, where water temperature will support that.. Can you explain how removing the browns is going to helpThe fact that even with out the browns the suckers still will not spawn there with or without?

396

I am on the board of Fly Fishers International, Editor-In-Chief of Flyfisher magazine, Department Editor of Flyfishing & Tying Journal and columnist for Game & Fish magazine, author of Fly Fishing for Western Smallmouth, freelance magazine writer and six decades of fishing. I mention this only to demonstrate my fishing industry background- -my comments are here as a private citizen.Please do nothing to harm the Lees Ferry brown trout or rainbow trout. Please do nothing to harm the resource. Please do nothing to harm the local fishing-based economy. Plan only a course that will actually benefit the native fish, local recreation, and local economy.

397

Please do not electroshock or kill any trout in Lee's Ferry or any tributaries of the Colorado, it is a waste of resources and hurts local businesses by discouraging fishermen such as myself from spending time and money to visit. If brown trout were allowed to thrive with rainbows in the river it would create a huge draw from anglers all around AZ and surrounding states.

398

I am opposed to the mechanical removal of brown trout from the Colorado River near Lee's Ferry. I make 2-3 trips per year to fish Lee's Ferry. It is one of the few quality trout waters in Arizona. The dam has already forever changed the character of the river for many miles, which can not be reversed without the removal of the dam. Brown trout add interest to fishing the area, and although they are relatively few in number, they tend to grow larger than the rainbows. I am also concerned that mechanical removal of one species, in this case brown trout, will also inevitably harm the other species in the area.

I would like to see the Lee's Ferry area maintained as a quality trout fishery and the brown trout will add to that experience.

399

Please don't take away my ability to fish at Lee's Ferry. I have been going there every other year for the past 10 years with my father in law. By eradicating the brown trout and shocking the fish you will put a lot of good people out of work and crush a local economy that survives on local fishing and guiding services. Please step back and look at the long term damage this plan will do to this community.

400

My husbands livelihood depends on the fish in this river as does the livelihood of all the other fishing guides. To take this action you'll basically be putting people out of work! Is someone going to compensate all those people. I'm sure not!! And that's just what happens to the people. What this will do to every living thing in the river is unthinkable and unreasonable!! Please don't allow this to happen!!

401

I have been fishing Lee's Ferry for over 10 years and wanted to express my oposition to the killing of Brown Trout there. As an angler that used to live close by and now in neighboring Colorado I still travel there and spend money to go fish, specifically for the beautiful brown trout. I have seen the decline of the fishery over the years and it is sad to see the quality of the fish go down. I recently took a guided trip up the river and it is such a beautiful spot for fishing that it would be a shame to shock the fish to get rid of the brown trout. Where I fish in Colorado, the brown trout are able to successfully co-exist with the rainbows and other species. I am pleading with you, please do not proceed with the plan to do this. I have family that lives near too and depend on the tourism that the river fishing provides and this will hurt their small businesses. Please reconsider this option.

402

Please **DO NOT REMOVE BROWN TROUT!** They are a terrific angling resource and frankly an absolute blessing on lee's ferry!! Do you not know that more anglers actually WANT to catch browns than rainbows!?!? Instead of removing them, put the word out that the river has them and you will see an increase in fishermen to lee's ferry thus stimulating your local monetary intake! Please save the browns!!

403

As a concerned citizen and sportsman, I attended the Public Scoping Meeting recently held in Phoenix. A number of comments and data/statistics that were presented at this meeting confirmed my opinion that long-term, intensive and repeated electrofishing should not be used to control the numbers of brown trout in the Lees Ferry/Glen Canyon stretch of the Colorado River.

In other tailwater fisheries throughout the Western United States, these two species coexist without such requirements. And, at present, the percentage of brown trout to rainbow trout is minimum and static. Allowing the taking (without release) of brown trout may well provide a satisfactory control if encouraged.

Also, there appear to be numerous studies that have documented the (the long term) damage that would befall the rainbow trout and any other desirable sport species of fish. Further, this proposed repeated and long term electrofishing on the scale and in a setting like Glen Canyon has little to no prospect of attaining the EA's purpose and need objective.

Additionally, this program would have a catastrophic impact on the quality of the Lees Ferry trout fishery its recreational value, the welfare and beliefs of the local Native American Tribes and the regional economic prosperity that relies on a thriving sport fishery.

Finally, I would expect that the Arizona Game and Fish Department not be subordinated to the Park Service on such a local matter but rather be a coequal decisional authority.

Please consider and honor the desires and interests of sportsmen and our heritage.

404

The eradication of brown trout will cause tremendous damage to the fishery by making this prized catch a thing of the past. Don't do it!

405

Please stop electrocuting brown trout at Lees Ferry. You are damaging the fishery more than benefiting it.

406

As an avid fly fisherman and a lover of the outdoors, it is never lost on me the constant pressure that exists to try and come up with solutions to issues that satisfy everyone. While this is understandably not achievable too many times decisions are made that are in direct conflict with previous decisions, and that is what doesn't make much sense. So in this case the goal is to eradicate Brown Trout in order to help save the chub species that exists in the Colorado...why not the Rainbows and all other species as well? Why only the Browns? Browns, Rainbows, Cutthroat, Brookies, Smallmouth...and the list goes on, coexist with each other and many other species in many waterways throughout the Country...Please don't do this to this wonderful sport fish in what may be the most beautiful place on earth to enjoy them, PLEASE!!

407

Please leave the Browns in the water @ the Glenn Canyon Dam tailwater, the Colorado River below the dam to Lee's Ferry! I have been fishing that section, along with my children, for nearly 20 years! If the brown must go, because they aren't "Native", then using your logic, Glenn Canyon Dam should be removed also.

408

Thank you for providing this opportunity to comment on the Expanded Non-Native Aquatic Species Management Plan EA. I have carefully reviewed the scoping news letter for this proposal, and as an Arizona angler I am deeply opposed to the preferred alternative, Alt. B. As an employee of the USDA Forest Service, I do have an understanding of the ESA, and of the NPS's obligation to take proactive measures to ensure the survival and recovery of those TES under its jurisdiction.

My concern with the preferred alternative is that it does nothing to address the primary culprit responsible for the extirpation and decline of native aquatic species in the Colorado River within Grand Canyon NP and Glen Canyon NRA, which is the near complete transformation of this ecosystem by the construction of Glen Canyon Dam, and instead targets the non-native species that were introduced to populate this altered ecosystem and to provide for a recreational fishery. In other words, the primary reason that native aquatic species have suffered extinction and decline within this reach of the Colorado River is loss of habitat, not the introduction and proliferation of non-native species, and the preferred alternative does nothing to address this issue.

The intensive, long-term electro-fishing and removal of non-native Brown trout proposed in Alt. B. will have inevitable, unavoidable impacts on maintaining a quality Rainbow Trout fishery within the Lees Ferry reach of the Colorado River, contradicting the objectives of the CFMP and LTEMP to continue to provide for a quality Rainbow Trout fishery within this reach. These actions would have a direct economic impact on the local businesses that have built their reputations on, and pin their future viability to, the sustainability of a quality Rainbow Trout fishery within the Lees Ferry stretch of the Colorado River.

I am also concerned by what strikes me as a disingenuous premise within the preferred alternative that Brown Trout have the potential to adversely affect the quality Rainbow Trout fishery the proposed action aims to protect. Where is the science to back this up? I am not a biologist, but I am an angler, and my experience affirms that Brown and Rainbow Trout are perfectly capable of co-inhabiting riverine systems throughout the American West, freestones and tailwaters alike.

409

I would like to express my concern about the upcoming plan to remove brown trout from Lees Ferry. I do not see that enough research has been put into determine the greater affects of removing the brown trough via the proposed method will have on other species such as the rainbow trout as well as the surrounding ecosystem. Additionally, there are many who benefit, my family included from the fishing available at Lee's Ferry, and as a result of this proposed action, there is bound to be suffering from both the guides and public alike. It is for these

reasons, I strongly urge you to do further research before beginning any action on the brown trout removal.

410

I don't understand why you want to kill trout in a place where the humpback chubs don't even exist. The humpback chub live Downstream do all your killings down there. There's no reason to take jobs and Recreation away from people with no data to support the cause. It seems like this is the only solution because it's way cheaper than floating everything down Canyon to go kill. But that is ignorant. There's no reason to kill these fish. Set up a permanent base Downriver to protect the Chubbs and do all the stuff down there. Please leave the trout alone up stream.

411

Please accept these scoping comments on the Expanded Non-Native Aquatic Species Management Plan Environmental Assessment on behalf of Sierra Clubs Grand Canyon (Arizona) Chapter.

Sierra Club is a national nonprofit organization with 64 chapters and more than three million members and supporters nationwide, 60,000 of whom are part of the Grand Canyon Chapter. Sierra Clubs mission is to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earths ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. Sierra Club members have a strong interest in the operation of Glen Canyon Dam and its impacts on the health of the Colorado River and its wildlife. Many of our members recreate in Glen and Grand Canyons and have engaged in various processes over the years to ensure that the priority for Colorado River management is on a healthy native Colorado River Ecosystem (CRE). Our members enjoy hiking, backpacking, fishing, camping, wildlife viewing, rafting, and other activities on and along the Colorado River and its tributaries in Glen and Grand Canyons.

Half of the native fish have disappeared from the Colorado River in Grand Canyon and three more are in serious decline; otters and muskrats have disappeared too (1). We owe future generations a healthy Colorado River and should do what we need to do to restore it. We support the National Park Service (NPS) decision to eradicate non-native aquatic species, but cannot support a continuation of a piecemeal approach that ignores the best available science and the cumulative effects of disparate actions, focusing on treating problematic symptoms instead of taking a holistic approach to restoring the integrity and resilience of the river and its tributaries.

Legal Framework and Background

Every aspect of the CRE in the mainstem of the Colorado River between Glen Canyon Dam and Lake Mead is controlled by the upstream dam. The dam dictates sediment loads, water temperatures, flow fluctuations, and water quality, which combine to determine the quality and abundance of the food base, fish, sandbars and beaches, floodplain vegetation and wildlife, wilderness, and visitor experience. As a result, many native species are unable to thrive in the river corridor and depend on the tributaries for their survival. Non-native aquatic species in the river mainstem and the tributaries tax an ecosystem that is already severely depleted.

As a result of the way the Department of Interior (DOI) has managed the resource for 50 years, the ecological integrity of the CRE continues to decline. (2,3,4,5) At least 12, and up to 21, animal species have been extirpated from the Colorado River ecosystem since Glen Canyon Dam closed in 1963 (6), and riparian habitats are now dominated by non-native plant species. The lack of natural flows, the loss of 95% of the corridors sediment and nutrient base, decrease in dissolved oxygen, and the dramatically reduced steady water temperature have had a devastating impact on Grand Canyon's riverine ecosystem (7,8). Changes in all aspects of the natural flood regime threaten the survival of riparian and aquatic species: flow magnitude, frequency, duration, timing, and rate of change across hourly to century scales (9,10).

The effects of this problem were recognized decades ago, leading to an important mandate from Congress to mend the river ecosystem:

The Secretary shall operate Glen Canyon Dam& in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established, including, but not limited to natural and cultural resources and visitor use. (Grand Canyon Protection Act (GCPA) (1992), Section 1802(a))

The Secretary of the Department of Interior and the National Park Service (NPS) have the responsibility to conserve the scenery and the natural and historic objects and the wild life therein (National Park Service Organic Act of 1916 (16 U.S.C. Sec. 118f, 39 Stat 535). Further, the Endangered Species Act (Endangered Species Act of 1973 [Public Law 93205, 87 Stat. 884]) requires that:

Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action) is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available. (Sec. 7(2) [16 U.S.C. 1536])

The Redwoods Act of 1978 clarified the NPS mandate to emphasize that recreation should not be allowed to impair park resources:

Congress further reaffirms, declares, and directs that the promotion and regulation of the various areas of the National Park system& shall be consistent with and founded in the purpose established by the first section of the Act of August 25, 1916, to the common benefit of all the people of the United States. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directed and specifically provided by Congress. (16 U.S.C. 1a1, 6(b), Public

Law No. 95250, emphasis added)

Executive Order 13751 (2016) defines non-native species as with respect to a particular ecosystem, an organism, including its seeds, eggs, spores, or other biological material capable of propagating that species, that occurs outside of its natural range and directs relevant agency programs and authorities to:

(i) prevent the introduction, establishment, and spread of invasive species; (ii) detect and respond rapidly to eradicate or control populations of invasive species in a manner that is cost-effective and minimizes human, animal, plant, and environmental health risks; (iii) monitor invasive species populations accurately and reliably; (iv) provide for the restoration of native species, ecosystems, and other assets that have been impacted by invasive species; (v) conduct research on invasive species and develop and apply technologies to prevent their introduction, and provide for environmentally sound methods of eradication and control of invasive species; (vi) promote public education and action on invasive species, their pathways, and ways to address them, with an emphasis on prevention, and early detection and rapid response; (vii) assess and strengthen, as appropriate, policy and regulatory frameworks pertaining to the prevention, eradication, and control of invasive species and address regulatory gaps, inconsistencies, and conflicts; (viii) coordinate with and complement similar efforts of States, territories, federally recognized American Indian tribes, Alaska Native Corporations, Native Hawaiians, local governments, nongovernmental organizations, and the private sector; and (ix) in consultation with the Department of State and with other agencies as appropriate, coordinate with foreign governments to prevent the movement and minimize the impacts of invasive species; and

(3) refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species in the United States unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

Executive Order 13751 does not distinguish between desirable and undesirable non-native species; it applies to all non-native species equally.

NPS Management Policies (2006, Section 4.4.4.2, Removal of Exotic Species Already Present) call for exotic species to be managed - up to and including eradication - if (1) control is prudent and feasible, and (2) the exotic species interferes with natural processes and the perpetuation of natural features, native species or natural habitats.

Relevant History

The purpose of this action is to provide additional tools beyond what is available under the Comprehensive Fish Management Plan (CFMP) and Long-Term Experimental and Management Plan (LTEMP) 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. (11) NPS has engaged in various Colorado River-related planning processes during the past decade, and Sierra Club has participated in several of these processes. Unfortunately, NPS planning has proceeded in a fractured manner that ignores the cumulative and connected impacts of its different actions and plans.

NPS has also consistently ignored the best available science on flow management to restore and protect riverine ecosystems, despite Sierra Clubs repeatedly identifying the scientific research. Unfortunately, NPS now seems to be dealing with the consequences of ignoring this science - yet, by refusing to consider flow management actions, it is resigning to years more without experimenting to see if methods that have worked elsewhere could improve the Colorado River below Glen Canyon Dam. These future years of inaction could cause more damage to the CRE, and some of it could be irreversible.

During our previous engagement in Colorado River planning processes, we have repeatedly encouraged NPS to holistically address the health of the river, creating a resilient CRE, and asked that NPS design High Flow Experiments (HFEs) and other types of flow experiments to mimic a historic hydrograph to the greatest extent possible. In the 2006 Colorado River Management Plan, NPS chose to focus exclusively on visitor use management, resulting in a missed opportunity to comprehensively identify Colorado River resources at risk, and to identify and prioritize future actions to protect and restore the CRE. In 2011 and 2012, NPS simultaneously developed the High Flow Experiment (HFE) Protocol and Non-native Fish Control Environmental Assessments. Again, in our comments on these two EAs, Sierra Club advocated for a holistic treatment of the river, arguing that the HFE could impact the success of non-native fish control:

While non-native fish control may not depend on the HFE DEA, the HFE DEA proposes an action that can cause harm if not simultaneous with non-native fish control.

The DEA goes on to say, Reclamation does address the cumulative effects from both actions in the affected environmental section of each EA&. Reclamation has not concluded that the actions have 'cumulatively significant impacts. We disagree. If an HFE increases non-native fish populations and non-native fish control efforts dont proceed in a timely manner following the HFE, endangered native fish will be harmed. Even Reclamation admits to this in the HFE DEA: the actions proposed in these EAs may affect each other (HFE DEA, p. 12). (12) and:

Floods affect fish populations. If, for example, an HFE increases non-native fish populations and non-native fish control efforts dont proceed in a timely manner following the HFE, endangered native fish can be harmed. Even Reclamation admits to this: the actions proposed in these EAs may affect each other (HFE DEA, p. 12). Also, why would the DEA discuss changes in bag limits for trout below Glen Canyon Dam under ongoing activities that may influence, relate to, or affect the proposed action if non-native fish control is not connected, cumulative, similar, or causing cumulatively significant impacts (HFE DEA, pp. 12, 14)? Reclamation acknowledges the following:

First, the trout control efforts may involve flow-based actions. Any flow-based action will need to be analyzed to determine if it will affect sediment transport as assessed in this EA. Second,

HFEs that could result from this HFE [National Environmental Policy Act (NEPA)] process have the possibility to increase trout numbers. Any needed measures to manage increases in trout numbers will be conducted through the nonnative fish EA. As each EA proceeds, the pertinent analyses will draw from one another. (HFE DEA, p. 23) (13)

In these ways, we encouraged NPS to create one plan to look at flow management together with native and non-native species management. NPS has refused, pulling apart the Colorado River to separately manage the water, sediment, recreation, and biological resources.

Later, in Sierra Clubs LTEMP comments, we advocated for the health of the CRE to be prioritized above all else, insisting that LTEMP must aim to restore the full suite of species in the Colorado River in Grand Canyon that existed before construction of Glen Canyon Dam. (14) Instead of applying best available science to actually improve the CRE, NPS and the Bureau of Reclamation (BOR) chose to develop a plan that would merely minimize-consistent with law-adverse impacts on the downstream natural, recreational, and cultural resources. (15)

In all these cases, we asked that NPS design flow experiments to mimic a historic hydrograph to the greatest extent possible. When commenting on the Draft Environmental Assessment for Non-Native Fish Control Downstream from Glen Canyon Dam, we asked that the EIS might better satisfy the need to fulfill biological objectives [via] alternative flow regimes that more closely mimic the historic Colorado River hydrograph. (16)

In our comments on the Draft Environmental Assessment (DEA) for the Development and Implementation of a Protocol for High-Flow Experimental Releases from Glen Canyon Dam, Arizona, 2011 through 2020, we offered several suggestions for ways that NPS could create an ecological flow regime to benefit the CRE, including:

Timing flows to accommodate one or more native species often benefits a suite of natives, as was seen on the Truckee River, where flows promoting native fish restored native vegetation (Rood et al. 2003). A similar phenomenon can be observed along the San Juan River, where flows to promote native fish have encouraged dense willow recruitment along banks. & November floods are not part of the natural hydrograph of the Colorado River& A loss of food base at Lees Ferry is considered to be a potential negative effect of a fall HFE& The largest magnitude and duration HFEs are shown to be most effective. This indicates that flows larger than the 4-day HFEs proposed here would be even better at conserving the resources of Grand Canyon National Park& Basing flood timing on rapid response to the Paria alone may lead to a Colorado River hydrology that benefits sandbars but harms native organisms. Many desert organisms respond to triggers that cue them to escape or find shelter before floods (Lytle and White 2007). Others, such as seed-bearing plants, may rely on properly timed floods for reproduction. Relying solely on sediment inputs from a stream with hydrology that deviates from the natural Colorado River hydrograph may do more harm than good. (17)

Our LTEMP comments focused largely on expanding the ecological flow model, and we asked DOI to consider an alternative based on a historical hydrograph. DOI neglected to consider our scoping comments on LTEMP and the alternative proposal was ignored:

LTEMP must attempt to improve habitats, as has been managed on other dammed rivers in the Southwest. (18,19,20,21) Instead of starting from scratch or beginning with power consumption trends, DOI can begin by attempting to recreate the shape of the historic hydrograph determined by Topping et al. (22). Historically, while flow varied from year to year, water levels generally increased until June, followed by a gradual ramp down to a lower level between September and February. (23) Not only will this mimic the historic hydrograph, it could help support algae production in this food-base challenged river (24). Sometimes the historic flow would spike again in response to late summer monsoons, but that peak was generally lower than the summer peak, and happened more infrequently. (25) Large daily fluctuations almost never historically occurred and the dramatic flow step-downs and step-ups in the typical post-Glen Canyon Dam hydrograph were nonexistent. (26)

DOI must look at the components of the hydrograph and analyze each component for its ecological effects. In other words, think about the species that need protection and restoration and determine what flow manipulations would benefit them. For example, instead of surrendering to losing vegetation under all alternatives, DOI should employ the well-established science of maintaining ecological flows and managing dams for aquatic and floodplain resources. (27,28,29,30,31) &

We propose a historically based hydrograph alternative that attempts to restore hydrological functions instead of just taking pieces of the historic hydrograph out of context. In particular, we understand that no experimental flows have been considered for vegetation objectives. The following guidelines should benefit vegetation and other riparian and aquatic resources if attention is placed on flow magnitude, frequency, duration, timing, and rate of change. (32,33)

The hydrograph should aim for a similar shape (though at a smaller scale) to Figure 23 in Topping et al. 2003. (34)...

The HFEs should spread the high flows across several days and spring/summer HFEs should ramp down slowly, according to the recruitment box model. (35) (36)

Now, just a year after NPS and BOR locked themselves into a dam management plan that ignored the science on ecological flow regimes, NPS is assessing a suite of management actions to work in a patchwork manner to fix symptoms that are likely caused by poor flow management choices - and once again NPS refuses to even consider operating the dam for a different flow regime.

NPS must consider flow alterations as part of this plan

NPS is preparing a whitepaper on the brown trout situation below Glen Canyon Dam; Brown Trout below Glen Canyon Dam: A Preliminary Analysis of Risks and Options is not yet complete, but has been made available as a Final Pre-Workshop Version dated September 21, 2017. (37) NPS should have allowed all stakeholders to see the final version of the brown trout whitepaper before the scoping comment deadline on this plan, so the best available science and knowledge could be transparent and useable by every interested person and organization. The

whitepaper contains the best collection of information on brown trout in Grand Canyon that is available. And NPS intends to ignore it in the Expanded Non-Native Aquatic Species Management Plan Environmental Assessment.

Out of seven possible hypotheses for brown trout increases, The fall HFE hypothesis (H1) ranked consistently high in each of the four weighting exercises (eight of a possible ten 1st place ranks), and this hypothesis also had the largest weight& the fall HFE hypothesis was more than double the next closest hypotheses& only one hypothesis - fall HFEs- was weighted considerably higher than all others. (38)

From the whitepaper:

The timing of HFEs is potentially an effective tool for the management of brown trout populations. Brown trout populations have been shown to be sensitive to hydrology, with extremes in discharge (both floods and droughts) often inhibiting recruitment, even to the point of population collapses (Lob n-Cervi , 2009). This vulnerability of recruiting classes is short in duration, and is restricted to the period immediately prior to and surrounding emergence, when young fish are searching out territories and feeding positions (Cattan o and others, 2002; Cattan o and others, 2003; Lob n-Cervi , 2009). Conversely, age-1 and older cohorts are resistant to high-mortality associated with floods (Jensen and Johnsen, 1999). Such is the influence of hydrology on early life-stages that the ability of both rainbow trout (Fausch and others, 2001) and brown trout (Wood and Budy, 2009) to successfully invade and persist in streams is correlated with a low probability of floods overlapping with emergence, a period bounded for each species by differential spawning seasonality and water temperature during incubation. An increase in winter floods projected with warmer, rainier winters in a changing climate may specifically disadvantage brown trout in certain systems where they are presently successful (Wenger and others, 2011). It is hypothesized that fall-timed HFEs cleanse spawning gravels immediately prior to brown trout spawning thereby improving egg survival and recruitment. Fall-timed HFEs may cue migration of ripe brown trout into Glen Canyon thereby augmenting the number of spawners. Suspending or moving HFEs to spring would alter these seasonal outcomes, possibly disadvantaging brown trout and favoring rainbow trout. It is also a potential that spring HFEs could leave emerging brown trout vulnerable to predation and other threats. (39) (emphasis added)

Spring HFEs may also disadvantage brown trout and favor rainbow trout through shifts in the food base. For example, the 2008 spring HFE reduced the abundance of scuds (*Gammarus lacustris*) (Cross and others, 2011), an aquatic amphipod that may promote growth and survival of brown trout. (40)

Annual spring HFEs are potentially an effective tool for the management of brown trout populations. (41)

In other words, not only are fall HFEs potentially contributing to the problem, spring HFEs might be a solution.

Trout Management Flows (TMFs) might target brown trout, but their timing also needs to be

changed: Brown trout TMFs would target either young-of-year in February through April or target spawning to dry out redds in December or January. (42) This is not the same timing that was planned in LTEMP for rainbow trout control, but LTEMP allows flexibility in timing TMFs and NPS should experiment with TMFs during the February through April timeframe.

Flow modifications would be a more efficient and productive use of resources, with a more far reaching impact on the problem than the isolated mechanical or chemical controls that are proposed in this plan. Scientific research, experimentation in other river systems, and the expert scientific opinion presented in the whitepaper all agree that flow modifications provide the best potential solution on the largest scale. Complementing flow modifications, smaller scale experiments could be used such as mechanical control of mature brown trout, chemical control in confined areas, etc., but only flow modifications can treat the entire river corridor.

Whatever needs to be done should be done to amend LTEMP so that it actually meets its objectives, before more damage to the CRE occurs. Fall high flows are likely exacerbating the brown trout problem, and NPS is missing an important opportunity to bring the CRE back into a healthy state by deferring spring HFES until 2020 to comply with the flawed LTEMP.

Above all, a healthy, resilient CRE should be top priority, and all efforts should be made to manage the river for its native ecosystem.

Brown trout pose a threat to native fish and should be managed appropriately

Non-native trout predation poses one of the greatest dangers to native fish such as humpback chub. (43) Brown trout diets are more dependent on piscivory than rainbow trout, and they are more tolerant to higher temperatures and foraging in low light conditions, making them an increased threat on endangered species that thrive in tributary streams. (44,45) Therefore, controlling brown and rainbow trout in the Colorado River through Grand Canyon is an integral part of the 2002 Humpback Chub Recovery Goals. (46)

We are supportive of electrofishing being conducted in the Glen Canyon reach or close to the boundary of Glen Canyon National Recreation Area and Grand Canyon National Park for three reasons. First, the control method(s) should focus on the location where brown trout are proliferating, and treat the source of the issue. Second, we should not allow the trout to reside in close approximation to an endangered species before we try to remove them. Third, the backcountry of Grand Canyon National Park is a Proposed Wilderness, and backcountry users work extremely hard to seek solitude that should be protected to the greatest extent possible. Lees Ferry is already a developed area with a lot of motorized activity, and people expect NPS and concession activities to be occurring there.

As we suggested in our comments on the Draft Environmental Assessment for Non-Native Fish Control Downstream from Glen Canyon Dam:

Electrofishing upstream of Lees Ferry should also be considered, rather than waiting for fish to emigrate downstream, since electrofishing in Glen Canyon National Recreation Area would have less impact on the wilderness values of Grand Canyon National Park, and might be more

effective at removing trout. (47)

This plan should NOT include new non-native fish introductions

This project, which aims to reduce the threats from non-native aquatic species, includes a proposal to introduce YY male brown trout or other non-native species to reduce breeding success&[or] move local non-native common carp to the upper slough to overwhelm non-natives. (48)

YY trout would still consume non-native fish, and could establish populations (even if they are not reproducing) from fish that emigrate downstream from Lees Ferry to areas not visited by anglers. Therefore NPS should not investigate implementing any kind of new trout stocking program. Increasing the abundance of warm water-tolerant carp below Glen Canyon Dam could cause other negative impacts on warm water tolerant native fishes in tributaries.

Introducing more non-native species would also run counter to Grand Canyon National Parks fisheries management goal of Prevent further introductions of non-native (exotic) aquatic species, and remove, when possible, or otherwise contain, individuals or populations of non-native species already established in GCNP and Glen Canyon National Recreation Areas long-term (20-year) fisheries management goal of Prevent further introductions of non-native (exotic) species. (49)

Use native fish to build resilience into the CRE

Colorado pikeminnow were once a top predator in the Colorado River. These iconic fish can live up to 40 years and grow up to 6 feet long. Colorado pikeminnow once migrated throughout the watershed but have been completely extirpated from Grand Canyon. They have been successfully reintroduced to the Verde River, demonstrating their potential for survival if re-released in Grand Canyon.

Grand Canyon National Parks fisheries management goals include Restore self-sustaining populations of extirpated fish species including Colorado pikeminnow. (50) The 2013 Comprehensive Fisheries Management Plan also prioritizes the Colorado pikeminnow for its own reintroduction feasibility study. (51) The current project should build upon previous goals and work toward creating a resilient CRE by re-introducing the native extirpated Colorado pikeminnow as a non-native fish control.

We are very supportive of using Colorado pikeminnow or humpback chub as predators of and competitors with green sunfish in the upper slough at RM-12. (52) Increasing the abundance and distribution of native fish will also help boost the resilience of the CRE and benefit these endangered species.

NPS should keep this option in the Expanded Non-Native Aquatic Species Management Plan.

Turbidity change should be an option for mechanical treatment

The Colorado River was rich in sediment prior to the closure of Glen Canyon Dam, and its tributaries are prone to flash flood events that move large amounts of sediment in episodic events. Native fish are well adapted to these high sediment lodes, and increasing turbidity could disadvantage non-native species. The option of increasing turbidity in isolated locations should be considered.

Shinumo Creek should be targeted for non-native control efforts

Shinumo Creeks topography, with a natural barrier to aquatic species migration, makes it an optimal location for creating a fully native ecosystem. We are supportive of chemical treatments and the restoration of a native suite of species in Shinumo Creek.

New Zealand mudsnails should be added to the list of target species

New Zealand mudsnails are not included in the list of Potentially Harmful Non-Native Aquatic Species. (53) New Zealand mudsnails were discovered below Glen Canyon Dam in 2002 and now reach 225 miles down river from the dam. (54)

Consider boat checks at Lees Ferry

Several nearby boating recreation areas are sources for aquatic non-natives such as quagga mussels. Many boat launches are promoting campaigns to prevent transport of aquatic hitchhikers such as Clean - Drain - Dry. However, these campaigns have not been enough to prevent the movement of harmful aquatic non-natives between recreation areas. Lees Ferry is the launch point for one of the most prized natural areas in the country - Grand Canyon National Park. As such, boats launching from Lees Ferry should be checked for aquatic non-natives, just as they are at other recreation areas, including Lake Powell within Glen Canyon National Recreation Area.

Thank you for considering our input on the Expanded Non-Native Aquatic Species Management Plan Environmental Assessment. We hope you will prioritize the protection of a healthy resilient natural ecosystem above all other concerns when creating this plan. Part of the purpose of this project is to minimize or eliminate the risk associated with [non-native species] presence or expansion, in the action area. (55) In order to be successful in this endeavor, NPS must address the needs of the native Colorado River ecosystem. We hope the final plan will do just that.

Please keep us informed of the status of this project and contact us with any questions you may have about our comments. Citations

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These are Personal Comments on the Proposed National Park Service "Expanded Non-Native Aquatic Species Management EA". These comments are based on several years experience on the GCDAMP Technical Work Group as a Recreational Fishing Representative / Alternate, on detailed and extensive participation in the development of 2 cycles of the GCMRC Triennial Work Plan and Budget, and on actual participation in the development of the LTEMP Operating Plan for Glen Canyon Dam. They are further informed by an extensive bio-technical and engineering background, and training in and application of structured problem solving and decision making procedures. That background has been specifically applied to the Fishery Management Issues in and around The Lees Ferry Rainbow Trout Fishery and its management over several years.

1. The "Purpose and Need" statements presented to the public in the Parks Newsletter Format and in the one Webinar and three Public Meetings with their limited handout materials conducted in November and December 2017 do Not adequately explain and provide background for the Tentative Alternatives and the proposed component actions identified. They appear to be structured to provide NPS unilateral authority to act without demonstrating actual negative

effects of existing conditions and trends on the Colorado River ecosystem aquatic species or on quantified beneficial results to those species, either native or non-native, from those actions.

2. This EA and any further development of Alternatives and impact analysis of those alternatives based on the described "Actions" should NOT proceed until the full reporting of the September 2017 "Brown Trout Workshop" conducted by the NPS, GCMRC and the AZGFD is completed and made available to the public. That workshop was convened expressly to identify potential Root Causes of any Brown Trout population changes in the Colorado River system, and potential mechanisms that might influence those causes.

3. The most worrisome of these NPS proposed "Actions", the extensive and intensive electroshocking and supposedly selective mechanical removal of Brown Trout in the Lees Ferry Reach, does not appear to have a sound scientific rationale, will not have a beneficial result in limiting BRT populations, has not been demonstrated to be effective in any mainstem river system similar to the Colorado, and will have an unacceptable impact on Rainbow Trout populations and on the RBT Fishery.

4. The Arizona Game and Fish Department has the management responsibility, authority and capabilities for the Lees Ferry Fishery. They have provided a Lees Ferry Fisheries Management Plan (September 2015) which I believe should be followed and with which any NPS actions should be in compliance.

5. No ESA listed species (Humpback Chub (HBC), Colorado Pikeminnow (CPM), or any other) should be utilized, placed, translocated or stocked in any section of the Lees Ferry / Glen Canyon / Marble Canyon reaches of the Colorado River for the supposed purpose of controlling non-native species in those reaches. Such actions would not only expose those native species to unnecessary risk, but indeed raises the question of their actual status as ESA listed species if their populations are sufficient for such uses. Nor should this approach be utilized as a rationale for further control or elimination of populations of rainbow trout should those native species become established in those sections where they have not occurred since the establishment of Glen Canyon Dam.

6. The NPS should be fully supportive of monitoring and research to understand the biologic, chemical, physical and hydrologic effects and conditions of Glen Canyon Dam Operations and of the effects of Lake Powell "Water Quality" conditions upon the broad ecosystems of the Glen Canyon and Marble Canyon reaches. Likewise, the NPS should support and not continue to hinder scientifically proposed remedies and mitigative actions to adverse impacts of those conditions on valued resources, including the Rainbow Trout Fishery, within those reaches.

7. Finally, it is unlikely the inadequacies and shortcomings of the Long Term Experimental and Management Plan (LTEMP), developed by a co-lead approach with National Parks Service and the Bureau of Reclamation, can be fully compensated for by any single service NEPA activities. Those will likely require actions involving Dam Operations, and so those operations should be considered as an integral part of this process, in the spirit of adaptive management. Those considerations would thus require a more extensive EIS level NEPA process fully involving BOR, rather than a piecemeal approach.

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Please reconsider the plan for removal of brown trout from Lee's Ferry. As others have already eloquently detailed(namely Terry Gunn) of Lee's Ferry Anglers), this is a bad idea on multiple levels. Decisions such as these should be based on sound scientific research and data. Regarding brown trout eradication to maintain healthy fish populations, such information does not exist.

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As an American outdoorsman and fly caster, I object to your proposed plan of implementing electrofishing mechanical removal of brown trout in Lees Ferry/Glen Canyon. This plan will devastate the entire trout population and will cause extreme hardships on fishermen like myself as well as the local people who depend on me coming to fish and spending some bucks. It seems silly to go to this extreme means just to "control" 2 to 3 percent of the total trout population, and in doing so destroying the other species of fish living in those waters - what is the NPS thinking? Apparently your plan does not consider the effects on local people and/or their businesses, nor does your plan take into consideration the thoughts and feelings of the Native American Indians, much less those with considerably more fish expertise such as Trout Unlimited, and Arizona Fish & Game. Therefore, I can only surmise that common sense had little, if any, input to the plan to employ electrofishing mechanical removal of brown trout at Lees Ferry area and I oppose using this method.

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Lees Ferry has existed with the native fish downstream for over 40 years. When they began the first EIS back in 1990 the Chub were struggling, Lees Ferry was rocking, today the chub are at full carrying capacity in the LC and the trout fishery is 30% of what it was back then. Controlling trout populations below Lees Ferry has been done repeatedly and at such time its needed again they can do it as many time as necessary to prevent a population of trout growing into a problem. Although maintaining both resources is possible an would serve to please most all of us, it is unacceptable to the Park Service who is controlled by extremists who are of the doctrine that ONLY Native fish should be in any stream. It would be a shame to allow the far minded opinions of just a few to destroy a public fishery just to meet their self guided esoteric extremism.

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I am completely against the mechanical removal of brown trout in the Lee's Fairy fishery.

417

Please do not take the brown trout out of Lees Ferry.

418

Thank you for the opportunity to act as a cooperating agency, and provide comments on the scoping information regarding your Expanded Non-native Aquatic Species Management plan in Glen Canyon National Recreation Area and Grand Canyon National Park Below Glen Canyon Dam. The material you provided serves as early general information and description of the alternative actions that will be analyzed in your upcoming Environmental Assessment (EA), consistent with the requirements of the National Environmental Protection Act (NEPA). Additionally, this information acts as an outline for the Biological Assessment (BA) that will be part of the materials needed for consultation with the U.S. Fish and Wildlife Service (Service), consistent with the requirements of section 7 of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 et seq.). We expect more information about the proposed actions will be provided in the EA, which will appropriately contain greater detail and a more robust analysis. We appreciate that the staff from NPS have worked diligently to include Service staff in

the scoping and planning process for this proposed action. After reviewing the scoping material you provided and multiple meeting among staff, we offer the following comments for your consideration. The EA would benefit from detailed information to clarify action ownership. As the document and action owner, it should be specified what actions will be taken by NPS as opposed to other agencies' actions. As it reads now, it appears there is some overlap with Bureau of Reclamation and Arizona Game and Fish Department actions. Understanding the relationship of among these actions and the expectation of what is proposed in this action will be important for later analyses and coordination. Please detail these relationships and expectations.

Given the sensitivity to some of the management actions outlined, more detailed information is needed in the "elements common to all alternative" section. Detail regarding decision making processes, action triggers, action sequencing, off-ramping and mitigation actions are imperative elements of the action, and will help inform determinations of effect to multiple resources, including possible impacts to ESA species.

Detailed information is needed for all proposed control methods, which would be more appropriately handled in an EA. Additionally, we suggest additional monitoring be included in this action; including the outcome of non-native removal efforts and any expected impacts to ESA species.

We encourage defining actions that have short-term (mechanical removal) versus long-term (biological controls) results. Please consider including actions that may have longer-term benefit to your management efforts and resources, even though these activities may take longer to take effect. Including long-term actions in all of the alternatives may be most important for sustainable management. For example;

- o Mechanical removal will have varying success outcomes depending on; method details, location, population size and amount of effort. More information regarding this method should be analyzed during this current planning effort. We are supportive of mechanical removal if conditions warrant the necessity for such an action. Detailing under what conditions this method will be used is important for analysis of impacts and creating success criteria.
- o Although in the experimental phase, the use of yy males to skew sex ratios may show to have long-term management efficiency's but may take longer to complete than other actions such as mechanical removal. Because of the possible benefit of this method we suggest examining this in greater detail and consider it for inclusion under the final preferred alternative and proposed action.
- o Consideration of other long-term management options, such as the introduction of native (and sometimes ESA listed) species to prey on larval life stages of nonnatives is encouraging. We would suggest including this method for other deleterious nonnative fishes, not just brown trout.

In earlier coordination, introducing species such as bacteria, viruses, etc was proposed. If future proposed actions include these methods please note that a lot more detail will be need to analyze its possible outcome. Introduction of bacteria, viruses, etc. could be a concern because we may not fully understand how they will react in the environment or how capable we are in controlling the organisms or their impacts. We have a long history of examples, including the introduction of tamarisk beetles, where positive meaning introductions of non-natives have resulted in

unexpected and deleterious results to resources. The analysis would need to be incredibly detailed, since these methods overall have shown dramatic consequences that are often difficult to predict accurately. We reiterate our appreciation in having our comments considered for this action, and look forward to continued coordination regarding this effort.

419

I meant Alternative B. Thanks for catching that.

Thank you for this opportunity to provide scoping comments for the development of the National Park Service's Expanded Non-native Aquatic Species Management Plan and Environmental Assessment. Since 1919, the nonpartisan National Parks Conservation Association has been the leading voice in safeguarding our national parks. NPCA and its 1.3 million members and supporters work together to protect and preserve our nation's most iconic and inspirational places for future generations. We serve as representatives of the conservation community on the Glen Canyon Dam's Adaptive Management Program's advisory group.

This reach of the river has the healthiest population of native fish found anywhere on the Colorado River. Yet is vulnerable to horrific impacts should non-native aquatic species that have caused so much damage elsewhere enter this region.

It is only through planning and taking decisive action when non-native threats occur, combined with pro-active work to prevent the conditions that lead to non-native aquatic species coming in, that we will manage to maintain this healthy population.

The tools and techniques listed in Alternative A [alternative B - see Email] in the scoping newsletter should be carefully reviewed during the EA process, and unless found to have some unavoidable negative impact that would occur in every instance, should remain part of the toolbox available to Park Service managers. To effectively use adaptive management to protect the resources of Grand Canyon National Park and Glen Canyon National Recreation Area, we need to keep thinking outside the box and testing new techniques and strategies to deal with the threat of non-native species invasion. Scoping is not the time to drop any potential tool - the full suite of strategies should be evaluated during the EA process. For instance, while some stakeholders might insist that mechanical removal be dropped for consideration at this time, to do so is against the NEPA process and pre-decisional; it is critical to evaluate and do the analysis.

We would expect that the adaptive management process will allow the Park Service to develop a set of triggers - measurements that would dictate when specific tools would be employed. Ideally, the management plan will help provide a good set of tools that will be continually evaluated based on good monitoring. Again, we appreciate the opportunity to comment at this early stage, and look forward to reviewing the draft Environmental Assessment when it is available later this year.

420

I read your recent proposal to expand your non-native fish control plan for the Colorado R. below the Glen Canyon dam. I would like to object for three important reasons.

1). This is a waste of taxpayers' money. You cannot restore river conditions to where they were

before the Glen Canyon Dam was built. What was once a warm water river has become a cold water river with a totally different ecosystem. Trout and certain other species thrive in cold water. The humpback chub and suckers thrive in warmer water which I suspect is the major reason for their loss of numbers. Doing all the proposed suggestions will cost the taxpayers lots of money and will never completely correct this.

2). You will continue to destroy a local economy. Trout fishing in the upper Colorado R below the dam was very beneficial to the local economy around Page, AZ. Multiple motels, restaurants, fishing guides, outfitters, etc. will continue to be put out of business. Brown trout are a desirable fish to sportsmen. Removing them will hurt the local economy even more.

3). You are and will continue to destroy a popular recreation (fishing) that many people in AZ and from many other states enjoy. I, myself, have basically quit fishing in Marble Canyon/Lee's Ferry area due to the lack of fish (thanks to your measures to inhibit trout habitat). Let's not make it worse.

Building the Glen Canyon dam certainly changed things - some for the better (generating electricity), some for the worse (losing the humpback chub which most people have never seen and which has no economic value). But it's (the dam) there so let's accept it. If things are left alone, the humpback chub will still live but just further downstream where the water is warmer. The trout will do well in the upper river where the water is cold and will only go downriver so far

until the water gets too warm for them. Things will readjust and it will: 1) save a lot of taxpayer money, 2) help the local economy, and 3) provide a beautiful recreation area for anglers.

421

As co-presidents of the Payson Flycasters' Club, one of two of Northern Arizona's largest fly fishing clubs and one of the closest to Lee's Ferry, we are writing to express the great concern of our over 70 members and regular participants over the National Park Service (NPS) plan regarding the Environmental Assessment (EA) for an Expanded Non-native Aquatic Species Management Plan and the severe impact we believe it will have on the blue-ribbon trout fishery in Lees Ferry.

We understand the desire to protect endangered species in the river, but the efforts outlined in the plan for Lees Ferry are short-sighted in that they do not address the root causes of the problem. And, they may create a much larger threat to the very endangered species you are trying to protect. The proposal to utilize long-term, intensive, and repeated electroshocking as the primary tool to address the minimal number of brown trout currently in that reach will devastate the rainbow trout fishery. The extent of electroshocking that would be needed to acquire such a small percentage of brown trout in a comparatively overwhelmingly dense population of rainbow trout will mean that the rainbow trout will endure repeated electroshocking as well. This will result in great mortality to a population that has been designated as a protected population in this blue-ribbon fishery. In addition, these electroshocking efforts will inhibit the feeding habits of the surviving rainbow trout for extended periods of time and severely impact the catch rates of fishermen. This will create a long-term economic hardship for the residents and businesses that depend on fishermen coming to Lees Ferry from all over the country.

This EA seems an attack on this blue-ribbon trout fishery rather than addressing the root causes to the problem. We understand that there was a Brown Trout Workshop in Phoenix in September 2017 that noted several possible solutions that would address likely root causes to any brown

trout increase in the river. There is no evidence in the EA that the results of this workshop are referenced, and any of the potential solutions suggested there are being considered. There is also no evidence in the EA that brown trout downstream in Marble Canyon, the Little Colorado River (LCR) confluence or below the confluence are being targeted in this EA. Since the humpback chub and razorback sucker populations are largely 61 river miles downstream in the LCR area, it is unacceptable that the Lees Ferry area is the thrust of the NPS removal efforts instead of where they potentially could harm the endangered species.

We are also concerned about the biological proposals for green sunfish eradication in the sloughs. The plan to place humpback chubs in the sloughs as a management tool is wrong on at least two fronts. The concern over green sunfish is that they will pose a threat on humpback chubs downstream, yet you are suggesting placing them in direct contact with one another in the sloughs. Any escapement of humpback chubs in the Lees Ferry reach will potentially cause additional restrictions for any future removal plans that you may have for future invasive species that come down through Glen Canyon Dam.

Reintroducing the pikeminnow to the river environment in the sloughs is a scary prospect. This predatory fish, that has historically been known to attain lengths of six feet if reestablished in the river by any slight mismanagement in the sloughs would wreak havoc with the rainbow trout fishery as they have done in the Northwest on returning baby salmon below dams. After destroying the Lees Ferry fishery, the pikeminnows would undoubtedly seek out humpback chubs and razorback suckers at the LCR where they will find even more conducive water for their species.

It also appears that this EA disregards Secretary Orders 3347 and 3356. Intensive, repeated electro shocking in this blue-ribbon trout fishery will severely impact this designated blue-ribbon trout fishery which is in direct conflict with those orders.

Finally, there is no evidence of cooperation in the EA with other agencies in the creation of this plan. Meaningful, long-term solutions will require a great deal of cooperation with these other agencies. Currently the Arizona Game and Fish Department (AZGFD) has the ability to monitor and if needed, work on addressing the brown trout population in the Lees Ferry area. It is of our strong belief that you must engage and partner with the AZGFD in any efforts to manage the rainbow trout fishery at Lees Ferry.

422

Thank you for the opportunity to review the proposed scoping materials and alternatives for the Expanded Non-native Aquatic Species Management Plan Environmental Assessment (NNAS EA). Reclamation has provided technical comments for your consideration that we hope have assisted you. After reviewing the public scoping presentations, we would like to offer some comments about the proposed alternatives and the relationship between the proposed action and the existing compliance under the Endangered Species Act (ESA) and National Environmental Policy Act (NEPA), especially with regards to the Glen Canyon Long-Term Experimental and Management Plan Record of Decision (LTEMP ROD). In particular, we would like to request that the NNA EA clearly differentiate between Reclamation's compliance responsibilities under the 2016 LTEMP ROD and Biological Opinion or other Reclamation compliance requirements as compared with those management practices under the jurisdiction of the NPS in support of the

proposed NNAS EA.

As NPS prepares the draft EA, Reclamation would like to offer the following additional suggestions and clarifications:

We appreciate and support your efforts to put in place a management plan and NEPA compliance for non-native aquatics in the National Parks below Glen Canyon Dam.

We acknowledge the intent of the NPS EA is to improve the Colorado River ecosystem for native species, however, we have a concern that almost any action could have unintended consequences that may affect and complicate Reclamation's existing compliance.

The scoping materials describe many proposed management actions. Reclamation would like to see additional clarification regarding who has responsibility for which actions and clear delineation on any actions that are covered outside the scope of this EA.

Reclamation has several related actions ongoing below Glen Canyon Dam which are covered under existing NEPA and ESA compliance (e.g., Bright Angel Creek nonnative removal). We would like to request that these be incorporated only by reference in the NNAS EA and not reanalyzed as part of this EA.

Prior to the EA going final, Reclamation would like to engage the NPS to ensure there is a mutual understanding if NPS will be seeking funding under Reclamation programs. Any actions that seek Reclamation funding must be approved and agreed upon by Reclamation early in the decision-making process.

Reclamation would like to be engaged early on in any NPS actions that have the potential to affect Reclamation's existing compliance for endangered fish (e.g., introduction of YY rainbow trout could adversely affect downstream endangered fish populations Reclamation is trying to recover).

In order to ensure both Reclamation and NPS have sufficient ESA "take" coverage for ongoing and future actions, the NPS should obtain its own incidental take statement through a separate biological assessment and subsequent biological opinion.

Reclamation encourages NPS to include conservation measures for humpback chub and razorback sucker in the NNAS EA that will mitigate for potential unanticipated effects of proposed management actions.

Given the potential overlap for ESA compliance responsibilities of NPS and Reclamation, it would be beneficial for NPS to include Reclamation in the informal consultation with the Fish and Wildlife Service for the NNAS EA.

Reclamation is sensitive to the concerns of our tribal partners and we would like to ensure these are considered and addressed in the NNAS EA, especially those concerns regarding the taking of life in the canyons.

Upon selection of a preferred alternative, we recommend the NPS develop a scientifically-based implementation process. Thank you for your consideration of these suggestions and clarifications. Reclamation values our relationship with the NPS and we look forward to working with you on the NNAS EA.

423

As president of the Desert Flycasters' Club representing our 200 members I am writing to urge you to reconsider your Brown Trout mechanical removal plan in the Lees Ferry reach of the Colorado River. We feel this effort is ill-conceived and poses a grave threat to Arizona's only

designated blue ribbon rainbow trout river. The impact of long-term, intensive, and repeated electroshocking on this protected rainbow trout fishery would potentially result in the death of countless rainbow trout. In addition, the weeks long effort that could occur multiple times throughout the year would very likely inhibit any surviving rainbow trout from regular feeding. This could result in the reduction of health of the remaining rainbow trout, unprecedented low fish takes by fishermen, and lead to the destruction of the economy in the area that has become dependent on fishermen traveling to this world class fishery from across the country.

The science does not support use of electroshocking in large river systems as an effective tool in controlling trout populations. We are concerned that in your pursuit of this EA that you have decided to move forward without the benefit of the best and most recent scientific advice from the Brown Trout Workshop that was held in September, 2017. There appear to be more effective solutions presented in that workshop that could likely result in long-term control of brown trout increases since those proposed measures seek to attack the root causes of the problem rather than seek temporary reductions in brown trout numbers. This would require you to act in collaboration with the many other agencies that have a stake in dam operations and the management of the river system. We specifically urge you to collaborate with Arizona Game and Fish Department which seems has been excluded from this process. They have created a Lees Ferry Fisheries Management Plan (2015) which we believe specifies a clear and rational approach to managing this fishery. Our club members understand and appreciate the importance of protecting endangered species in the river system. These mechanical removal efforts on brown trout 61 river miles upstream from the Lower Colorado River (LCR) and the resident humpback chub in the LCR area make no sense, when there is no evidence that these brown trout are migrating down to the LCR confluence and posing a risk to the humpback chubs. We support efforts to manage brown trout in the LCR confluence area and Marble Canyon, but are strongly opposed to any mechanical removal efforts in the Lees Ferry area.

424

As you well know, the purpose of an Environmental Assessment (EA) in the NEPA process is to examine whether a proposed action is a major federal action requiring an EIS or is not and can be handled with a Finding of No Significant Impact (FONSI). Nothing in this EA scoping process to date focuses on that inquiry. Instead, the documents distributed focus on various fish control strategies without testing any of them against the controlling parameter. The LTEMP EIS ROD includes "trout flows", i.e., water releases intended to inhibit reproduction of German brown trout to protect yet another exotic species, the Belair strain of Rainbow trout currently occupying the area between Glen Canyon Dam and Lee Ferry. This element pervades all the alternatives. Yet your EA alternatives do not articulate the differences in impacts when combined with this tool. Nor in your analysis do you attempt to articulate what impacts of which alternative might vault it into a major federal action.

Additionally, you admit to proceeding without complete information on the German brown trout, leaving interested members of the public entitled to that information cut off from the very comment process NEPA and the CEQ Regulations require. Totally ignored is the threat to the area below the Dam from migration of Asian Carp from Cataract Canyon, which biologists tell us is inevitable. Finally, it has been brought to our attention that the Interagency Implementation Agreement necessary to effecting the new Glen Canyon Operating Criteria has not been finalized. In other words, you have an incomplete process structure not ready for analysis. These

factors and others render this process premature at best and fatally flawed at worst. NPS should hit the pause button until the essential elements necessary for analysis are in place.

425

Letter was entered by mistake. It is the Pueblo of Zuni letter of January 2, 2018 accepting the invitation to become a cooperating agency.

426

Although public comment has closed, please consider my remarks.

1. Repeated electroshocking would harm the rainbow trout that you want to protect.
2. It would adversely affect fishing in the immediate aftermath. People (some from pretty far away) arrange guides, flights, motel rooms, etc., months in advance for the opportunity to fish there. If their trip lands in the aftermath of a shocking, they are sunk. It would be bad for fishermen and women, guides, and local lodging.
3. Not one of the dam, 48-degree water, rainbow trout, or midge (chironomidae), scud (gammarus), and algae (used to be cladophora) environment is native to that reach of the Colorado.
4. I don't know the ratio of brown to rainbow trout. Guides could probably give you an estimate to within a few percent. I suspect the ratio is low. I don't fish there more than once or twice a year now, but I have fished it since 1980 and have never seen or caught one.
5. Other invasive species are far more of a problem- -Quagga mussels and perhaps zebra snails.
6. The aquatic environment has undergone change that has been reasonably benign to a different algae and perhaps different food base for the trout. The annals of biological intervention are full of unforeseen adverse effects.
7. A better solution might be to encourage removal of brown trout by excluding them from daily and possession limits and posting signs with the recommendation for removal.

In summary, the brown trout are not really a problem and no more foreign to that reach than rainbows; removing them would be harmful to the rainbow population, fishermen and women, guides, and local economy; and encouraging their removal by fishing could achieve nearly the same result as shocking. I'm a retired USGS hydrologist. I worked in Glen Canyon Environmental Studies from 1985 to 1996 (first experimental flood) in close cooperation (river trips and co-authorship) with NPS WRD, BOR, and other USGS hydrologists. One of our sandbar study sites was -6.5-mile, opposite the benchmark on the south bank. We would spend a month at a time on the river. Glen Canyon has a special place in my heart. I hope you do the best for it, which is don't intervene any more than absolutely necessary.

427

The attached EA scoping comments were electronically submitted and are supported by over fifty angling and hunting organizations, fishing guides, and Marble Canyon businesses. It is essential that there be a clear understanding by the Park Service EA team that electrofishing mechanical removal in the Glen Canyon National Recreation Area's Lees Ferry recreational trout fishery is unacceptable for the reasons presented in our scoping comments.

Time is of the essence. We need to know prior to the February AMWG meeting whether or not the Park Service intends to delete mechanical removal in Glen Canyon from all of the EA alternatives. Between then and now we would welcome discussion directed to addressing our reasons presented for deleting mechanical removal. The decision made at this stage to include mechanical removal can be unmade as easily as it was made, if the willingness is there.

Mechanical removal in Glen Canyon is a threat to the existence of the Lees Ferry recreational trout fishery. It is not an issue that can wait to work its way through the EA process but rather needs to be confronted at the earliest stage. The completed EA with its preferred alternative disclosure comment period will be little more than a "courtesy" notice of what the Park Service intends to do. At the initiation of the Brown Trout work shop senior Park Service management assured us that we were overreacting in our concern for the drastic and damaging brown trout control actions being proposed by Park Service staff for Lees Ferry. Regrettably those concerns are now validated.

GCDAMP recreational fishing has participated constructively and supportively in previous EAs and EISs impacting the Lees Ferry trout fishery. That avenue continues to be open. With the exception of mechanical removal in Glen Canyon the EA, with minor adjustments, is in a form that would be supported by the angling community and completed in a timely manner. From the beginning we cautioned that a brown trout related EA would be controversial and contentious. Mechanical removal in Lees Ferry crosses the line and its inclusion is a "poison pill" for the EA that leaves no choice for the angling community. Including mechanical removal will generate all out local and national angler opposition to the EA through whatever public, administrative, political, and legal means are available. It will be a long "painful" process that will be unpleasant for all of us.

It is in all of our interests for the EA to go forward promptly and in an acceptable form for the benefit of native fish. Absent countering the reasons presented, reluctance or resistance to deleting mechanical removal in Glen Canyon at this stage will be construed by anglers as an affirmation of intent by the Park Service, via the EA, to be empowered to detrimentally impact the Lees Ferry trout fishery.

We are greatly concerned whether this EA ends up a pleasing winner or an unpleasant conflict. May we have your acknowledgement the contents of the above email will be considered and responded to in a timely manner?

428

I was in attendance at the December 12th public scoping meeting at the Fish and Game office in Phoenix. appreciate your efforts to explain the issues and proposals that are being considered. The proposal appears to be entirely "voluntary" and supported as a "conservation recommendation" in the ESA consultation process. After careful consideration, here are my comments:

1. I think it is a noble NPS policy regarding putting forth efforts to help native species by taking actions that reduce the environmental pressures put on by introduced species in given habitats.

However, non-native species, once introduced, can almost never be eliminated. The best that can be expected is to hold these non-natives to a level judged to be better than the species numbers being non-checked. So, actions to reduce their numbers will have to be repeated and repeated and constructed items such as covers, pipes, pumps etc. will require continued maintenance and replacement after a period of time. So, theoretically there is no end to this program once it gets started. What is the long term price to taxpayers over the next 50 or 100 years? The long term federal costs are not limited to the NPS as there will likely be ESA Section 7 consultations, CWA Section 404 permits and other federally connected compliance. These types of programs by agencies add to our national debt that just keeps on getting bigger.

2. The NPS is proposing actions prior to the finalization of the brown trout study. This seems to be getting the cart in front of the horse.

3. The proposal to control brown trout by "long term intensive and repeated electrofishing" in the Glen Canyon National Recreation area would have devastating effects on the rainbow trout fishery. This year round fishery generates many tourism jobs in the Lee's Ferry area that would not otherwise exist. These employees and businesses provide important taxes and economic drive to the local communities. Simply put, the electrofishing proposal would result in a significant impact to the local economy in that rural area of Coconino County. I have fished at Lee's Ferry and consider it a great recreation destination that should be enhanced, not diminished.

4. The proposal to provide "fishing or take regulation changes" appears to have merit and not add to our national budget woes.

5. I support the "no-action" alternative. Thank you for allowing me to provide input in the important decision process

Note to Reader: The following letters were received in March 2018 after the close of the scoping period. The first letter is from Arizona State Representative Bob Thorpe to Department of Interior Secretary Ryan Zinke. The second letter was received by an individual and was sent to be considered as part of scoping. An additional 54 letters were sent to be considered as part of scoping as part of a campaign that used a letter with standard format and content. Thirteen of these letters had personal comments handwritten below the typeset text, and only these are included here.

429

BOB THORPE
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RIGHTS & PUBLIC POLICY,
CHAIRMAN
GOVERNMENT,
VICE-CHAIRMAN

DISTRICT 6

Arizona House of Representatives

Phoenix, Arizona 85007

2018 MAR 25 PM 12:19

OFFICE OF THE
EXECUTIVE SECRETARIAT

March 14, 2018

Secretary Ryan Zinke
Department of the Interior
1849 C Street, N.W.
Washington DC 20240
CC: National Park Service Deputy Director Dan Smith

Dear Secretary Zinke:

It is with a profound sense of urgency that I, along with my colleagues, write you regarding the National Park Service Expanded Non-Native Aquatic Species Management Plan at Glen Canyon National Recreation Area. This area, just outside of the Grand Canyon, is commonly referred to as "Lees Ferry", which is a blue-ribbon trout fishery below Glen Canyon Dam and home to some of the most desirable fishing in all of America. Visitors come from around the world to recreate in these waters where the local economy survives and thrives on anglers looking to reel-in the renowned rainbow trout from these waters.

However, the plan by National Park Service (NPS) to "electro-fish" brown trout from these waters would impact the rainbow trout population. The impact of long term intensive electro-fishing will indiscriminately harm the rainbow trout population through stress and delayed mortality. This action would have a catastrophic impact to the local economies of this area that rely on visitors and the anglers that frequent this area. Electrofishing, which is objected to by our Native American tribes, has proven to be ineffective in controlling nonnative fish in big river systems.

It is also our understanding and that of the Game and Fish Commissioners that recent sampling has shown a halt, if not a decrease, in the population of brown trout in this area, and that NPS has not considered other possible causes for the past increases in brown trout. Due to the negative economic impact, opposition by Native Americans, and potential further harm to the aquatic wildlife in this area, we ask that the NPS to reconsider any strategy that relies on electrofishing, and we urge NPS cooperation with the Arizona Game and Fish Department in determining the best strategy in managing this habitat.

Respectfully,

AZ State Representative Bob Thorpe
CC: National Park Service Deputy Director Dan Smith
Co-Signer Reps: Barton, Bowers, Boyer, Campbell, Clodfelter, Cobb, Coleman, Cook, Dunn, Finchem, Grantham, John, Kern, Lawrence, Leach, Livingston, Martinez, Mitchell, Mosley, Norgaard, Nutt Payne, Saldate, Shope, Stringer, Syms, Toma, Townsend, Udall, Ugenti-Rita, Weninger and Sens. Sylvia Allen, Griffin and Kerr

cc: Jeff Small, Congressman Gosar's office; Arizona Game and Fish Director Ty Gray, Ed Sanchez, Craig McMullin
Marcus Del'Artino and Game and Fish Commissioners

430

March 8, 2018

ATTN: Kirk LaGory
Expanded Non-native Aquatic Species Management Plan
Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Species Management Plan

Dear Mr. LaGory:

Please accept these comments as part of the scoping process for the Expanded Non-Native Aquatic Species Management Plan.¹

Arizona Game and Fish Non-Native Aquatic Species plan entailing the implementation Rainbow Trout in the Colorado River has been proposed past the scoping process. Their press release to the public has spread the news of their plan prematurely, leading people to believe it is set in stone.

I believe that the full implications of this plan's impact on the Colorado River have not been taken into consideration, and I ask that you think them over. There is vocal representation for the fishing community and for the local citizens near Lees Ferry whose economy depends on the River; however, there is no voice for the ecosystem. I am trying to vouch for the environment, and fight for what is best for the Colorado River.

Sincerely,

¹ *The scoping period under the National Environmental Policy Act does not have a hard closing date:*

§ 46.235 NEPA scoping process.

(a) Scoping is a process that continues throughout the planning and early stages of preparation of an environmental impact statement.

482

Date: 2/15/18

ATTN: Kirk LaGory
Expanded Non-native Aquatic Species Management Plan
Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

Dear Mr. LaGory:

Please accept these comments as part of the scoping process for the Expanded Non-Native Aquatic Species Management Plan.¹

I want the Colorado River to be resilient and healthy, and to include all species that belong within it. Since the closure of Glen Canyon Dam, at least a dozen species have disappeared from the Colorado River in Glen and Grand Canyons,² but now there is an opportunity to return at least one of them

I encourage the National Park Service to introduce the Colorado pikeminnow to Glen Canyon where it can prey on introduced nonnative green sunfish inhabiting the slough at River Mile 12. Colorado pikeminnow are a top predator; they belong in the Colorado River and are likely to help successfully control green sunfish. They are an essential part of the Colorado River ecosystem, and should be given a chance to restore balance to the river and return to their native habitat.

These fish are awesome and endemic.
Please reintroduce them

Sincerely,

¹ The scoping period under the National Environmental Policy Act does not have a hard closing date:

§ 46.235 NEPA scoping process.

(a) Scoping is a process that continues throughout the planning and early stages of preparation of an environmental impact statement.

² Grand Canyon Wildlands Council (GCWC) 2011. GCWC Draft White Paper: DRAFT 7/08/2011 AMP Goal 3 White Paper. Assessment of Taxa of Management Concern in the Colorado River Ecosystem, Glen and Grand Canyons, USA: Habitat Needs, Availability and Ecosystem Roles. Draft Final Report 15 June 2011. Available at <https://www.usbr.gov/uc/rm/amp/twg/mtgs/11jun28/Attach11a.pdf>, accessed 1/27/12.

4/33

Date: 2/15/2018

ATTN: Kirk LaGory
Expanded Non-native Aquatic Species Management Plan
Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

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Work on fish habitat is important for the health of the Colorado River

Sincerely,

¹ The scoping period under the National Environmental Policy Act does not have a firm closing date:

§ 46.235 NEPA scoping process.

(a) Scoping is a process that continues throughout the planning and early stages of preparation of an environmental impact statement.

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1/34

Date: 2/15/12

ATTN: Kirk LaGory
Expanded Non-native Aquatic Species Management Plan
Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

Dear Mr. LaGory:

Please accept these comments as part of the scoping process for the Expanded Non-Native Aquatic Species Management Plan.¹

I want the Colorado River to be resilient and healthy, and to include all species that belong within it. Since the closure of Glen Canyon Dam, at least a dozen species have disappeared from the Colorado River in Glen and Grand Canyons,² but now there is an opportunity to return at least one of them

I encourage the National Park Service to introduce the Colorado pikeminnow to Glen Canyon where it can prey on introduced nonnative green sunfish inhabiting the slough at River Mile 12. Colorado pikeminnow are a top predator; they belong in the Colorado River and are likely to help successfully control green sunfish. They are an essential part of the Colorado River ecosystem, and should be given a chance to restore balance to the river and return to their native habitat.

Although these fish provide a recreational use of the river, it hurts the environment and therefore should be introduced

Sincerely,

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1/35

Date: 2-15-18

ATTN: Kirk LaGory
Expanded Non-native Aquatic Species Management Plan
Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

Dear Mr. LaGory:

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It would be awesome to use local fish!

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1/5/18

Date: 12-15-18

ATTN: Kirk LaGory
Expanded Non-native Aquatic Species Management Plan
Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

Dear Mr. LaGory:

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It is important to utilize native species and sustain a natural ecosystem. I love the Colorado Plateau and want native species in this environment.

Sincerely,

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Date: 2/15/18

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Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

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Fish are key to the river's success!

Sincerely,

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Date: 02/15/2018

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Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

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Encourage more diversity in this river.

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Date: 2.15.18

179

ATTN: Kirk LaGory
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Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

RE: Expanded Non-Native Aquatic Species Management Plan

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Please save this important species

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4/10

Date: 02-15-18

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Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

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Please use native species to Resore riparian ecosystems!
Introducing new species can have many unknown impacts
& using native species can prevent undue damage

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①

11/11

Date: 2/15

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Argonne, Illinois 60439

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Sincerely,

SAVE THE FISH!

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9.72

Date: 02/15/18

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The reintroduction would be a step closer to a better future for the Colorado River.

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This species is a necessary part of the ecosystem, and should be encouraged to flourish

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2/15/18

Date: Feb 15, 2018

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Argonne National Laboratory
9700 South Cass Avenue—EVS/240
Argonne, Illinois 60439

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Native species are important!

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