

## **Attachment C**

### **Shasta Dam Fish Passage Evaluation**

#### **SCOPING MEETING COMMENTS**

## Shasta Dam Fish Passage Evaluation Public Scoping Comments

<b>Comment Document #</b>	<b>Commenter</b>	<b>Comment Number #-#</b>	<b>Comment Summary</b>
001	Andrea Vyenielo	001-001	support brood stock from New Zealand
001	Andrea Vyenielo	001-002	stock from small genetic pool of wild and hatchery raised will cause more risk for genetic mutation and disease
001	Andrea Vyenielo	001-003	Chinook salmon spend 4-8 years at sea - pilot project would take at least 8 years - not 3
002	Ana Holub	002-001	include WWT
003	Donald Alley - certified fishery biologist	003-001	include WWT on the Steering committee
003	Donald Alley - certified fishery biologist	003-002	Postpone the pilot study until genetic analysis of chinook salmon in New Zealand have been genetically tested for the presence of winter-run characteristics
003	Donald Alley - certified fishery biologist	003-003	Do not use any salmon derived from captive broodstock of winter-run salmon at the Livingston Stone Hatchery in the pilot study
003	Donald Alley - certified fishery biologist	003-004	Do not use offspring from wild winter-run still inhabiting the Sacramento River in the pilot study unless the analysis of New Zealand salmon indicates the absence of winter-run characteristics
003	Donald Alley - certified fishery biologist	003-005	Consider and investigate volitional passage alternatives for adult chinook salmon during the pilot study
003	Donald Alley - certified fishery biologist	003-006	Abandon the trap and haul method of transferring salmon above and below Shasta Dam

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003	Donald Alley - certified fishery biologist	003-007	In the long run, volitional passage will be more cost effective and result in a more suitable salmon pop in the McCloud river. An off-channel facility connected to volitional pathway is the only reasonable alternative to consider
004	State Water Resources Control Board - Diane Riddle	004-001	Project may necessitate a water quality certification from the Water Board for any juvenile collector or anchored box, depending on how and where it is anchored
004	State Water Resources Control Board - Diane Riddle	004-002	EIS should identify how the project will comply with water quality objectives included in the Water Quality Control Plan. The EIS should include how the project may interact with the potential new requirements and existing requirements
004	State Water Resources Control Board - Diane Riddle	004-003	EIS should address Moyle's uncertainties raised in his paper on trap and haul - attached
005	Paige Connell	005-001	Do not block the WWT's efforts to restore the salmon to their natural and appropriate environment
006	Stephan C. Volker	006-001	Reclamation has failed to meet required deadlines included in the RPA Action V. Every year that salmon are denied access to the eleven miles of historically essential spawning habitat along the McCloud River the viability of the species is reduced. Further delay is unacceptable.
006	Stephan C. Volker	006-002	Draft Pilot Implementation Plan does not indicate how the feasibility/determination investigation will be implemented
006	Stephan C. Volker	006-003	Need to include the Winnemem Wintu Salmon Restoration Plan as an alternative in the EIS

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007	Caleen Sisk	007-001	genetic pool and diversity of the Livingston Stone Fish hatchery salmon and mainstem Sac River salmon has resulted in one ESU and yet Reclamation proposes to move forward with utilizing the same genetically deficient stock from the LSFH
007	Caleen Sisk	007-002	Reintroduction of salmon into the McCloud River needs to be done now but only with the salmon stock that has the genetic diversity to actually strengthen the species as a whole. Winter-run in New Zealand
007	Caleen Sisk	007-003	Trap and truck is doomed to fail. Support Stephan Volkers comments. Volitional passage is the only way the salmon population can be self-sustaining and a genetically diverse and strong wild salmon brood stock to establish a second ESU
007	Caleen Sisk	007-004	Analysis needs to adequately list or evaluate the impacts of the proposed action on water, wildlife, terrestrial and aquatic plant and animal life along the McCloud River, Shasta Lake and environments
007	Caleen Sisk	007-005	Inclusion of traditional WWT knowledge is essential for the sustainability of the fish and river systems
007	Caleen Sisk	007-006	References to National Register Bulletin 38 and its definitions should be included. Ceremonial uses, ongoing practices in the area of the proposed plan, and which fish is selected for returning to the river need to be considered under Historic Preservation law.
007	Caleen Sisk	007-007	Include WWT plan as an alternative

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007	Caleen Sisk	007-008	There will be significant negative, long lasting and adverse impacts to Winnemem cultural resources, historic properties, many bio-cultural resources and the TCP. No valid conclusions can be drawn about the significant impacts of the proposed action as described in the preliminary draft environmental assessment document.
007	Caleen Sisk	007-009	Currently the proposed action is a violation of NEPA and CEQ requirements, which mandate consideration of the impact of a plan on cultural resources.
007	Caleen Sisk	007-010	Drilling into the ground and using screw traps will have an impact. Traditional fishing methods such as dip nets and weirs would not.
007	Caleen Sisk	007-011	Environmental Justice needs to be thoroughly addressed
007	Caleen Sisk	007-012	Indian sacred sites of the WWT need to be considered
007	Caleen Sisk	007-013	Reclamation has over 60 sites and historic properties eligible for the National Register within the project area and need to be acknowledged
007	Caleen Sisk	007-014	Reclamation needs to complete the necessary work to figure out the implications of their activities, not the WWT.
007	Caleen Sisk	007-015	Federal government is not in a position to decide whether or not something is sacred.
007	Caleen Sisk	007-016	Reclamation might not be the right agency, given its long term bias against the WWT and history of conflict, in particular around the McCloud River.
007	Caleen Sisk	007-017	No Action needs to include the Winnemem Plan that is already undergoing study. The No Action alternative might be the best option.

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007	Caleen Sisk	007-018	Reclamation needs to consider the full array of facts, options, and brought to that analysis the best expertise available
007	Caleen Sisk	007-019	McCloud River might not be the right river for studies
008	Randy Howard - Northern CA Power Agency - GM	008-001	The draft EIS must describe the likely annual costs and total multiyear costs for the proposed long-term fish passage program, including how Reclamation will fund and allocate these costs - measured in dollars per increased adult returning winter-run Chinook should be included/estimated. Feasibility costs (near-term) need to be included as well. Reclamation needs to include the costs associated with the inclusion of New Zealand Chinook if this is part of the reintroduction efforts included in the draft EIS. If CVPIA funding is to be disproportionately spent on the SDFPE efforts at the expense of other programs then the draft EIS must indicate which fisheries programs will not receive funding or have funding deferred because of the project.
008	Randy Howard - Northern CA Power Agency - GM	008-002	CVP power and water rate impacts incurred by the SDFPE feasibility study and implementation of the long-term program need to be included in this draft EIS.

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008	Randy Howard - Northern CA Power Agency - GM	008-003	The draft EIS must describe and establish how Reclamation will measure feasibility for the long-term fish passage program. Feasibility should include analyses of the number of adult winter-run Chinook that return in comparison with other reasonable alternatives. The cost and results of reducing the salmon mortality rate in the Delta should be evaluated and compared with the costs and results in reintroducing salmon above Shasta Dam.
008	Randy Howard - Northern CA Power Agency - GM	008-004	The draft EIS must address the cumulative impacts of the Program in conjunction with other programs being considered by Reclamation to improve returns of winter-run Chinook (ROC on LTO, SWRCB updates to water plan).
009	Peter Louis Woiwode	009-001	Climate change = Salmon must return to their traditional spawning grounds in the McCloud River and its glacial waters
009	Peter Louis Woiwode	009-002	Follow WWT's swimway plan - trap and truck system has never successfully re-established a fish population
009	Peter Louis Woiwode	009-003	New Zealand Chinook should be brought home. They are wild and disease-free unlike Livingston Stone
010	Charles Love	010-001	Connect tributaries by tunnels, canals, and/or manmade streams to Shasta Lake - like the Pitt River with Little Cow Creek - to provide fish bypass dam
011	Raven Stevens	011-a_b_001	Follow WWT's swimway plan - trap and truck is not the solution
011	Raven Stevens	011-a_b_002	include WWT on the Steering committee

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011	Raven Stevens	011-a_b_003	New Zealand Chinook should be brought home.
011	Raven Stevens	011-a_b_004	Salmon take 4-8 years to return back to their place of spawning. The length of the project needs to be expanded - slow down
011	Raven Stevens	011-a_b_005	Need to work closely with Joanne Biswell, cultural resources person.
012	Janice Gloe	012-001	Bring back the original salmon from New Zealand. New Zealand Funding - extend the deadline if genetic testing of New Zealand fish has not been determined
012	Janice Gloe	012-002	Initiate the bypass/swimway plan - trap and truck is not the solution
013	Camellia Lee	013-001	Support WWT Plan
014	McCloud/Hearst/Resources Law Group	014-001	draft EIS should analyze impacts of trap and haul fully
014	McCloud/Hearst/Resources Law Group	014-002	EIS should consider alternative conservation strategies for Chinook in order to provide insight into the best strategies for improving Chinook population abundance and resilience. Recovery of winter-run need to be directed at strategies that = less risk and more cost effective. Reclamation should prioritize actions that are more likely to yield successful results (reintroduction by volitional passage together with downstream habitat improvements). Caution on the reliance outcomes of reintroduction efforts in the Pacific Northwest - they are of limited value as the conditions affecting those river systems differ substantially from conditions affecting the McCloud.

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014	McCloud/Hearst/Resources Law Group	014-003	<p>Alternatives - expand the efforts on the mainstem of the Sacramento River and on certain other reach's where opportunities exist for enhancement and/or creation of fish habitat that supports volitional passage of winter-run opportunities to advance the recovery of winter-run Chinook. Alternatives should include - <u>Restoration Actions on Lower Clear Creek</u> - alterations to the creek could now provide habitat for winter-run, <u>Completion of Battle Creek Project</u> - funding for this action could be used to complete the current restoration project at Battle Creek, <u>Downstream Habitat Management and Restoration</u> - could use resources for this effort to expand on current projects within the delta (CA Waterfix), <u>Focus on salmon strongholds</u> - Alternatives should prioritize needed conservation and restoration actions in the strongholds rather than implement the high-risk reintroduction measures set out in the 2009 BO</p>
014	McCloud/Hearst/Resources Law Group	014-004	Need to include description alteration of flows that would be required to support introduced Chinook
014	McCloud/Hearst/Resources Law Group	014-005	Need to address the potential introduction of pathogens - even if only low numbers of fish are released - they could still introduce pathogens that could result in significant adverse impacts to the existing fish communities

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014	McCloud/Hearst/Resources Law Group	014-006	Evaluation needs to answer - how much a Shasta Dam trap and haul program would contribute to returning adult Chinook salmon and to maintaining or increasing the total Chinook population in comparison to alternative conservation strategies - Evaluation should incorporate Moyle's paper
Sac Meeting			
015	Robert Weese Duhh - Guides and Sportsman Association	015-001	Has 45 years of experience on the river with fish and wildlife - call him to discuss
016	Jeanne France	016-001	WWT Plan is the only viable and sensible plan there is to restore wild salmon
017	Gary Mulcahy	017-001	2010 NMFS, WWT, and New Zealand representatives met and discussed an MOA for possibility of bringing back winter-run salmon from NZ which were established from eye's eggs from the McCloud River and Baird Fish Hatchery
017	Gary Mulcahy	017-002	include WWT on the Steering committee
017	Gary Mulcahy	017-003	Sacred sites all along the upper Sacramento and McCloud rivers. WWT are opposed to the plan the way it currently is and submitted a plan to use the Cow to Little Cow to Dry Creek to the lake and use volitional passage
018	Nikolas Lane Gillian	018-001	Include WWT on Steering Committee and support of WWT restoration plan
018	Nikolas Lane Gillian	018-002	Extend fundraising deadline (and inclusion) for New Zealand genetics
019	Kim Deocampo	019-001	supports fishway/natural way = no trap and haul
019	Kim Deocampo	019-002	No genetic mutations = no hatchery fish

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020	Amanda Ford	020-001	No genetic mutations = no hatchery fish
020	Amanda Ford	020-002	Study should be longer - salmon spend longer in the ocean
021	James Stone	021-001	30+ years Livingston Hatchery = zero success, constant decline of winter, spring and fall run Chinook
021	James Stone	021-002	Funding already is too much. Concentrate on downstream effects (delta cross channel and georgiana slough)
021	James Stone	021-003	Winter-run from 60 broodstock and 198 winter-run in 1991; they are genetically connected
021	James Stone	021-004	Start releasing cold water from Shasta Dam
022	Patrick Porgans	022-001	systematic issues need to be addressed - individual cannot violate ESA but the pumps harm hundreds of millions of fish, CVPIA doubling goals are not even close to being reached
023	Lupita Torres	023-001	Support WWT
024	Dan Bacher	024-001	Support WWT plan, Fishway up Cow or Dry Creek is the only way. Know that they will spawn above the dams
024	Dan Bacher	024-002	Need to focus on downstream conditions - delta pumps are the biggest fish killer - stop the delta tunnels
Lakehead Meeting			
025	Frank Martinez IV	025-001	Introduced salmon will not be the only fish caught in the traps - describe how much stress will be put on the fry to select or separate and remove the fry from the trap
025	Frank Martinez IV	025-002	Describe the studies that will be done to determine the effect of the genetics to the fish themselves

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025	Frank Martinez IV	025-003	Can he volunteer to help with the project?
025	Frank Martinez IV	025-004	Describe the cold water systems at Keswick and Shasta and if they are "broken"
025	Frank Martinez IV	025-005	Evaluation of the effectiveness of different genetic sources of salmon
025	Frank Martinez IV	025-006	Is it possible that the ecology of the river would alter? Is this included in the effects of the project?
026	David Martinez	026-001	WWT Restoration Plan/swimway is only viable plan to restore wild salmon to the McCloud River
026	David Martinez	026-002	New Zealand Chinook should be brought home.
026	David Martinez	026-003	Truck and haul has been proven to not work
027	Sabrina Rochey	027-001	Against hatchery fish
WWT package			
028	Patricia R. Osborn + 131 signatures	028-001	Climate change = Salmon must return to their traditional spawning grounds in the McCloud River and its glacial waters
028	Patricia R. Osborn + 131 signatures	028-002	WWT Restoration Plan/swimway is only viable plan to restore wild salmon to the McCloud River
028	Patricia R. Osborn + 131 signatures	028-003	New Zealand Chinook should be brought home.
028	Patricia R. Osborn + 131 signatures	028-004	Truck and haul has been proven to not work
028	Patricia R. Osborn + 131 signatures	028-005	include WWT on the Steering committee
Lakehead Meeting			
029	Audience member	029-001	Is there any prohibition about developing a project that could serve both long-term and short-term?
029	Audience member	029-002	Consider the Watt restoration plan
029	Audience member	029-003	Study should be longer - salmon spend longer in the ocean - 3-7 years

<b>Comment Document #</b>	<b>Commenter</b>	<b>Comment Number #-#</b>	<b>Comment Summary</b>
029	Audience member	029-004	Spawning beds could be dried out due to fluctuation of releases
029	Audience member	029-005	Study should be longer than the NMFS BO of three years
029	Audience member	029-006	consider the impact of releasing hatchery fish into areas that are wild - consider genetically appropriate fish in the Upper McCloud and Upper Sacramento Rivers like introducing wild spring-run and winter-run Chinook salmon - if they are found to be genetically compatible or genetically similar to the ones that have been there before
029	Audience member	029-007	support New Zealand fish studies monetarily
029	Audience member	029-008	Consider the impact of releasing hatchery fish into areas that are wild - hatchery fish have diseases, genetic diseases, and they don't spawn. Need to analyze the impact reintroduction of hatchery fish would have on wild salmon
029	Audience member	029-009	introduce the wild salmon now - New Zealand
029	Audience member	029-010	landowners issues and NMFS 10(j) development concerns
029	Audience member	029-011	Section 10(j) rule and safe harbor type protection for private landowners - Safe harbor is a voluntary agreement process where landowners, water users, etc.... have to come in and ask to be part of a safe harbor agreement.
029	Audience member	029-012	Timeline of both the 106 and the NEPA process - how do they coincide? Explain the 106 process and how those determinations would be used in the planning process for the EIS process
029	Audience member	029-013	Project would be risking foreclosure of the project if the project were to proceed without completion of the 106 process

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029	Audience member	029-014	Does Reclamation follow any guidelines about the priorities of Native American cultural heritage sites versus settlement monuments?
029	Audience member - Anthony with AC Guide Service	029-015	Projected fish would never be able to be harvested and they have no economic value other than we can save them. How can agencies guarantee anglers that they are not looking at more closure issues and fishing restrictions
029	Audience member	029-016	Livingston Stone Hatchery is misuse and not being utilized to its fullest capacity. We need to boost production in the hatcheries to offset the losses downstream outside of all the other downstream issues that we're facing
029	Audience member	029-017	Five to six thousand trout per mile in the Sacramento river in the catch and release zone. They would love the baby salmon.
029	Audience member	029-018	Livingston needs to be a 10,000 fish for ten years for these fish to come off the ESA list. That's never been achieved, never, not even in the 30 year closure that's already in the river now.
029	Audience member	029-019	Production at Livingston Hatchery needs to be ramped up.
029	Audience member	029-020	Should utilize Keswick tailwaters to raise and release fish and have a better improvised fish catch and release system at Keswick - possible having a trap like at Colman right at the hatchery.
029	Audience member	029-021	Cold water gates at Keswick or Shasta have been an issue for 10 + years and need to be fixed in order to regulate cold water releases.
029	Audience member - Chief Sisk	029-022	Studies of wild fish before dams were built was never done.

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029	Audience member - Chief Sisk	029-023	Object to establishing fish traps in WWT sacred places
029	Audience member - Chief Sisk	029-024	Need to look at fish passage before fish survival can be measured
029	Audience member - Chief Sisk	029-025	Using hatchery fish is re-using what is already not working. Hatchery fish are not built for swimming the McCloud River
029	Audience member - Chief Sisk	029-026	Funding thus far on this is too much. Funding should be spent on building a fishway so the salmon can swim in and out of their wildlife habitat area.
029	Audience member - Chief Sisk	029-027	Scoping comment period should be extended
029	Audience member - Chief Sisk	029-028	Study needs to be longer than three years to determine if the fish will survive
029	Audience member - Chief Sisk	029-029	Need to stop stocking brown trout in the river to allow the salmon to take their place again
029	Audience member - Chief Sisk	029-030	WWT have knowledge about fish that biologists have not studied
029	Audience member - Chief Sisk	029-031	Straying is increased due to the hatchery process as the fish lack the knowledge of where their spawning ground is
029	Audience member - Chief Sisk	029-032	Releases from Trinity River could result in wild fish coming up the Sacramento River heading to the Trinity River. Studies should be done to determine the amount of Trinity River fish are coming up the Sacramento when there is a major release of Trinity water to the Sacramento.
029	Audience member - Chief Sisk	029-033	PG&E diversions and agreement on flow in river would be required
029	Audience member - Chief Sisk	029-034	New Zealand fish are from the McCloud

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029	Audience member - Chief Sisk	029-035	Can't put other runs of Chinook salmon and expect them to turn into Winter-run fish
029	Audience member - Chief Sisk	029-036	WWT have stopped taking fish from the Sacramento River. The hatchery system has changed the fish - their color, texture, and presence of bugs. Man does the process for the salmon now
029	Audience member - Chief Sisk	029-037	Cannot measure wild salmon success and survival when using hatchery fish in a river system that is closed off.
029	Audience member - Chief Sisk	029-038	Need more time and to be on the steering committee
029	Audience member - Chief Sisk	029-039	Need to study the cost of a fishway
029	Audience member - Chief Sisk	029-040	If New Zealand DNA proves winter-run then WWT need a commitment that those fish will be used for reintroduction to the McCloud River
029	Audience member - Holly Irene Cardoza	029-041	Support of a swimway - lots of dams have swimways and ladders.
029	Audience member - Holly Irene Cardoza	029-042	Need to remove all obstacles that are fish blocking
029	Audience member - Robert Weese Dunn	029-043	Winter-run are lost at the cross Delta channel
029	Audience member - Robert Weese Dunn	029-044	Diversions need to be screened off - like the Red Bluff facility
029	Audience member - Robert Weese Dunn	029-045	Need more fresh water flows out into the system for fish survival
029	Audience member - Robert Weese Dunn	029-046	Need to restore river side channels
029	Audience member - Robert Weese Dunn	029-047	Need to fix the cold water device on Shasta Dam so cold water can be utilized during drought years

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029	Audience member - Robert Weese Dunn	029-048	Increase Livingston Hatchery production and make them naturally spawn in the river - use natural spawning fish for reintroduction above Shasta Dam
029	Audience member - Robert Weese Dunn	029-049	Need higher flows so fish can travel out to the ocean
029	Audience member - Robert Weese Dunn	029-050	Have to have a conveyance system for this project to work
029	Audience member	029-051	WWT should not be excluded from the steering committee. Multiple reasons and background why.
030	Peter Moyle	030-001	Reintroduction program should meet the ten criteria outlined by Lusardi and Moyle (2017) and should proceed cautiously making sure all the requirements for success can be met before it is established
030	Peter Moyle	030-002	Existing conditions in much of the McCloud appear suitable for reproduction and rearing of a small population of winter-run Chinook salmon. The best site appears to be at Ah-Di-Na because of accessibility, proximity of spawning habitat, and cool summer temperatures.
030	Peter Moyle	030-003	A reintroduction program to create even lower numbers of redds would require a larger population of winter-run Chinook to exist below Shasta Dam to support removal of so many spawning adults
030	Peter Moyle	030-004	small increases in summer water temperatures could result in conditions that reduce winter-run Chinook distribution and abundance and reduce the suitability of the McCloud River as a reintroduction site

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030	Peter Moyle	030-005	The abundance of trout of diverse size classes in the river suggests that rearing habitat may be close to saturation
031	Thomas Cannon	031-001	The plan should consider study areas above/lakin Dam area and below the McCloud Falls. It has far better access and important habitat attributes, and fewer limitation of the lower river sites (i.e., area not subject to ravaging flood flows, far fewer predators, better spawning and rearing habitat).
031	Thomas Cannon	031-002	Lakin area has significant advantages in ecology, (holding habitat, spawning/incubation habitat, rearing habitat, conditions for juvenile migration, estimated spawner capacity, water temperature, water supply reliability, flow variability, predation, resource competition, disease, food, ability to foster life history diversity, and resilience to climate change), Stakeholder/Landowner, Regulatory Implementation, and Physical Implementation.
031	Thomas Cannon	031-003	Trap and haul would be most effective from the above site/Lakin area
031	Thomas Cannon	031-004	The Pilot Program includes multiple pilot studies that are conducted on a short-term basis. The Pilot Program addresses immediate uncertainties associated with the pilot studies. The Lakin area would deal easier with uncertainties, would have fewer, and offer better success potential.
031	Thomas Cannon	031-005	The amount of expanded habitat in the Lakin area is significant as is the potential population expansion.

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031	Thomas Cannon	031-006	A habitat assessment to determine the distribution of potentially suitable habitat and an estimate of spawner capacity of the Lakin area can be readily conducted
031	Thomas Cannon	031-007	When flows exceed 500 to 1,000 cfs it is expected that the fish collection netting will need to be removed and the primary collection would occur at the head of reservoir location. Juvenile winter and spring-run Chinook emigrate during the first fall-winter pulse flows, which are nearly always far in excess of the 500-1,000 cfs equipment limit. This problem would be extremely rare at the Lakin area.
031	Thomas Cannon	031-008	The Lakin area would be far more effectively monitored by both direct observation and electrofishing.
031	Thomas Cannon	031-009	The uncertainty of the duration that juvenile salmon will occur in any of the proposed accessible study reaches would be limited in the Lakin area.
031	Thomas Cannon	031-010	Use of the Lakin area would not further compromise redband restoration
031	Thomas Cannon	031-011	It may prove advisable to place barriers to keep winter or spring-run Chinook from moving upstream from the Lakin area.
031	Thomas Cannon	031-012	Although the Lakin area is technically immediately upstream of the historic upper limit of salmon, the upper site provides ideal historic habitat with a significant chance of success.

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031	Thomas Cannon	031-013	Monitoring - fish telemetry conditions would be optimal at the lakin area. Ground and drone surveys can be readily carried out at the lakin area. - Lakin area best satisfies all ten factors - UC Davis/Caltrout Review

# Andrea Vyeniolo



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Date: September 24, 2017

Carolyn Bragg  
Bureau of Reclamation, Bay-Delta Office  
801 I Street, Suite 140  
Sacramento, CA 95814

Dear Ms. Bragg:

I am writing to comment on the Shasta Dam Fish Passage Evaluation Project. This project brings me great joy and hope for the future of California's anadromous fish populations. I hope that the Pilot Project is a huge success so that this Project can then be implemented as a fully functional and sustainable fish passage for the McCloud and Sacramento River Chinook salmon.

My first undergraduate degree was from UC Davis where I studied Wildlife and Fisheries Conservation Biology under the guidance of Dr. Peter Moyle. I am very passionate about the protection of California's salmon populations, and as a resident of Mount Shasta I am whole heartedly in support of a Shasta Dam Fish Passage, and the reintroduction of native salmon stock to these pristine Northern California waters. There is no doubt in my mind, whether or not the river systems of the Upper Sacramento and McCloud can support a salmon population. The challenges lie in the brood stock used for the project and in the details of the passageway and fish transport.

The mission of the Department of the Interior includes protecting and managing the Nation's natural resources and cultural heritage as well as to "honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities"(Shasta Dam Fish Passage Evaluation Draft Pilot Implementation Plan; U.S. Department of Interior, Bureau of Reclamation- Mid Pacific Region, December 2016). The Bureau of Reclamation has a mission to "manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public" "(Shasta Dam Fish Passage Evaluation Draft Pilot Implementation Plan; U.S. Department of Interior, Bureau of Reclamation- Mid Pacific Region, December 2016). With these combined missions I believe that this project must include the partnership of the Winnemen Wintu and the Department of Interior should honor it's "responsibility or special commitments to American Indians".

The Winnemem Wintu believe that the McCloud river salmon should be restored with stock from the original McCloud River Chinook salmon population. The descendants of these fish are alive and well today, spawning in the high mountain waters of New Zealand. As quoted in the **Shasta Dam Fish Passage Evaluation Draft Pilot Implementation Plan**: "Selecting a [donor stock] source genetically similar to the historical population that inhabited the reintroduction area should maximize the benefit and reduce the risks of a reintroduction. Reintroduced salmonid populations are expected to have a higher probability of success when they originate from donor populations that are most adapted to environmental conditions of the river systems to which they are being reintroduced (Nielsen and Powers 1995, Huntington et al. 2006)." For exactly these reasons the brood stock from New Zealand salmon should be used in this pilot study as they are genetically equipped to thrive in the McCloud River watershed.

09/28/17



DNA testing of the New Zealand brood stock will likely show that these fish are the right choice for this project. Please honor the cultural and spiritual beliefs of the Winnemem Wintu and at least consider the fish from New Zealand for this plan. It makes perfect sense that the fish who were originally from these waters are used to reintroduce the population back to the upper McCloud River. Obtaining brood stock from the existing winter run Chinook salmon that come up to Keswick Dam is not the strongest way to start this pilot plan. Using stock from a small genetic pool of endangered fish both wild and hatchery raised will cause more risk for genetic mutation and disease, and ultimately the failure of this pilot program.

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The Winnemem Wintu fish passage plan also proposes a swimway around Shasta Dam for the salmon; this is the best solution for a successful program. It is understandable that the expense of a swimway may be too costly for a pilot project, but I believe for the ultimate success of this project the swimway must be provided. I would also like to address the underlying problem that this "Pilot project" is only a three-year project before it is to be evaluated. It is well known that Chinook salmon spend 4-8 years at sea before returning to their freshwater homes to spawn. If this pilot project is started it will take at least 8 years to accurately assess the projects' success or failure and to estimate the number of returning adult salmon to these river systems.

001-002

Thank you for considering my comments and for working hard on this monumental and critical project. Please remember the Department of Interiors' responsibility to protect our cultural heritage and to honor our commitments to the Native People of this area. This project should strive to honor the spiritual beliefs and indigenous wisdom of the Winnemem Wintu and to consider the New Zealand Chinook stock, as well as the Winnemem swimway plan.

Sincerely,

Andrea Vyeniolo  
Registered Nurse; former fisheries biologist and concerned citizen



Bragg, Carolyn &lt;cbragg@usbr.gov&gt;

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**Shasta Dam Fish Passage Comment Letter**

1 message

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**Ana Holub** <info@anaholub.com>  
To: cbragg@usbr.gov

Wed, Sep 27, 2017 at 5:15 PM

Ms. Caroline Bragg

Natural Resources Specialist,

BLM Sacramento

9/27/17

cbragg@usbr.gov

Dear Ms. Bragg,

Please include my comment on the Draft EIS for the Shasta Dam Fish Passage Evaluation.

I support bringing the Winnemem Wintu tribe into the discussions. I sincerely hope you will listen to their ideas about reintroducing salmon that were brought from the McCloud River to New Zealand. This is the original fish stock, as I understand it. I realize more study is necessary to determine this claim. Why not do it? What if the Wintu elders are correct? They have an excellent history of care and love for the waterways in the McCloud River and the local bioregion. Out of respect, I feel we can include them and their ideas and wisdom. We will all benefit from it.

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Thank you for your consideration of these comments,

Ana Holub

Weed, CA

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 **ShastaDamFishPassage.docx**  
62K



28 September 2017

Ms. Carolyn Bragg  
Natural Resources Specialist  
Bureau of Reclamation, Bay-Delta Office  
801 I Street, Suite 140,  
Sacramento, CA 95814-2536

Dear Ms. Bragg,

I am a fishery biologist with 40+ years of experience working in California. I spent a summer on the McCloud River in the mid-1970's and have worked closely with the Winnemem Tribe. I have a number of recommendations:

1. Put Chief Caleen Sisk on the Shasta Dam passage committee as a voting member. Her tribe originally inhabited the McCloud River, and they have the largest stake in the success of this project.
2. Postpone the pilot study until genetic analysis of chinook salmon in New Zealand have been genetically tested for the presence of winter-run characteristics. These fishes' ancestors came from the McCloud River (historical haven for winter-run salmon) and possibly other northern California Sacramento River tributaries. If winter-run chinook salmon still exist in New Zealand, they are likely best adapted to survive in the snow-melt supplied headwater environment of the McCloud River, similar to what exists in the New Zealand Alps.
3. Do not use any salmon derived from captive broodstock of winter-run salmon at the Livingston-Stone Hatchery in the pilot study. These fish are likely to be genetically weak and have a reduce probability of survival. Sacramento River winter-run salmon have likely lost the key adaptive traits that suited them to the McCloud River due to the genetic bottleneck that occurred after Shasta Dam cut off access to the McCloud River and because the Sacramento River is very different in habitat characteristics to the McCloud River.
4. Do not use offspring from wild winter-run still inhabiting the Sacramento River in the pilot study unless the analysis of New Zealand salmon indicates the absence of winter run characteristics.
5. Consider and investigate volitional passage alternatives for adult chinook salmon to reach the McCloud River and for juvenile smolt chinook salmon to reach the Sacramento River during the pilot study. The Cow Creek drainage and an elevator at Shasta Dam should be considered as volitional routes. I have provided volitional routes to the pilot project team in the past. I will attach them to this electronic communication.
6. Abandon the trap and haul method of transferring salmon above and below Shasta Dam as a means of providing adult salmon access to the McCloud River and smolt access to the Sacramento River from the McCloud River. This extremely human-dependent and

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unnatural solution for fish passage is inappropriate for a long term solution intended to be operational for hundreds/thousands of year. Human manipulation of when to trap fish and where to put them will interfere with natural evolution. In the long run, the volitional passage solution will be more cost effective and result in a more sustainable salmon population in the McCloud River. According to a study performed by Lucardi and Moyle (2017), the trap and truck method has proved to have limited success. Their “review indicates that uncertainties associated with TH2 programs exist and include delayed effects from transportation, maintenance of above-dam populations, out-migrant capture efficiency, and the role of hatchery supplementation. Two-way trap and haul programs should (1) clearly define measurable and objective success metrics, such as the 10 we provide; (2) proceed experimentally under an adaptive management framework to determine risk–benefit trade-offs; and (3) be part of comprehensive conservation strategies that consider the entire life cycle of each species. Two-way trap and haul is proposed as a high-priority recovery strategy for Chinook Salmon *Oncorhynchus tshawytscha* populations in California. Our findings indicate that any such TH2 program should proceed with extreme caution.” Efforts to operate an instream trap to capture juvenile smolts in the McCloud River will prove to be inefficient at best and doomed to failure due to extreme maintenance problems. An off-channel facility connected to volitional pathway is the only reasonable alternative to consider. I have provided examples of these facilities for volitional passage to the pilot project group.

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003-007

Thank you for your consideration.

Donald Alley  
Certified Fishery Biologist

#### Reference

Robert A. Lusardi & Peter B. Moyle (2017) Two-Way Trap and Haul as a Conservation Strategy for Anadromous Salmonids, Fisheries, 42:9, 478-487, DOI:10.1080/03632415.2017.1356124



EDMUND G. BROWN JR.  
GOVERNOR  
MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**State Water Resources Control Board**

September 29, 2017

Ms. Carolyn Bragg  
U.S. Bureau of Reclamation  
Bay-Delta Office  
801 I Street, Suite 140  
Sacramento, CA 95814

**SCOPING COMMENTS FOR THE SHASTA DAM FISH PASSAGE EVALUATION PROJECT**

The State Water Resources Control Board (State Water Board), Division of Water Rights (Division) staff appreciates the opportunity to comment on the scoping for the Draft Environmental Impact Statement (EIS) for the Shasta Dam Fish Passage Evaluation Project. The project evaluates the near-term actions of potentially reintroducing federally-listed endangered winter-run Chinook salmon and spring-run Chinook salmon to tributaries above Shasta Dam. The near-term goal is to increase the geographic distribution and abundance of the listed fish. The long-term goal is to increase abundance, productivity and spatial distribution, and to improve the life history, health and genetic diversity of the target species. This project is proposed in response to the 2009 National Marine Fisheries Service Biological Opinion (2009 BiOp) that concluded that the Central Valley Project (CVP) and State Water Project (SWP) operations were likely to jeopardize the continued existence of federally-listed fish species below Keswick Dam on the Sacramento River. Action V of the 2009 BiOp listed enhanced fish passage as necessary to maintain the viability of the affected fish species.

This project may necessitate a water quality certification from the State Water Board for any juvenile collector or anchored box, depending on how and where it is anchored. Division staff are happy to work with Reclamation to help identify if or when these conditions may apply. To facilitate any necessary water quality certification, the EIS should identify how the project will comply with water quality objectives included in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins and the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta Plan). The State Water Board is currently in the process of updating the Bay-Delta Plan, including potentially establishing new inflow and cold water habitat requirements that may relate to this project. The EIS should address how the project may interact with these potential new requirements and existing requirements, including State Water Board Order 90-5. In addition, a recent paper by Lusardi and Moyle (2017) examines two-way trap and haul methods around dams, such as the one proposed in the Pilot Plan. They concluded this practice should proceed with caution as there are many uncertainties with it like capture efficiency of out-migrants, effects of transportation, implications of hatchery fish usage, and maintenance of released fish. The EIS should address issues raised in this paper.

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State Water Board staff looks forward to working with you on this project. If you have any questions about this letter please contact Ken Emanuel at (916) 341-5317 or by email at [kenneth.emanuel@waterboards.ca.gov](mailto:kenneth.emanuel@waterboards.ca.gov).

Sincerely,

*ORIGINAL SIGNED BY*

Diane Riddle  
Assistant Deputy Director  
Division of Water Rights

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR







Bragg, Carolyn <cbragg@usbr.gov>

## Public Feedback: Salmon

1 message

**Paige Connell** <paige.awesome@gmail.com>  
To: cbragg@usbr.gov

Fri, Jul 28, 2017 at 10:06 AM

Hello,

I am writing in support of the Winnemem Wintu's efforts to restore the salmon to the McCloud river. With so much upheaval, I believe it is important to restore and protect what ecological factors we can. We owe it to the salmon, the Winnemem people, and our state to see what we can do for the salmon. Not only would it be a boon for the environment but it would likely turn into a boon for the area's economy as well, as tourists would travel to see a salmon run as they do in other parts of the country. Please do not block or prevent the Winnemem's efforts to restore the salmon to their natural and appropriate environment.

Thank you,

Paige Connell

1005-001



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Stephan C. Volker  
Alexis E. Krieg  
Stephanie L. Clarke  
Daniel P. Garrett-Steinman  
Jamey M.B. Volker (Of Counsel)

Law Offices of  
**Stephan C. Volker**  
1633 University Avenue  
Berkeley, California 94703  
Tel: (510) 496-0600 ♦ Fax: (510) 845-1255  
svolker@volkerlaw.com

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CODE	INITIAL	ACTION	DUE DATE	
BDO-420				CB
BDO-421				JP
BDO-423				BW
BDO-100				DM
BDO-101		File		TE

July 21, 2017

via email  
cbragg@usbr.gov

Carolyn Bragg Natural Resources Specialist  
Bureau of Reclamation, Bay Delta Office  
801 I Street, Suite 140  
Sacramento, CA 95814-2536



**Re: Scoping Comments of the Winnemem Wintu Tribe and the North Coast Rivers Alliance Regarding Draft Environmental Impact Statement for Shasta Dam Fish Passage Evaluation**

Ms. Bragg:

On behalf of the Winnemem Wintu Tribe and the North Coast Rivers Alliance we submit the following scoping comments to assist the United States Bureau of Reclamation in its development of the Draft Environmental Impact Statement ("DEIS") for the Shasta Dam Fish Passage Evaluation. Please include these comments in the official record for this action.

**INTRODUCTION**

Given the perilous decline in salmon and steelhead runs throughout the Central Valley Project ("CVP"), the National Marine Fisheries Service ("NMFS") has determined that "fish passage at Shasta Dam in the long term" is "necessary to avoid jeopardy to the species." NMFS, 2009 Reasonable and Prudent Alternative with 2011 amendments (hereinafter "RPA"), p. 27. In the short term, Reclamation is required "restore passage at Shasta Reservoir with experimental reintroductions of winter-run to the upper Sacramento and/or McCloud rivers, to partially compensate for unavoidable project-related effects on the remaining population." RPA, p. 18.

NMFS set a series of deadlines for fish passage activities, including deadlines for feasibility studies and comprehensive reports, but Reclamation has failed to meet these deadlines. Now, six years *after* NMFS expected Reclamation to "complete a 3-year plan for the Fish Passage Pilot Program" (RPA, p. 87), and two years after Reclamation was to "begin to

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006-002 } implement the Pilot Reintroduction Program,” Reclamation is still scoping for an Environmental Impact Statement. The death by delay impacts on imperiled salmonids cannot be overstated: As the Draft Pilot Impelmenation Plan states, “[w]inter-run Chinook Salmon juvenile cohort replacement rates dropped below 1.0 starting with brood year 2007, and the lowest passage estimate between 2002 and 2012 occurred in 2011 at 848,976.” Draft Pilot Implementation Plan, 3-14 (citing USFWS 2014 Compendium Report of Red Bluff Diversion Dam Rotary Trap Juvenile Anadromous Fish Production Indices for Years 2002-2012 [“USFWS 2014”], p. 28). The Sacramento River fall Chinook adult population collapsed during that same decade. USFWS 2014, p. 27; *see also* pp. 88, 90, 92, 94, 96 (graphed annual passage trends for fall, late fall, winter and spring runs of Chinook, and for steelhead, respectively). Every year that salmon are denied access to the eleven miles of historically essential spawning habitat along the McCloud River – with “an estimated capacity for approximately 3,000 spawning female Chinook”<sup>1</sup> – the viability of the species is reduced. Further delay is unacceptable. The time for reintroduction is *now*.

**The EIS Must Study Alternatives That Satisfy Reclamation’s Purpose and Need – Including Volitional Passage**

Reclamation states that “[t]he need for the proposed action arises from projections of increased incidences of temperature related impacts to listed anadromous fish and their resulting vulnerability below Shasta Dam. The purpose of the proposed action is to evaluate the feasibility of establishing self-sustaining populations of listed anadromous fish above Shasta Lake. The Pilot Program seeks to do this by evaluating various aspects of reintroduction including the biological and technological challenges.” 82 Fed.Reg. 2753 (June 15, 2017). Reclamation must study a reasonable range of alternatives that satisfies the purpose and need for the action. 40 C.F.R. § 1502.13. “The existence of reasonable but unexamined alternatives renders an EIS inadequate.” *Friends of Southeast’s Future v. Morrison*, 153 F.3d 1059, 1065 (9th Cir. 1998)

006-002 } Reclamation states that the pilot program’s “results will inform whether or not it is feasible, and/or practical to implement a full-scale reintroduction in the watershed above Shasta Dam.” Draft Pilot Implementation Plan, p. 1-2. Under the proposed action, Reclamation indicates that, in the near-term, “fish will be transported in trucks in both the upstream and downstream direction around Keswick and Shasta dams. Draft Pilot Implementation Plan, p. 6-1. Thus, Reclamation’s proposed alternatives for its EIS include various means of collecting, transporting, and releasing the target fish. *Id.* at 6-1 to 6-12. Chapter 6 of the Draft Pilot Implementation Plan indicates that, during the Pilot Program phase, “an investigation of the feasibility of technologies to be used for long-term reintroduction, including volitional fish passage, will also take place. *Id.* at p. 6-1. But the Draft Pilot Implementation Plan does not indicate *how* that investigation will occur, given that Reclamation has already concluded that

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<sup>1</sup> Interagency Fish Passage Steering Committee (“IFPSC”), 2015 Annual Report, p. 5.

constructing a volitional passage project “would not meet the pilot program purpose and need of determining the feasibility for long-term passage.” *Id.* at 6-13.

Reclamation was tasked with “identifying interim downstream fish passage options through reservoirs and dams with the objective of identifying volitional downstream passage scenarios and alternatives for juvenile salmon and steelhead migrating through or around project reservoirs and dams.” RPA, p. 90. Yet Reclamation has already dismissed *all* volitional passage options from the pilot program on the grounds that “[a] large construction and water re-routing project would not meet the pilot program purpose and need of determining the feasibility for long-term passage.” Draft Pilot Implementation Plan 6-13; *see also* Preliminary Draft EP p. 3-17 to 3-18 (dismissing volitional passage alternatives, and stating that “[m]oving directly into a fish passage project would not allow the Steering Committee to test different passage methods and designs and would not provide data on whether sustained passage is feasible”).<sup>2</sup>

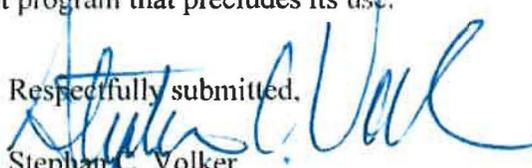
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These excuses for further delay are preposterous. Volitional passage is the *only* “self-sustaining” method to restore anadromous fish above Shasta Dam. Reclamation should include volitional passage – like that proposed in the *Winnemem Wintu Salmon Restoration Plan* – as an alternative in its EIS, instead of dismissing it out of hand. Assurances that volitional passage will be examined sometime later are insufficient to satisfy Reclamation’s own purpose and need statement, let alone the terms of the RPA. Expediently restoring Chinook to the McCloud River is essential to the survival of this imperiled fish and the cultural heritage of the Winnemem Wintu Tribe.

### CONCLUSION

For the reasons stated above, Reclamation must consider a volitional passage alternative in its EIS and expediently act to restore anadromous fish runs above Shasta Dam. Reclamation must not shut the door on volitional fish passage, nor stack the deck against long-term reintroduction programs, by designing a pilot program that precludes its use.

Respectfully submitted,

  
Stephan C. Volker

Attorney for the Winnemem Wintu Tribe and  
North Coast Rivers Alliance

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<sup>2</sup> Reclamation has shown no such hesitation when proposing other large construction and water re-routing projects, such as the hugely expensive and highly problematic California WaterFix.



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## Winnemem Wintu Tribe

14840 Bear Mountain Rd  
Redding, CA 96003

September 26, 2017

via email

cbragg@usbr.gov

Carolyn Bragg Natural Resources Specialist

Bureau of Reclamation, Bay Delta Office

801 I Street, Suite 140

Sacramento, CA 95814-2536

RE: Additional Comments on the Preliminary Draft Environmental Assessment for the Shasta Dam Fish Passage Evaluation (SDFPE) regarding brood stock and volitional passage.

The purpose of this letter is to supplement and clarify the Winnemem Wintu Tribe's position on matters related to the Scoping of the April 2017 Preliminary Draft Environmental Assessment ("PDEA"), for the Shasta Dam Fish Passage Evaluation (SDFPE).

As a starting point, we wish to incorporate by reference the letter submitted by the Law Offices of Stephan C. Volker, dated July 21, 2017, on behalf of the Winnemem Wintu Tribe and the North Coast Rivers Alliance. We wish to further clarify our positions stated in that letter and to expand the information on which we base our objections.

The Bureau of Reclamation (Reclamation) is well aware of the historical, cultural and spiritual properties of the Winnemem Wintu Tribe encompassing the full landscape of rivers, the lake, and lands above Shasta Dam. To that end, Reclamation has put out a Draft Winnemem Wintu Cultural Landscape TCP, by Joanne Goodsell, Bureau of Reclamation May 2017, for submission to the National Register of Historic Places (National Register).

Reclamation is also very aware of the cultural and spiritual connection that the Winnemem Wintu have with the salmon (or Nur), and recognized as such in both the Draft Winnemem Wintu Cultural Landscape TCP (pgs 4, 5, and 6 respectfully) and the PDEA 4-43. It is of grave importance that this fact be spotlighted here because of the state of the current salmon population in the Sacramento River.

In a report dated September 2017 submitted to the Pacific Fisheries Management Council (PFMC) by the California Department of Fish and Wildlife (CDFW), CDFW submits:

*"Using preliminary data, CDFW estimates a 2017 total escapement of 1,123 SRWC [Sacramento River winter-run Chinook salmon], of which the majority (83%) were hatchery-origin. This is the second lowest escapement estimate since the current monitoring methodology was implemented in 2003, greater only than 2011 when an estimated 824 SRWC escaped to the river..." in 2017. CDFW Report.*



## Winnemem Wintu Tribe

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There are some who would view a portion of the information contained in this report as a positive in the fact that 83% of the returning salmon were of hatchery-origin.

However, Reclamation and NOAA Fisheries have both recognized in various documents that the genetic pool and diversity of the existing Livingston Stone Fish Hatchery (LSFH) salmon and mainstem Sacramento River salmon has been so bottle-necked and manipulated by artificial propagation and denial of access to historical spawning grounds, that the winter run salmon has devolved to a single Evolutionary Significant Unit (ESU), and thus, could become extinct with the occurrence of one catastrophic event, e.g., prolonged drought, toxic pollutants, or a number of other events that could take place in the current waterways. This is due to the fact that there is no secondary ESU within the current winter run population to offer a reservoir of resiliency based on biodiversity. (PDEA 1-4; NMFS 2009 BiOp Secs 4.2.1.2.2.3 to 4.2.1.2.2.5).

Yet, even with the above knowledge, Reclamation proposes to move forward with a 'trap and truck' means for reintroduction and utilize the same genetically deficient stock to 'attempt' to establish a viable population above Shasta Dam.

The Winnemem Wintu strongly advocate for the return of the winter run salmon to the McCloud River, but are adamantly opposed to the winter run stock that Reclamation proposes to use for that reintroduction. Reclamation's current plan is to utilize brood stock from the (LSFH) for this reintroduction. The WWT believe that this plan is preordained to fail for a number of reasons.

As Reclamation has rightly pointed out in their PDEA (4-43), the Winnemem Wintu maintains that the correct and genetically diverse salmon that should be used in the reintroduction project is the McCloud River salmon currently residing in New Zealand.

In the late 1800s and early 1900s, salmon eggs were shipped all over the world from the Baird Fish Hatchery then existent on the McCloud River. At the time of these shipments, New Zealand did not have a salmon population, and this was an attempt to establish one. The salmon population took hold and New Zealand now has several salmon runs year round. One in particular is the winter run in New Zealand which runs all the way to their spawning grounds in the upper reaches of the glacial waters similar to the historical spawning grounds of the winter run salmon of the McCloud River. These are 'wild salmon'. New Zealand does have a hatchery operation but they only process fall run salmon through it. It is more than reasonable to assume then, that these winter run and spring run salmon in New Zealand are the genetically diverse and pure salmon that are the direct descendants of the McCloud River winter run and spring run.

Why then, in an effort to bring a species back from the edge of extinction, would you use a genetically deficient stock to try and establish a separate ESU when you have the probability of using a genetically diverse stock that could establish a true and strong ESU for the species? We, the Winnemem Wintu, are adamant that the reintroduction of salmon into the McCloud River needs to be done *now*. But ONLY with the salmon stock that has the genetic diversity to actually strengthen the species as a whole. That would be the winter run salmon currently in New Zealand.

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## Winnemem Wintu Tribe

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We are also adamant that a 'trap and truck' system is doomed to failure, and in no way is it a self-sustaining endeavor. Again, we reiterate and incorporate the comments submitted to Reclamation on the DEIS contained in Law Offices of Stephan C. Volker, dated July 21, 2017, on behalf of the Winnemem Wintu Tribe and the North Coast Rivers Alliance.

We take note of the fact that even CDFW in its Steelhead Restoration and Management Plan also takes a dim view of 'trap and truck' and hatchery propagation methods:

*"Artificial propagation shall not be considered appropriate mitigation for loss of wild fish or their habitat. This is of particular concern because of the history of failure of trap-and-truck operations."* CDFW SHRMP

Volitional passage is the only way the salmon population can be self-sustaining and a genetically diverse and strong 'wild salmon' brood stock is the only way to effectuate true bio diversity for the winter run species and establish a second ESU.

We believe that this is best illustrated by the recent removal of dams on the Elwa River in Washington State:

*"More than 4,000 chinook spawners were counted above the former Elwha Dam the first season after it came down. Overall, fish populations are the highest in 30 years. And that's before the first progeny of salmon and steelhead going to sea since dam removal come back this year."* Seattle Times Article

We understand that Shasta Dam will probably never come down in our lifetime or even the lifetimes of our children, but that is not the point here nor the objective. The point here is that *when salmon can find their own way back to their historical spawning grounds, then the population will prosper.* Volitional passage will accomplish this.

For all the above reasons, Reclamation must look to volitional passage and must look to rejecting the LSFH brood stock for the purposes of fulfilling the 2009 BiOp RPA.

Respectfully,

Chief Caleen Sisk  
Winnemem Wintu Tribe

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Comments were written on behalf of Chief Sisk by Gary Mulcahy, Government Liaison, Winnemem Wintu Tribe.

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## Winnemem Wintu Tribe

14840 Bear Mountain Rd  
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September 22, 2017

*via email*

[cbragg@usbr.gov](mailto:cbragg@usbr.gov)

Carolyn Bragg Natural Resources Specialist  
Bureau of Reclamation, Bay Delta Office  
801 I Street, Suite 140  
Sacramento, CA 95814-2536

**Re: Winnemem Wintu Tribe's Comments<sup>1</sup> on the Cultural Resources Sections of the Shasta Dam Fish Passage Evaluation April 2017 Preliminary Draft Environmental Assessment (PDEA)**

**Conclusion:** The Draft is fundamentally flawed. It lacks accurate relevant information and fails to conduct the legally mandated analysis of the cultural resources that will be affected by this Fish Passage plan, thus violating both the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA).

*The plan, as described in the Draft, will result in significant, negative, long lasting, and adverse impacts to Winnemem cultural resources, our significant historic properties and districts, our Traditional Cultural Property and the many biocultural resources of the McCloud River system.*

### **Summary:**

1. The Winnemem Wintu Tribe (WWT) strongly objects to the many unsupported conclusions and selective references cited in the Draft, as well as the absence of any analysis of the impacts of this project on even the known cultural resources information.

It is not the purpose of these comments to provide the information that is missing from the Draft but to point out these defects. Most of the Draft is devoted to the plan that the Bureau of Reclamation (BOR) wants to pursue, and clearly significant time and funding were devoted to designing that plan. Still, the Draft does not address the impacts of the plan on the known and unknown, but discoverable, cultural resources and the complex bio-cultural systems that it would disrupt or damage.

Simply mentioning an issue does not constitute an intelligent assessment of how it would be implicated by this plan. Many of the definitions used in this Draft do not meet the legal standards set forth in the NEPA or the Council on Environmental Quality (CEQ) regulations. This cursory approach is inadequate, factually and legally. Instead of analysis, the Draft advocates and avoids. These defects seem intended to support a preconceived conclusion that there will be no



## Winnemem Wintu Tribe

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significant impact, rather than to clarify the planning process, inform the public, and reach a reasoned set of conclusions that could mitigate or circumvent the damage that will result.

2. The Draft does not integrate relevant information previously provided to the Fish Passage Committee and to BOR regarding the cultural impacts of this plan by the WWT, or its own research. NEPA requires an analysis of cultural resources on its own terms. The cultural resources must be integrated into the Draft along with its assessment of the environmental values.

Furthermore, the Draft does not include or fully evaluate the environmental values and known scientific research on wild salmon, specifically winter-run Chinook. It does not adequately list or evaluate the impacts of the plan on water, wildlife, terrestrial and aquatic plant and animal life along the McCloud River, Shasta Lake and environs. The lack of this critical scientific information makes any conclusions about the impact of the plan on the environment useless and no meaningful analysis of culture can be conducted without both more data and more research.

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Moreover, cultural resources are not separate from natural resources. This is true both in reality and in any basic understanding of science. The relationship between the salmon and Winnemem culture is mentioned but not taken into account. Descriptions of salmon culture and ceremony are widely available in academic journals and well-regarded publications on Northern California Indian culture.<sup>ii</sup> And the specific Winnemem traditions and practices relevant to this Draft are detailed in documents available to or already in the records of the BOR.

3. The Draft does not include any Traditional Ecological Knowledge, which, in this case, is especially pertinent and available. It is axiomatic that salmon are the basis of many indigenous cultures of the Pacific Northwest and in particular, Northern California's original inhabitants of the salmon and acorn rich north coast and river systems. Salmon (and acorns) are what made Northern California what it is. So it stands to reason that those salmon cultures that lived here for thousands of years might know something about salmon in all its forms and life cycles.

It is well documented that the Winnemem Wintu practiced natural resource management for thousands of years. That term, when used in the context of traditional ecological knowledge, would include close observation, practical arts and crafts related to fishing, and ritual practices that resulted in regulating the supply of salmon in their rivers.<sup>iii</sup> It has also been shown in anthropological literature that these practices are responsible for the sustainability of the fish and river systems. Thus, if BOR wants this plan to succeed, the inclusion of traditional knowledge is essential.<sup>iv</sup>

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Until BOR built Shasta Dam, the McCloud River remained the finest, cleanest, coldest river feeding into the Sacramento River system. No wonder it was chosen to provide salmon eggs that were shipped all over the world. The story of the McCloud River salmon, and its presence in New



## Winnemem Wintu Tribe

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Redding, CA 96003

Zealand today, as well as its potential for return to the McCloud is known to BOR. And that information, both biological and cultural, must be included in the Draft because it demonstrates a way to accomplish the goals of the Fish Passage Program in a culturally appropriate way.

Although the Draft acknowledges the salmon itself is sacred and integral to the Winnemem, it does not deal with the meaning of that fact. And that must be a consideration. All the natural and cultural features of the McCloud River and Shasta Lake (which covers Winnemem cultural landscape and former villages) are part of what makes our cultural resources eligible for the National Register. References to National Register Bulletin 38 and its definitions should have been included, particularly with respect to the ceremonial uses, the ongoing practices on the river at the sites at issue here and the integral relationship between various sites along the river in the area of the proposed plan. And, as our forthcoming documents will show, the sacred aspect of the salmon itself, that is, which fish is selected for returning to the river, must be considered under Historic Preservation law.<sup>v</sup>

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The narrow reductionist approach taken in this Draft along with the lack of cultural information and analysis will result in its failure. However, the WWT share the ultimate goal of the project. We are working to return the wild winter-run Chinook to the McCloud using volitional means. Since we share the same goal, our plan for the return of the Winnemem Salmon to the Winnemem river should have been included as an alternative in this Draft.

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Winnemem, after all, means middle water, referring to the McCloud. The Winnemem are the McCloud River Indians whose lifeways and culture are embedded in all aspects of the river and the salmon. Likewise, the river and salmon are who the Winnemem are. The integral relationship between natural features and culture and identity is well understood in Anthropology, but it was not considered in the Draft. This vital relationship should have been integrated into the planning process. This particular plan, which resulted from litigation that the WWT was a party to, has been in the works for many years. But it can not be regarded as legally complete, or even scientifically accurate, without including a full analysis and integration of Winnemem culture.

As we stated, there will be significant negative, long lasting and adverse impacts to Winnemem cultural resources, historic properties, many bio-cultural resources, and our TCP. However, it should also be understood that there are culturally appropriate methods that can achieve the same results, without the same damage. Proper and culturally inclusive planning could result in a successful plan. Such a plan would be far less likely to have such significant adverse impacts on either the environment or on culture. At a minimum, until mitigation negotiations begins – mitigation that is mandated by both NEPA and NHPA - no valid conclusions can be drawn about the significant impacts of the plan described in the Draft.

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## Winnemem Wintu Tribe

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### DISCUSSION:

We are concerned that BOR is engaging in “deferral,” meaning that BOR – and its associated agencies on the Fish Passage Committee - intend to proceed with NEPA planning and defer compliance with the NHPA requirements. This is a violation of the NEPA and CEQ requirements, which mandate consideration of the impact of a plan on cultural resources. This work can be coordinated, but each process has distinct rules and both must be conducted before the project is approved. Under NHPA, the 106 process must be completed not just prior to *implementation* of the Pilot Program (as stated in the plan at 4-45) but prior to its approval and funding.

007-009

WWT also strongly objects to the elimination of the necessary study of environmental and cultural concerns by the simple slight of hand of just redefining terms, so as to avoid these issues. (4-1) For instance, BOR insists that it’s plan does not involve “ground disturbing activities.” And yet, in correspondence with WWT, BOR admits there is no standard or official definition of the term “ground disturbing activities.” And WWT has explained how ground disturbing drilling bolts into the ground or rocks of cultural importance is, in fact, disturbing. Apparently this term means whatever BOR says it means, which is arbitrary and unacceptable. While we understand that we now live in a literary wonderland where terms mean what the government says they mean, in the legal world, defining terms accurately is still essential. Thus, given our traditional view of sound, sight, and other factors (not discussed here) that are of concern to the WWT, and our relationship with salmon, the act of drilling into the ground and using screw traps will have an impact. Traditional fishing methods such as dip nets and weirs would not.

007-010

Similarly (on the same page 4-1) simply saying the plan will not result in Environmental Justice concerns is indefensible. WWT maintains that BOR’s conduct throughout this process has violated its responsibilities to us as a matter of environmental justice. These complaints are fully documented in our correspondence with BOR. As to the environmental justice aspect of this plan, it should be stated that the Winnemem are far more disproportionately and adversely affected than any other tribe or group. We are the most affected. We should have been included on the Fish Passage Committee, something that WWT has requested for years. The denial of our participation in the planning process is a denial of environmental justice to us as a minority status group.

007-011

BOR repeats in the Draft that WWT is not a “federally recognized tribe,” which is true. However, what that status means is crucial to understanding our role in this project. It is our position that BOR is singularly responsible for the fact that we lack the resources to participate as promptly or fully as we would like to and are able to and we alone have been excluded from being compensated for our expertise. All other experts and government participants in the planning that resulted in this Draft are compensated. This does not refer to our participation in the Section 106



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process, which we do as a matter of advocating for our survival and our sacred sites. We cooperate on the 106 consultation in support of BOR's compliance with its own laws.

The more historically important point is that WWT was federally recognized and actions by the Department of Interior, and its agency, the BOR, have created barriers to re-establishing recognition for the WWT. So we are constantly faced with having to deal with the very agency that caused these constraints. Put more simply, we would not be in this position if BOR had complied with the terms of the law which was passed to allow the construction of Shasta Dam, 55 Stat 612. (Cited in the Draft at 4-43.) That matters a great deal in this instance because this Draft is intended to form the basis of the planning process and yet it's flaws will mislead the public and others and may also be part of the reason that BOR seems constitutionally incapable of working with the Winnemem in a cooperative productive way in all matters affecting our ancestral territory.

We are also alarmed that on pages 4-1 and 4-2 **Indian Sacred Sites** that BOR would be so dishonest as to say that they contacted "federally recognized tribes" and did not receive any response, as if that is what the legal standard to consideration of sacred sites might be. While this reference may be intended to stand on its own to show mere compliance with a particular legal requirement, as we state repeatedly, the lack of reference to the Winnemem in every aspect of this plan, where clearly we have an interest, is a serious omission. It is, in our opinion, misleading to the public to not mention us, and our sacred sites, in this portion of the Draft. Our ancient and ongoing sacred relationship to the McCloud River and the salmon that are at issue in this case must be given full attention as part of the NEPA process. The public and others interested in this project have a right to know about the Winnemem Wintu, our ancient relationship with the river and the salmon, our expertise, and our salmon restoration plan. Why is BOR ignoring these crucial aspects of this project in its public documents, while at the same time working with us on these crucial issues?

We are a consulting party under NHPA Section 106 in this matter, and the consultation is still ongoing. But NHPA does not supplant NEPA. They are separate and equal concurrent legal obligations. These comments are directed to the work done to comply with NEPA. We will continue our intense negotiations over the multiple and complex sacred sites involved in this project but we expect the PDEA to be far more complete in understanding the adverse impacts of this proposed plan.

We are still in the process of drafting documents that will assist BOR in its planning. We are, for instance, working on comments and additions to the draft TCP, on boundary maps, on location specific information on the plan and its impacts on our cultural resources, and on relevant information regarding how salmon itself must be considered in the 106 process as well.

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When BOR has this information, it should include it in its NEPA planning, meaning that a revised PDEA is imperative. However we remain concerned because, despite extensive consultation already, the cultural values known to BOR were not analyzed. BOR knows of over 60 sites and historic properties eligible for the National Register that are in the area of sites selected for construction activities and yet this is not acknowledged in the Draft.

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The "Cultural Resources" analysis, 4-41 to 4-45, seems to have been done without reference to the progress made under the ongoing Section 106 consultation. There is no analysis of the extensive and specific information provided to BOR by WWT. The Draft does mention the information BOR has already had in its possession for over 70 years, as well as from previous consultations with WWT, basically saying it was reviewed, but where is the analysis of that information? How does the plan affect these sites? That must be included in this NEPA analysis.

One example makes the importance of this clear, and that is the extensive correspondence between WWT, BOR and SHPO on the location of a juvenile collection facility. BOR first located this at Puberty Rock, below McCloud Bridge, which was a known sacred site in regular and active use by the Winnemem. BOR realized on its own that this place was significant and moved the selected location up river, but the location was another sacred site. We pointed out the relevant document that shows the sites along this section of the river. Then again BOR moved the location further up the river, and positioned it in a way that would damage another site. All of these three sites are eligible for the National Register and are part of the Winnemem TCP. They can not be disturbed in any way. But proper planning and cooperation would have avoided this hit and miss approach.

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If BOR did the necessary work involved, it would know why these sites must not be involved in the proposed plan. The underlying study that we frequently reference was provided to BOR before the Fish Passage Program began and it and other extensive information provide BOR with all the information it needs. BOR must do the work needed to integrate that information into its planning. It is BOR's obligation, not the WWT's job, to figure out the implications of their activities.

On page 4-42 BOR states that only a small portion of the area has been evaluated. We would agree. But it is BOR's responsibility to do a complete survey and then integrate what is known with the proposal. BOR seems to think that WWT should do that work for them. We have offered our expertise as consultants to assist in that effort. And that work would be outside of our advocacy under Section 106. Since BOR already has most of the information it needs<sup>vi</sup> if it is unable to analyze it then BOR should hire a qualified ethnographer to do the study that connects the sacred sites, cultural resources (and environmental values) with the specific locations and activities in the plan, and then integrate the relevant cultural information that we provide in order to fully vet its proposal. Until that is done, our conclusion about the adverse impacts must stand.



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This is our sacred land and that conclusion is up to us to make, and defend and the courts have deferred to this right, but BOR is seemingly blind to how their study must be conducted.

It is fairly well established in First Amendment law that the federal government is not in a position to decide whether or not something is sacred. It is up to the religious practitioner to declare what it is, although there must be some substance to the claim. In our case these places have been verified by both archeology and ethnography as places of significance to the Winnemem. So that is not an issue here, the issue comes down to whether or not an activity chosen by a government agency is disturbing. We say it is.

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The Circuit Court in *Wilson v. Block*, a case about Native American sacred sites on public land, said: *"We agree that the First Amendment protection of religion 'does not turn on the theological importance of the disputed activity' and that courts may not 'dictate which practices are or are not required' in a particular religion."* Which means that we do not have to prove a site is sacred. All we have to do is show that it is indispensable to our religious practice. The Court continued: *"We do not hold that" it must be proven that a place is sacred, that it is used for religious practice, but "only that the First Amendment requires, at a minimum, proof that the religious practice could not be performed at any site other than that to be developed."* Thus, our only burden of proof is to show that our ceremony or practice is unique and exclusively attributed to that particular place. We have done so, repeatedly.

Because of the use and location of our related, not distinct, sites, any cable stretched across the river at any point there, or any disturbance at these sites by construction, even as simple as described in the proposed plan, is a burden in that it will disturb the spirits of that place. Even swimming disturbs our sites, but since our land was taken from us, we cannot prevent recreation or fishing. These occasional and light uses are done at the risk of those who would unknowingly disturb the site. Consider, for instance, that one can speak loudly in a church or temple and disturb the sacred sense of place. Such disturbances, like those casual uses on the river, are a reflection of the person who does them and it is, as we say "on them." But you are asking us to comment on plans, and tacitly allow you, as a government agency, to take actions that will have long term consequences; actions that are on a completely different scale and level. You may think they are minimal or even, for you, meaningless, but our point citing the case law is that it is not for you to say.

On a First Amendment basis, in order for you to respect our religion, and obey the law, there must be some accommodation. The environmental laws, if followed, allow for negotiations around these issues and encourage an accommodation. And we are willing to work with the Fish Passage Committee to find a way to do this study. But it must be done in a culturally appropriate way. And that work must be done in advance of NHPA compliance, as part of the planning under ESA and NEPA.



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We have invited BOR to engage with us in mitigation planning as a way to avoid the inevitable adverse impacts. We can suggest revisions to the proposed project plan that could remedy some of the problems referenced here. Mitigation planning can take place as part of the NEPA process, as well as under NHPA. However, this cannot be commenced until the Section 106 consultation is completed. We still have many questions about the project and why and how it was designed as it is. WWT would prefer to finish our discussions, continue the Section 106 consultation, and conduct mitigation negotiations as consulting parties. Due to actions taken by BOR however, there has been delay and obstruction to the Section 106 consultation. Currently, WWT has asked the ACHP to intervene to resolve these problems.

Again, we suggest acquiring the appropriate expertise in order to comply with the regulations. Some of the descriptions on 4-43 are reasonably accurate but as a whole, the description of the Winnemem cultural resources is inadequate. We agree with the statements that salmon are sacred and that we have a long-standing relationship with the river and that this relationship is best understood as a complex Traditional Cultural Property.

We appreciate BOR's work on the first draft of the TCP. Our forthcoming contributions to that process must be included in the TCP and that information should also be included in our Section 106 consultation and also included in this NEPA planning process.

As stated on 4-44 we are still in the process of consulting on both the drafting of the TCP and evaluating the impacts of the various proposals, the ground disturbing activities, and construction methods. We intend to ensure that our documentation and consultation are completed successfully and will submit them as soon as possible as part of our ongoing consultation.

We provided ample information prior to the issuance of this Draft so we are concerned to see that it was not included. We are most concerned with the lack of any analysis. Simply describing an activity as being minimal does not remove it from consideration. The Draft lacks any mention of NEPA mitigation planning that would include monitoring and enforcement. These are serious omissions.

Accordingly, our position is that the cultural impacts of the plan, as described in this inadequate Draft, would be significant, adverse, long term and legally indefensible. We are suggesting that BOR might not be the right agency, given it's long term bias against the Winnemem Wintu Tribe and our history of conflict, in particular around the McCloud River.

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For purposes of these comments we leave it to other environmental experts to comment on the remaining portions of Section 4. But the science of environmental restoration, now an academic discipline, must be brought into this planning process. That is the state of the art science that is needed here. And the history of the BOR's lack of success with diseased and weak hatchery fish



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in restoration work must also be acknowledged. It simply is not acceptable to proceed without the best available science and the highest quality available alternatives.

Several other matters deserve mention:

**The McCloud River (2-2)** We note the way the River is described. As with all previous publications on this matter by BOR, and as we have objected previously, this Draft, in its first opportunity to show some integrity about this project, instead obliterates the true history, and complex biological habitat and cultural reality of the McCloud River. It is as if the BOR's entire understanding of the McCloud River – which is a dynamic living system involving highly complex and inter-related natural and cultural values - was obtained simply by looking at a map. The reason this is worth mentioning is that it displays a lack of insight and understanding of the entire McCloud river and waterways from the source on Mt. Shasta and throughout the hydrological system that will be affected by this proposed project.

Much more is known about the environmental aspects and affects including the water, the wildlife, and all terrestrial and aquatic plant and animal life along the McCloud River, Shasta Lake and environs than is mentioned in the Draft or evaluated there. Hundreds of known species were not included. There is no mention of well known medicinal and ethno-botanical plants of high value, a serious omission. (4-32)

The reason this is worth noting is that while we understand the point was a brief description of where the project might be, it also illustrates that BOR is using very limited, reductionist, and outdated approaches to create this Draft.

**No Action Alternative:** the conclusion here is not correct. Not implementing this particular Draft plan would not result in the Chinook not returning to the area described. There is another way, already undergoing study, the Winnemem Plan, which would return salmon to the McCloud.

The Winnemem Wintu Salmon Restoration Plan, cited at 3-17 of the Draft, if implemented, would bring about a successful reintroduction and do so in a culturally appropriate manner. In fact, the Tribe would argue that no action would be a logical choice as the conclusion of this PDEA, because this Draft fails to consider any culturally appropriate alternative plan. However, if BOR truly considered all the facts and fully complied with its legal obligations for this effort, it would know that such an option is not only viable, it may be the only way to actually succeed. Furthermore, cooperative project planning is not unusual between consulting parties and government agencies and the BOR has experience with doing so.

BOR can remedy the many defects in this Draft by including the Winnemem Salmon Restoration Plan, Winnemem TEK and expertise, along with our scientifically validated relevant knowledge and designs, and work with us to create another alternative. That alternative should then be

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included in a revised PDEA. This option would provide for our participation in the planning, as expert consultants, in order to complete the planning process in compliance with both NEPA and NHPA.

However, the BOR plan, as described in the Draft, would most likely create conditions that would be fatal to the success of the Winnemem Plan. It is for that reason, among others, that we so strongly oppose this pilot project. Its impacts could preclude our success and destroy the spawning areas that are crucial to a culturally appropriate plan.

Again, the question is: Has BOR considered the full array of facts, options, and brought to that analysis the best expertise available? We think not.

The Oroville Dam disaster earlier this year was an object lesson in the price that can be paid when government agencies ignore the warnings of environmental scientists. And there are 2,000 dams across the West, mainly built by BOR, that are in need of repair in order to forestall a real disaster downstream should they fail as well. Will government agencies heed the warnings or will they ignore the obvious and, admittedly doing the best they can in some circumstances, and proceed as if they know best? When a situation arises where the unknowns, and the known risks of the unknowns are high, the best option is the no action alternative.

If BOR cannot afford to study the bio-cultural complexity of the McCloud or hire the expertise that can, perhaps only the law can keep it from acting impetuously on the assumption that it knows what it is doing. Better that BOR withdraw this Draft and do the studies and research work that is needed for a fish restoration plan that can succeed without causing irreparable harm to the habitat and the established bio-cultural complex that is the McCloud River today.

Or perhaps BOR is not the right agency to lead this effort. It does not have the capacity to evaluate the alternatives. Perhaps it should be a joint effort, with other agencies already involved instead of BOR alone.

Or, perhaps the McCloud is not the right river. The Draft does not examine the other rivers that are available for its unusual experiment but that were considered earlier. Given the fact that a far higher quality fish is available, and that another vehicle (volitional passage) is available, and that culturally appropriate methods are available, this Draft should be withdrawn and revised to include an analysis of these other aspects of the plan. The Fish Passage Committee needs to go back to the proverbial drawing board and start over. And this time, the planning must include the knowledge and experience of the people who lived on the river with the Chinook salmon for thousands of years. Meanwhile, the Winnemem will continue its own efforts.

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This is an existential matter for the Winnemem because, as our creation story tells us, to be Winnemem means to speak for the salmon.<sup>vii</sup>

Respectfully submitted,

*Caleen Sisk*

Caleen Sisk, Chief, Winnemem Wintu Tribe.

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<sup>i</sup> These comments were written by Claire Hope Cummings, M.A., J.D., former tribal counsel for the Winnemem Wintu Tribe (WWT) and reviewed and approved by Caleen Sisk, WWT Chief, Mark Miyoshi, THPO, and others in the tribe.

<sup>ii</sup> See, for instance pp. 191-192, 200 and related articles in Lightfoot, Kent and Parrish, Otis. *California Indians and Their Environment*: University of California Press, 2009.

<sup>iii</sup> Heizer, Robert and Elsasser, Albert. *The Natural World of the California Indians*: University of California Press, 1980.

<sup>iv</sup> Just as these comments are being finalized, on September 22, 2017, the Winnemem Wintu Tribe is gathering near the McCloud River Bridge for a ceremony. The ceremony will complete the second “run4salmon” effort, a prayerful re-enactment of the journey of the salmon from the Pacific ocean through San Francisco Bay, all the way up to the cold waters of the McCloud River. There will be prayers, songs and dances that are “put into” the ground, the river, the mountains, the spirits and more, all for the safe return of the salmon. As BOR knows, the songs and dances of the Winnemem have been done for the Salmon for many years, including the re-institution of the Hup Chonas which was historically held on the McCloud when the first hatchery disturbed Winnemem life on the river in the 1870’s, and has been held on many occasions since including on top of Shasta Dam. At these ceremonies the drum that is used is set into the ground, because salmon can hear the vibrations of the drum. The image of how the drum is traditionally used by the Winnemem serves to illustrate the intricate relationship between nature and culture for the Winnemem. As Chief Sisk explains, salmon use all their senses: sight, smell, sound, and more, right down into their DNA, all of which is required for them to make their journey home. “We know, for instance, that the salmon also followed the starlight, so we lit fires for them.”



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One of the first Westerners to observe the life of the Winnemem on the river was Livingston Stone. He wrote about the drumming and the fires along the river. Those fires were also part of the prayerful work the Winnemem did to assist in bringing the salmon back home. The Winnemem understand the way the salmon navigates and their work is done on both the physical and spiritual level as they participate in the salmon's life cycle. To separate culture and nature, or worse, to leave out the cultural aspects entirely, is an error of the first magnitude. Such simplistic thinking is not supported by science, law, or even common sense.

<sup>v</sup> See, for instance, *Okinawa Dugong v. Rumsfeld*, No C 03-4350, 2005 U.S. Dist. Lexis 3123 (N.D. Cal. Mar. 1, 2005).

<sup>vi</sup> See, in particular the Lyla June Johnston study and related notes from the meeting on the McCloud River between BOR and WWT that reviewed the sacred sites, their uses and meanings on record with the BOR.

<sup>vii</sup> The Winnemem Wintu Salmon Restoration Plan, cited at 3-17 of the Draft.

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August 1, 2017

Ms. Carolyn Bragg  
Natural Resources Specialist  
Mid Pacific Region, Bay Delta Office  
Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814

SUBJECT: Draft Environmental Impact Statement for the Shasta Dam Fish Passage Evaluation

Dear Ms. Bragg:

The Northern California Power Agency (NCPA) is pleased to provide Reclamation with comments on the Draft Environmental Impact Statement (DEIS) for the Shasta Dam Fish Passage Evaluation (SDFPE), as presented at its public meeting on June 27, 2017.

Regarding the scoping process for the SDFPE, we recommend that the document address the following topics:

008-001

1. **Costs:** The DEIS must describe the likely annual costs and total multiyear costs for the proposed Long-term Fish Passage Program (Program), including how Reclamation will fund and allocate these costs. The efficacy of this Program, measured in dollars per increased adult returning winter-run Chinook, should also be estimated. If Reclamation proposes to include winter-run Chinook from New Zealand as part of the reintroduction efforts above Shasta Dam as suggested at the public scoping meeting, then these costs must also be included in the DEIS. As well, the costs of doing the SDFPE feasibility study, including how the costs will be allocated to the Central Valley Project purposes, must be provided.

008-002

2. **CVP Power and Water Rate Impacts:** The impacts on rates incurred by the SDFPE feasibility study and the implementation of the Program need to be included in this evaluation.

008-003

3. **Feasibility:** The DEIS must describe and establish how Reclamation will measure "feasibility" for the Long-term Fish Passage Program. Feasibility should include analyses of the number of adult winter-run Chinook that return in comparison with other reasonable alternatives. Also, the cost and results of reducing the salmon mortality rate in the Delta should be evaluated and compared with the costs and results in reintroducing salmon above Shasta Dam.

- 008-004
- 008-001
4. **Cumulative Impacts:** The DEIS must address the cumulative impacts of the Program in conjunction with other programs being considered by Reclamation to improve returns of the winter-run Chinook. These other programs include the Bureau's Long Term Operations Reconsultation with Fish Agencies for the CVP and the State Water Project, and the State Water Resources Control Board's studies on revised flow requirements on the Sacramento River. If Central Valley Project Improvement Act (CVPIA) funding is to be disproportionately spent on the Shasta fish passage efforts at the expense of other programs, then the DEIS must also indicate which fisheries programs will not receive funding or have funding deferred because of this proposal.

Thank you for this opportunity to comment on the scoping for the DEIS for the proposed Shasta Dam Fish Passage Evaluation.

Thank you for your consideration. Should you have any questions, please contact Ms. Jane Cirrincione, NCPA Assistant General Manager for Legislative and Regulatory Affairs, at (916) 781-4203 or jane.cirrincione@ncpa.com.

Sincerely,



RANDY S. HOWARD  
General Manager

JDC/tk



Bragg, Carolyn <cbragg@usbr.gov>

## Bring the Salmon home

1 message

Peter Louis Woiwode <sweetfeetpete@gmail.com>  
To: cbragg@usbr.gov

Thu, Jun 29, 2017 at 7:10 PM

Dear Bureau of Reclamation,  
I would like to make a comment regarding the Shasta Dam Fish Passage project.

009-001 | To protect the Salmon from climate change, they must return to their traditional spawning grounds in the McCloud River and its glacial waters.

009-002 | The best solution is to follow the Winnemem Wintu's plan to build a swimway around Shasta Dam using natural creeks and bring home the McCloud River salmon descendants currently thriving in New Zealand.

009-003 | These salmon are wild and far healthier and disease-free than the Livingston Stone hatchery fish. They have been spawning in high mountain rivers for generations and are far more likely to successfully adapt to the new spawning route than hatchery fish.

009-002 | Trapping and trucking them is not a solution. There has never been a 'trap and truck' system that truly successfully re-established a fish population.

You need to follow the wisdom of Chief Sisk when she says we have to stop trying to control the salmon and let them return to their natural life cycle.

You can do something almost unheard of, work with those that carry the traditional knowledge on the McCloud River, the Winnemem Wintu Tribe. Allow them to be partners in restoring their relatives, the Salmon, to their natural spawning grounds.

Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

--

Pete Woiwode

Cell: 734.709.1789  
[pete.woiwode@gmail.com](mailto:pete.woiwode@gmail.com)

"The best country in the world, they say. May be, I haven't really lived anywhere else. But it's not good enough as far as I am concerned."  
Ella Baker



oio



Bragg, Carolyn <cbragg@usbr.gov>

**Fwd: Fish ladder around Shasta dam?**

1 message

Hannon, John <jhannon@usbr.gov>  
To: Carolyn Bragg <cbragg@usbr.gov>

Tue, Jul 11, 2017 at 4:09 PM

John Hannon, Fisheries Biologist  
U.S. Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814-2536  
[jhannon@usbr.gov](mailto:jhannon@usbr.gov)  
916-414-2413

----- Forwarded message -----  
From: Charles Love <[inthegulley1@icloud.com](mailto:inthegulley1@icloud.com)>  
Date: Mon, Jul 10, 2017 at 8:57 PM  
Subject: Fish ladder around Shasta dam?  
To: [jhannon@usbr.gov](mailto:jhannon@usbr.gov)

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Couldn't tunnels, canals and man made streams connect a tributary of Shasta Lake, like the Pitt River, with say, Little Cow Cream, so fish could bypass the dam to spawn?  
Thanks  
Charlie Love  
[Thegulley@gmail.com](mailto:Thegulley@gmail.com)

**2 attachments**

ATT00001  
1K

factsheetdraft-steering-comm-changes.pdf  
293K



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**Bragg, Carolyn** <cbragg@usbr.gov>

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## Public Comment on Shasta Dam Fish Passage Evaluation/MP-17-095

2 messages

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**Raven** <flyraven@sbcglobal.net>  
To: cbragg@usbr.gov

Wed, Jun 14, 2017 at 10:31 AM

Dear Bureau of Reclamation,

I would like to make a comment regarding the Shasta Dam Fish Passage. The best way to allow the Salmon to go back up to their traditional spawning grounds is to create a passage where the Salmon can swim. Trucking them is not a solution. They need and deserve a natural water way.

011-2  
001

You can do something almost unheard of, work WITH those that carry the traditional knowledge on the McCloud River, the Winnemem Wintu Tribe. Allow them to be partners in restoring their relatives, the Salmon to their natural spawning grounds.

011-2  
002

There are also genetically identical Salmon in New Zealand, as I know you are aware of. Please bring these relatives back to the land they came from.

011-2  
003

In support of bringing the Salmon home.  
Raven Stevens  
Mt. Shasta, CA

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**Bragg, Carolyn** <cbragg@usbr.gov>  
To: Benjamin Nelson <bcnelson@usbr.gov>, "HANNON, JOHN" <jhannon@usbr.gov>

Wed, Jun 14, 2017 at 10:39 AM

already got an email -  
[Quoted text hidden]



011-b-

From: Raven Stevens  
724 Butte Ave.  
Mt. Shasta, Ca 96067  
530-926-4339  
[flyraven@sbcglobal.net](mailto:flyraven@sbcglobal.net)

Dear Ms. Bragg,  
I would like to provide further comments to the "Shasta Dam Fish Passage Evaluation-Pilot Study." After listening to the BOR presentation by the experts at the Lakehead site on June 28th, 2017, I felt as though I should write again. I would appreciate you sharing this letter with the staff that was present at the BOR presentation that day, as I was not afforded the opportunity to say this publicly.

In my first letter I commented on these three items:

011-b  
004

1) The '3 year' extent of the project is flawed from the beginning. Salmon take 4-8 years to return back to their place of spawning. You must be aware of this after listening to Chief Sisk, and know that the length of the project needs to be expanded so that it is not flawed from the start.

011-a  
005

2) Truck trips for fish around the dams is not a viable option. Strong, wild fish need to swim around obstacles. We must create a passage way or 'swim around' for these Salmon.

011-a  
003

3) The last point I made in the letter is that we need to use the true "wild salmon" whose lives have been lived now over in New Zealand. These fish have the strength and the lineage of swimming upstream to spawn. Hatchery fish are not the same and using them is a set up for failure.

Today, I write to you again today because I believe that the team you have assembled intends to do the best job possible for a successful outcome. After listening to the presentation, it was clear to me that the same type of thinking, that has gotten us into the situation we are in now, is still in place. For example, the Shasta Dam was put in place with no thought to the Salmon or what limiting its natural spawning runs would do to the winter-run Chinook or any Salmon. No thought to what it would do to others that relied on the River, like the Winnemem Wintu people. The mindset that

created the dams didn't think it was a problem. And now both the Salmon and Winnemen people are small in number. The well being of both are inextricably connected.

011-2  
005 | You will want to work closely with Joanne Biswell, the Cultural Resources person. The cultural aspects of this project are important and should be documented completely with representatives of the Tribe.

I see this project as an amazing opportunity. Your group has stumbled upon a moment in history whereby your agency/s, the Winnemem Wintu Tribe and the public, all want the same thing. You want to see the McCloud River restored to its wholeness i.e. healthy again. You want the Salmon to be brought back to their original spawning grounds. It's an amazing project and opportunity for healing on many levels. Working with the Winnemem Wintu Tribe is one of those opportunities for you.

011-a  
002 | Please include the Tribe in all aspects of this project. They have special knowledge and viewpoint that you could use in order for this project to become a success. You may think you have all the experts you need, but when I listened to the presentation, I realized you are missing **the** key component: the Tribal perspective.

The Winnemem Wintu Tribe carries knowledge about this project that cannot possibly be gained from studies, white papers, books and classroom work, yet this knowledge will only support the work you undertake in bringing the Salmon home to the McCloud River.

I am personally asking you to slow down, listen and respect knowledge that comes from those that have the relationship with the Salmon and River that you are charged to restore. They are invaluable to you for the success of this undertaking. Include them in every aspect of this project as it moves forward.

Sincerely,  
Raven Stevens  
Mt. Shasta, CA



Bragg, Carolyn &lt;cbragg@usbr.gov&gt;

**Re: Return of the Salmon to Northern California from New Zealand**

3 messages

JANICE GLOE <RAINGLO@msn.com>  
To: "cbragg@usbr.gov" <cbragg@usbr.gov>

Sun, Jun 25, 2017 at 3:29 PM

Sunday, June 25th, 2017

To: Carolyn Bragg, Natural Resources Specialist, Bureau of Reclamation, Mid-Pacific Region

Dear Specialist Bragg,

I strongly support the project of Chief Sisk and the Winnemem Wintu people to bring back the original salmon from New Zealand to Northern California. This is vital not only to the Winnemem Wintu people but to everyone. The salmon are an endangered species here and we need to protect them. The salmon must not become extinct. They keep the precious water of the rivers clean and healthy and support the entire ecosystem of the rivers.

012-001

I strongly support the proposed salmon bypass project connecting two streams around Shasta Dam. This is the natural way for the salmon to survive by swimming. I strongly reject the idea of trucking and hauling the salmon from one area to another. That would be detrimental to the health of the salmon.

012-002

Chief Sisk and many supporters are working hard to raise the money necessary for the project to bring back the original salmon from New Zealand. It is a huge amount of money but I do believe it will be raised. A lot of money has been raised already. But, please, if the exact amount of money is not yet raised by your deadline, please extend the deadline. Please do not drop the project just because there is not the exact amount of money you expect raised yet.

002-003

I don't think that I will be able attend your next meeting, 6/27, in person. That is why I am writing you now. Could you

please include my e-mail in your public comments for the meeting and give a copy to those on the committee at the meeting?

Thank You,

Sincerely,

7/3/2017

DEPARTMENT OF THE INTERIOR Mail - Re: Return of the Salmon to Northern California from New Zealand

Janice Gloe

3100 Guido Street

Oakland, CA

[rainglo@msn.com](mailto:rainglo@msn.com)

(510) 531-6857

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**Bragg, Carolyn** <cbragg@usbr.gov>  
To: Carolyn Bragg <cbragg@usbr.gov>

Mon, Jun 26, 2017 at 5:00 PM

[Quoted text hidden]

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**Bragg, Carolyn** <cbragg@usbr.gov>  
To: Carolyn Bragg <cbragg@usbr.gov>

Tue, Jun 27, 2017 at 7:57 AM

----- Forwarded message -----

From: **JANICE GLOE** <[RAINGLO@msn.com](mailto:RAINGLO@msn.com)>

Date: Sun, Jun 25, 2017 at 3:29 PM

Subject: Re: Return of the Salmon to Northern California from New Zealand

To: "cbragg@usbr.gov" <cbragg@usbr.gov>

[Quoted text hidden]

013



Bragg, Carolyn <cbragg@usbr.gov>

### Fwd: I support the Winnemem Wintu Salmon Restoration Plan

1 message

Public Affairs, BOR MPR <sha-mpr-publicaffairs@usbr.gov>  
To: Carolyn Bragg <cbragg@usbr.gov>

Wed, Sep 6, 2017 at 12:16 PM

Hi Carolyn,  
FYI - we received this last night in our Public Affairs mailbox.

Thank you,  
Lisa

Lisa Navarro  
Public Affairs Specialist  
916-978-5111  
lnavarro@usbr.gov

----- Forwarded message -----  
From: **Lee, Camellia** <camellia\_lee@brown.edu>  
Date: Tue, Sep 5, 2017 at 5:05 PM  
Subject: I support the Winnemem Wintu Salmon Restoration Plan  
To: sha-mpr-publicaffairs@usbr.gov

To whom it may concern,

I'm writing to express my support for the Winnemem Wintu Salmon Restoration Plan. Please do what's right for generations past, present and future.

013 - 001

Sincerely,  
C. Lee



Support Moyle's paper  
014

RESOURCES LAW GROUP, LLP

555 CAPITOL MALL, SUITE 1090 SACRAMENTO, CALIFORNIA 95814  
916.442.4880 916.442.4193 (FAX) www.resourceslawgroup.com

September 28, 2017

**VIA U.S. POSTAL SERVICE AND ELECTRONIC TRANSMISSION**

Ms. Carolyn Bragg  
Natural Resources Specialist  
Bureau of Reclamation  
Bay-Delta Office  
801 I Street, Suite 140  
Sacramento, CA 95814-2536

**Re: Scope of the Draft Environmental Impact Statement for the Shasta Dam Fish Passage Evaluation**

Dear Ms. Bragg:

Thank you for the opportunity to comment on the appropriate scope for the draft environmental impact statement for the Shasta Dam Fish Passage Evaluation ("EIS"). The EIS should fully analyze the potential impacts of the proposed trap and haul pilot project at Shasta Dam. However, the EIS should also carefully consider alternative conservation strategies for Chinook salmon in order to provide insight into the best strategies for improving Chinook population abundance and resilience.

014  
1001  
1010  
2014

Based on our review of the Shasta Dam Fish Evaluation Project Draft Pilot Implementation Plan ("Draft Plan"), the Shasta Dam Fish Passage Evaluation Preliminary Draft Environmental Assessment - April, 2017 ("Preliminary Draft Environmental Assessment"), and other documents, we believe that the approaches proposed for evaluation in the Draft Plan are unlikely to advance the recovery of winter-run Chinook salmon in California and that alternative approaches are more likely to achieve the outcome sought by the Bureau of Reclamation ("Reclamation") and by the National Marine Fisheries Service in its June 4, 2009, Biological Opinion and Conference Opinion on the Long-Term Operation of the Central Valley Project and State Water Project.

We understand that the imperiled status of the mainstem winter-run Chinook salmon population provides a strong basis for immediate action. However, precisely because of the precarious status of the species, it appears to us that Reclamation should prioritize actions that are more likely to yield successful results, such as reintroduction by volitional passage, together with downstream habitat improvements. We caution that a reliance on the outcomes of reintroduction efforts in the

Pacific Northwest are likely of limited value, as the conditions affecting those river systems differ substantially from conditions affecting the McCloud.

Resources available to recover winter-run Chinook populations should be directed towards strategies that are less risky, more cost-effective, and more likely to prove successful than a trap and haul approach. We therefore recommend that the EIS include all of the following:

- 014 -  
003
1. Alternatives. To evaluate a reasonable range of alternatives to the proposed action, we recommend that the EIS evaluate the expansion of efforts on the mainstem of the Sacramento River and on certain other reaches where opportunities exist for further enhancement and/or creation of fish habitat that supports volitional passage of winter-run Chinook. For instance, we believe that the following alternatives offer better opportunities to advance the recovery of winter-run Chinook:
    - a. *Restoration Actions on Lower Clear Creek*. Historically, winter-run Chinook have not occupied Lower Clear Creek. However, the creek has been altered to the point where it potentially could support a volitional population. The National Marine Fisheries Service has already proposed this waterway as a potential site to support the recovery of spring-run Chinook and steelhead, including through gravel augmentation and flow modifications, and the same could be done for winter-run Chinook.
    - b. *Completion of the Battle Creek Project*. Resources expended for the proposed action could instead be used to increase efforts to complete the currently envisioned restoration project at Battle Creek.
    - c. *Greater Emphasis on Downstream Habitat Management and Restoration*. Given the relatively high population numbers of winter-run Chinook recorded in the 1960's, it is evident that the barrier to historic habitat created by Shasta Dam has not been the only factor that has caused the decline of this run of salmon. Numerous other stressors occur downstream of Shasta Dam that have been identified as major factors in this decline, including: (1) impaired water temperatures, (2) impaired water quality from pesticide and herbicide use, (3) degradation of freshwater rearing habitat from levee protection that has simplified riverine habitat and disconnected rivers from the floodplain, (4) new water diversion sites, and (5) loss of estuarine rearing habitat in the Delta. Resources proposed to be expended for the proposed action could instead be used to supplement or complement the work already being advanced by Reclamation and other agencies as part of California Waterfix , and could support extending these efforts to additional areas outside the California Waterfix area.
    - d. *Focus on Strongholds*. An alternative that focuses on salmon strongholds should be analyzed. This alternative should focus on preventing further impacts to

014-003

Chinook salmon, prioritizing watershed conservation activities and expenditures in salmon strongholds - those places where California has its healthiest remaining populations of wild salmon. Unfortunately, the same forces that drove many salmon populations to need federal protection continue to threaten healthier salmon populations. If conservation efforts are not focused on those healthier populations, they could well face the same fate as winter-run and spring-run Chinook. California has already mapped its existing salmon strongholds statewide. This alternative should prioritize needed conservation and restoration actions in these strongholds, rather than implement the high-risk reintroduction measures set out in the 2009 Biological and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project.

- 014-004  
014-005
2. Impacts on Existing Fish Communities. Potential impacts on existing fish communities should be considered carefully, including, but not limited to, the introduction of pathogens by Chinook salmon released into the Upper Sacramento and McCloud Rivers, and the potential need to alter the flows of those rivers to support introduced Chinook and any resulting potential to impact existing fish communities. The Preliminary Draft Environmental Assessment states,

Experimental reintroduction releases of Chinook Salmon of various life stages in the Upper Sacramento and McCloud rivers as part of the Pilot Program is expected to involve low risk of adverse impacts to existing fish communities, resident trout populations, and special-status aquatic species because of the relatively low numbers of fish to be authorized and used in the various studies and the minimal disturbance to the surrounding habitat. (p. 4-26.)

However, newly introduced pathogens, and changes in water management, that could result from the introduction of Chinook salmon could cause significant adverse impacts to existing fish communities even if "low numbers" of fish are initially introduced to the Upper Sacramento and McCloud Rivers.

- 014-006
3. Incorporation of Recent Guidance. If Reclamation decides to proceed with the Shasta Dam Fish Evaluation as proposed, the key question the Evaluation should try to answer is how much a Shasta Dam trap and haul program would contribute to returning adult Chinook salmon and to maintaining or increasing the total Chinook population in comparison to alternative conservation strategies. The Shasta Dam Fish Evaluation should incorporate this and other excellent guidance provided in Robert A. Lusardi & Peter B. Moyle (2017) Two-Way Trap and Haul as a Conservation Strategy for Anadromous Salmonids, Fisheries, 42:9, 478-487, DOI:10.1080/03632415.2017.1356124, including "Two-Way Trap and Haul and Reintroduction Considerations" (p. 483) and "Requirements for a Successful Two-Way Trap and Haul Program" (p. 484). (See attached.)

Carolyn Bragg  
September 28, 2017  
Page 4 of 4

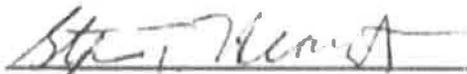
Thank you for the opportunity to provide comments on the proposed environmental impact statement for the Shasta Dam Fish Passage Evaluation. If you have questions or would like to discuss these issues, please contact Michael Mantell at [mmantell@resourceslawgroup.com](mailto:mmantell@resourceslawgroup.com) or (916) 442-4880.

Sincerely,



---

Bob Fisher  
McCloud River Club



---

Steve Hearst  
Hearst Corporation

cc: Maria Rea, Jon Ambrose, Brian Ellrott, David van Rijn, John Hannon, Alice Berg, Sue Fry, Curtis Knight, Brian Johnson, Peter Moyle, Robert Lusardi, Guido Rahr, Mark Trenholm (w/o enclosure)

Comment noted 015-001

# RECLAMATION *Managing Water in the West*



## QUESTIONS AND IDEAS Shasta Dam Fish Passage Evaluation - Pilot Study

Please mail your questions and ideas to Carolyn Bragg, Bureau of Reclamation, Bay-Delta Office, 801 I Street, suite 140, Sacramento, CA 95814-2536, fax to (916) 414-2439 or email cbragg@usbr.gov, by Friday, July 28, 2017.

For additional information, please contact Ms. Bragg at (916) 414-2433.

(Please print clearly)

Name ROBERT WEESE DUHA

Organization and Address HOR CAX GUIDES AND SPORTSMAN ASSOCIATION

Phone (530) 755-7196 FAX ( ) \_\_\_\_\_ E-mail ADCROBD@YAHOO.COM

6-27-17

Date

PLEASE CALL ME FOR CONFERENCE I HAVE 45 YEARS OF RIVER AND STREAM STUDIES - FISH AND WILD LIFE

015  
001

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**U.S. Department of the Interior  
Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814-2536  
Bay-Delta Office  
Attn: Carolyn Bragg**

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Please fold, staple, stamp, and mail

comment noted

016 - 061

# RECLAMATION *Managing Water in the West*



## QUESTIONS AND IDEAS

### Shasta Dam Fish Passage Evaluation - Pilot Study

Please mail your questions and ideas to Carolyn Bragg, Bureau of Reclamation, Bay-Delta Office, 801 I Street, suite 140, Sacramento, CA 95814-2536, fax to (916) 414-2439 or email cbragg@usbr.gov, by Friday, July 28, 2017.

For additional information, please contact Ms. Bragg at (916) 414-2433.

(Please print clearly)

Name JEANNE FRANCE

Organization and Address WINNEMEM WINTU

PO Box 219

WHITMORE, CA 96096

Phone (530) 472-1050 FAX ( ) E-mail GLASSWINTU@HOTMAIL.COM

016-00  
Date 7/26/17

THE WINNEMEM WINTU SALMON RESTORATION  
PLAN - McCLOUD RIVER; IS THE ONLY VIABLE &  
FEASIBLE PLAN THERE IS TO RESTORE WILD SALMON.

*Jeanne France*

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**U.S. Department of the Interior  
Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814-2536  
Bay-Delta Office  
Attn: Carolyn Bragg**

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Please fold, staple, stamp, and mail



Bragg, Carolyn <cbragg@usbr.gov>

### Comments

1 message

**Gary Mulcahy** <gary@ranchriver.com>  
Reply-To: gary@ranchriver.com  
To: cbragg@usbr.gov

Sat, Jul 29, 2017 at 7:42 AM

I have corrected some and expanded on a few.

SDFPE Public Scoping Meeting - June 27, 2017

Gary Mulcahy - [gary@ranchriver.com](mailto:gary@ranchriver.com)

. Government Affairs - Water and Science

. In 2005 the Winnemem Wintu were plaintiffs in the litigation on the biological opinion based on the 2004 OCAP;

. In 2009 after a new biological opinion was issued by NOAA on the 2004 OCAP, the Winnemem joined the bureau and several other organization to be defendant intervenors against the attack on the new BiOp

. In 2010 NMFS, the Winnemem Wintu and New Zealand representatives met and discussed an Memorandum of Agreement for possibility of bringing back winter run salmon from NZ fish which were established from eye'd eggs from the McCloud River and Baird Fish Hatchery

. The Sacramento River winter-run are genetically depleted and genetically bereft

. The NMFS BO describes the effects of the dams and hatcheries' influence and interbreeding

. There is a small gene pool for these fish - only one ESU

. There is a way to get salmon tested and back and use a genetically pure fish instead of depleted

. Reclamation should allow Winnemem Wintu to participate on the Fish Passage Pilot Project steering committee

. The area is the tribe's traditional homeland and salmon were the main sustenance during the summer, spring, winter, and fall; also cultural, spiritual, and religious connections to salmon

. There are sacred sites all along the upper Sacramento and the McCloud rivers; Reclamation chose one site for the juvenile collector that was sacred so they moved it to another site but it was more sacred

. The Winnemem Wintu are opposed to the plan the way it currently is, and submitted a plan to use the Cow to Little Cow to Dry Creek to the lake and use volitional passage

017-001

017-003

017-003



SDFPE Public Scoping Meeting – June 27 2017

Nikolas Lane Gillian – [lanegillian@gmail.com](mailto:lanegillian@gmail.com)

08-  
001

- Strong favor of Winnemem Wintu restoration plan, they are stewards of the resources
- Bring Chinook salmon home
- Include the Winnemem Wintu's plan in the Pilot Plan
- Extend fundraising deadline

08-  
002



SDFPE Public Scoping Meeting – June 27 2017

Kim Deocampo – [kdeocamp@cttp.net](mailto:kdeocamp@cttp.net)

- 019-0011 • Restore the salmon in a natural way
- 019-0021 • No modified, no genetic mutations, no hatcheries, no cab ride back
  - Leave something alone that is sacred
- 019-0031 • Natural way – good way for our children



SDFPE Public Scoping Meeting – June 27 2017Amanda Ford – [amanda@ejcw.org](mailto:amanda@ejcw.org)

- Environmental Coalition for Water Justice
- Traditional ecological knowledge should be considered with scientific knowledge and should be considered a priority
- The tribe has been living this for millennia
- Genetically degraded fish aren't going to thrive
- Salmon spend longer in the ocean than the study is planned for

020-001 |

020-002 |



SDFPE Public Scoping Meeting – June 27 2017

James Stone – [jstone@ncgasa.org](mailto:jstone@ncgasa.org)

- Nor-Cal Guides and Sportsmen’s Association
- For 30+ years fish have been worked on at Livingston Stone National Fish Hatchery with zero success
- Constant decline of winter, spring, and fall run
- Opposed as a last resort. This is a smoke and mirrors and scapegoat for other problems.
- Not opposed as a cultural/religious reintroduction for the Winnemem Wintu
- Already spent \$1million, need to focus on downstream effects
- Everyone is for more fish, but need more research and studying
- The estuary is polluted, there are problems such as the Delta Cross Channel and Georgiana Slough; the issues are very very complicated
- Although the pilot study is very thought out there is room for error
- Winter-run from 60 broodstock and 198 winter-run in 1991; they are genetically connected
- The New Zealand fish are exact pure genetic winter-run
- Start releasing cold water from Shasta Dam

021-001

021-002

021-003

021-004



SDFPE Public Scoping Meeting – June 27 2017

Patrick Porgans – [pp@planetarysolutionaries.org](mailto:pp@planetarysolutionaries.org)

- There are systematic issues that need to be addressed
- Agree with Winnemem Wintu
- This is a problem Bureau of Reclamation created
- Individuals cannot violate ESA but the pumps harm hundreds of millions of fish
- CVPIA doubling goals are not even close to being reached
- Protracted process

022-  
001



SDFPE Public Scoping Meeting – June 27 2017

Lupita Torres - [lutorres@ucdavis.edu](mailto:lutorres@ucdavis.edu)

023-  
001

- Speak on behalf of Tuolumne Me-Wuk Tribe in support of the Winnemem Wintu
- Respect and trust native cultures and their Traditional Ecological Knowledge
- Thousands of people are in support of the tribe in the Davis community
- Have respect, listen, work with the tribe as peers and understand their indigenous sovereignty



024

SDFPE Public Scoping Meeting – June 27 2017

Dan Bacher - [danielbacher@fishsniffer.com](mailto:danielbacher@fishsniffer.com)

- Over 30 years ago winter-run was listed which was necessary because there were less than 200 fish; Fish still on edge of extinction and suffer the same government policy
- Completely support the well thought out Winnemem Wintu plan. It is supported by scientific history; Fishway up Cow or Dry Creek is the only way
- Already know they will spawn above, the McCloud River is pristine
- Focus on downriver conditions
- Delta pumps are the biggest fish killer in history
- Stop the Delta Tunnels

024-001

024-002





## QUESTIONS AND IDEAS

### Shasta Dam Fish Passage Evaluation - Pilot Study

Please mail your questions and ideas to Carolyn Bragg, Bureau of Reclamation, Bay-Delta Office, 801 I Street, suite 140, Sacramento, CA 95814-2536, fax to (916) 414-2439 or email cbragg@usbr.gov, by Friday, July 28, 2017.

For additional information, please contact Ms. Bragg at (916) 414-2433.

(Please print clearly)

Name Frank C. Martins IV

Organization and Address 2047 Amador Pl  
Redding, CA 96001

Phone (415) 747-6133 FAX ( ) E-mail quattro4kat@gmail.com

Date

More technical questions

1) Given that introduced salmon will not be the only fish caught in the ~~traps~~ traps how much stress will be put on the fish to select or separate and ~~remove~~ remove the fish from the traps(s). (and if my assumptions are ~~correct~~ correct)

2) Given that there has been fish environmental ~~change~~ changes to the river and possibility of genetic drift ~~from~~ in the salmon themselves since these rivers used to run and the salmon as well, what kind of study will be done to determine the effect of the genetics of the fish themselves?

~~I would like to~~ I will like to read the Habitat Analysis and will download it so that I may do so.

3) Will it be possible to volunteer to help with the pilot?

4) The professional guide mentioned something about the cold water systems at Keswick and Shasta are "barren". Is there a reference on that? Some place to read about that?

Thank you for holding this scoping. Frank (see other side)

8/1/17  
8/2/17  
8/5/17  
8/18/17

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**U.S. Department of the Interior  
Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814-2536  
Bay-Delta Office  
Attn: Carolyn Bragg**



Please fold, staple, stamp, and mail

035-006  
035-008  
035-002

5) Will there be an evaluation of the effectiveness of different genetic sources of salmon? I heard that in the presentation that there would be "wild" salmon included in the pilot, and I think that is a wonderful idea.

6) I have seen public release of studies about how the reintroduction of walrus into Yosemite (as an example) have changed the ecology of the river in the area. Is there a possibility that as I understand it, that ecological change was not predicted by poor shelly. Is it possible that such an effect could occur given the complexity of the ecology with the restoration of the salmon?

026

comment noted

# RECLAMATION *Managing Water in the West*



## QUESTIONS AND IDEAS Shasta Dam Fish Passage Evaluation - Pilot Study

Please mail your questions and ideas to Carolyn Bragg, Bureau of Reclamation, Bay-Delta Office, 801 I Street, suite 140, Sacramento, CA 95814-2536, fax to (916) 414-2439 or email cbragg@usbr.gov, by Friday, July 28, 2017.

For additional information, please contact Ms. Bragg at (916) 414-2433.

(Please print clearly)

Name David S. Martinez

Organization and Address Winnehem Wintu

PO Box 219

Whitmore CA. 96096

Phone (530) 472-1050 FAX ( ) E-mail silverthorn18@hotmail.com

6-28-2017  
Date

The winnehem wintu Salmon Restoration and swimway plan is the only viable plan to restore Wild Salmon to the McCloud River -

026-001

Between the McCloud River Salmon from New Zealand. they are the Wild Salmon

026-002

Truck and haul is proving to be disastrous -

026-003

6-28-2017

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**U.S. Department of the Interior  
Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814-2536  
Bay-Delta Office  
Attn: Carolyn Bragg**

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Please fold, staple, stamp, and mail

027

Comment noted

# RECLAMATION *Managing Water in the West*



## QUESTIONS AND IDEAS Shasta Dam Fish Passage Evaluation - Pilot Study

Please mail your questions and ideas to Carolyn Bragg, Bureau of Reclamation, Bay-Delta Office, 801 I Street, suite 140, Sacramento, CA 95814-2536, fax to (916) 414-2439 or email cbragg@usbr.gov, by Friday, July 28, 2017.

For additional information, please contact Ms. Bragg at (916) 414-2433.

(Please print clearly)

Name Sabrina Ruckey

Organization and Address 15389 CrossCreek Rd  
Shasta Ca 96087

Phone (916) 9216466 FAX ( ) E-mail littlefurtles52@gmail.com

6/28/17  
Date

027-001

The biggest concern I have is that there are too many fish being captured to breed with farm raised fish all along the main Pacific Coast there are farms on each side of the rivers the salmon make there run.

They don't have a good chance to survive - speak of regulations on fishing why havent farms been regulated & closed down due to their failure's? Thousands millions of fish die! Due to Genetic disorders our fish can survive if these farms that the Government runs were closely regulated I'm a blue blood related to Queen Elizabeth queen mary of Scots. I have the MTHFR mutated Gene -> Habitat

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**U.S. Department of the Interior  
Bureau of Reclamation  
801 I Street, Suite 140  
Sacramento, CA 95814-2536  
Bay-Delta Office  
Attn: Carolyn Bragg**



Please fold, staple, stamp, and mail

Ms. Carolyn Bragg  
Natural Resource Specialist  
Bureau of Reclamation Bay-Delta office

008  
028 → 001-005  
= 131 comment forms

September 26, 2017

From: Patricia R. Osborn  
1130 Uplands Drive  
Mount Shasta, Ca 96067

Dear Ms. Bragg,

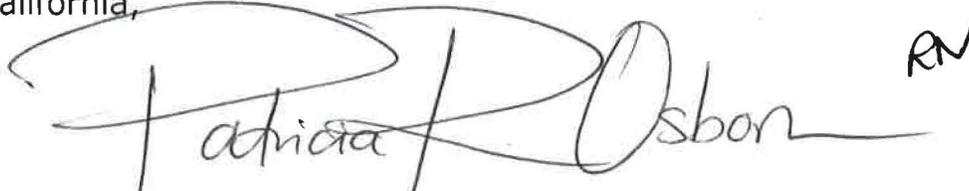
I have been a resident of California for over 30 years and am a 4<sup>th</sup> generation family from the town Shasta Lake City formally known As Central Valley, which is the location of Shasta Dam. I am writing to submit my public comment on the fish passage aspect of the Delta project.

I have been working with the local Winnemen Wintu tribe from the McCloud river water shed for the last two years during their two week Run4Salmon prayer journey. During this year's events I collected signatures directly from the public and I am forwarding them to you.

We are asking to have the mission statement of the Bureau of reclamation, which states "is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American Public" to be upheld to the fullest possible efforts of this EIR.

I formally request that Chief of the Winnemen Wintu tribe Caleen Sisk be directly involved in the planning phase and throughout the completion of the Salmon restoration project. I believe a fish ladder is possible and is a vital keystone species that will restore balance to the entire ecosystem. I request that the salmon located in New Zealand be considered and used for any studies conducted in the McCloud River shed.

Thank you, for your ongoing efforts to restore the salmon runs in Northern California,

A handwritten signature in black ink that reads "Patricia R. Osborn". The signature is written in a cursive style. To the right of the signature, there are the initials "RN" written in a similar cursive hand.

Patricia R Osborn, RN, BSN, Public Health Nurse

Community member of the Siskiyou County Air Quality Pollution Control Board.

028

001 - 005

131 comment forms

Dear Bureau of Reclamation,  
I would like to make a comment regarding the Shasta Dam Fish Passage project.

028-001 | To protect the Salmon from climate change, they must return to their traditional spawning grounds in the McCloud River and its glacial waters.

028-002 | The best solution is to follow the Winnemem Wintu's plan to build a swimway around Shasta Dam using natural creeks and bring home the McCloud River salmon descendants currently thriving in New Zealand.

028-003 | These salmon are wild and far healthier and disease-free than the Livingston Stone hatchery fish. They have been spawning in high mountain rivers for generations and are far more likely to successfully adapt to the new spawning route than hatchery fish.

028-004 | Trapping and trucking them is not a solution. There has never been a 'trap and truck' system that truly successfully re-established a fish population.

You need to follow the wisdom of Chief Sisk when she says we have to stop trying to control the salmon and let them return to their natural life cycle.

028-005 | You can do something almost unheard of, work with those that carry the traditional knowledge on the McCloud River, the Winnemem Wintu Tribe. Allow them to be partners in restoring their relatives, the Salmon, to their natural spawning grounds.

Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE

medicine tribes@gmail.com

Dear Bureau of Reclamation,

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Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE

Tan Haddbrook  
614 Skyview rd.  
Mt. Shasta Ca. 96067

Please help the people bring back  
the salmon. - thx

Dear Bureau of Reclamation,

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In support of bringing the Salmon home,

INSERT SIGNATURE



712 Remour Lane

Mount Shasta, CA 96067

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In support of bringing the Salmon home,

INSERT SIGNATURE



11397 Puerta Del Sol

Oak View CA.

93022

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In support of bringing the Salmon home,

INSERT SIGNATURE



Jon Fortner.

HCD Box 4642

Trinity center CA, 96091

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in black ink, appearing to read "Zoëti Prairie". The signature is written in a cursive style and is followed by a long horizontal line that extends across the page.

Zoëti Prairie  
Redding, CA

Dear Bureau of Reclamation,

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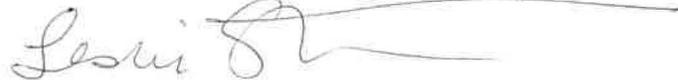
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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in cursive script, appearing to read "Lesli Sisk", followed by a long horizontal flourish line.

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In support of bringing the Salmon home,

INSERT SIGNATURE

*Nina Alicia Garcia Torres*

*1972 36th Ave  
Oakland, CA  
94601*

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In support of bringing the Salmon home,

INSERT SIGNATURE

Paul S Andrade  
1380 Wakefield Ave  
Weed, CA 96094

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Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE

Jeffrey Bucher  
315 South 1<sup>st</sup> St  
Talent, OR 97540.

Stop The Madness.

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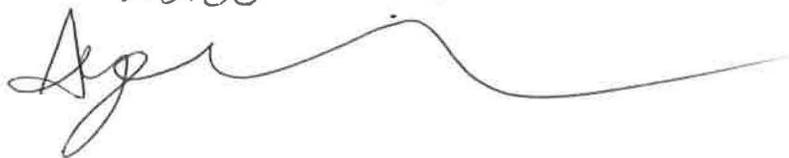
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In support of bringing the Salmon home,

INSERT SIGNATURE

Suzanne Morgan  
110 Lindridge, Williamsburg VA  
23188

A handwritten signature in black ink, appearing to read 'Suzanne Morgan', with a long, sweeping horizontal line extending to the right.

Dear Bureau of Reclamation,

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in black ink, appearing to read "Anna Helene Keppen". The script is cursive and somewhat stylized, with the first name being the most prominent.

Anna Helene Keppen

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In support of bringing the Salmon home,

INSERT SIGNATURE



Desiree Coutinho

desiree.coutinho@gmail.com

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in cursive script, appearing to read "Joe Penner". The signature is written in black ink and is positioned below the text "INSERT SIGNATURE".

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In support of bringing the Salmon home,

INSERT SIGNATURE



Josiah Danahoe  
josiah.danahoe@nrc.gov

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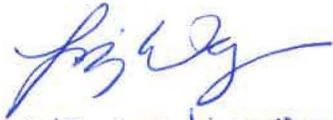
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In support of bringing the Salmon home,

INSERT SIGNATURE

  
wagner.liz707@gmail.com

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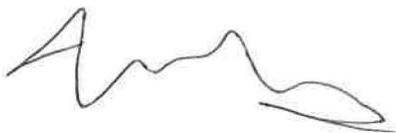
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In support of bringing the Salmon home,

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in black ink, appearing to read 'Lindsey Morriss', written in a cursive style.

LINDSEY MORRIS

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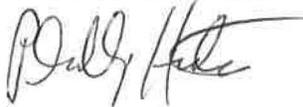
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In support of bringing the Salmon home,

INSERT SIGNATURE

 2772 Mule Deer Dr  
Wood 96098

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Roy Fisher 527 STONEWAY WREED CA

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Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE



12701 Noldster  
Weed, CT 06094  
Sarahella Bennett

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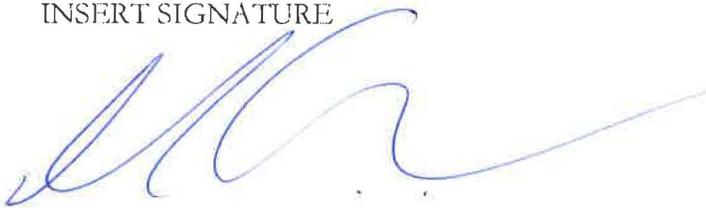
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Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE



Michelle Goldsmith 192/200 Main st.  
Weed CA 96094

Business owner  
Concerned citizen

Water for Our Community is All important  
♡

Dear Bureau of Reclamation,

I would like to make a comment regarding the Shasta Dam Fish Passage project.

To protect the Salmon from climate change, they must return to their traditional spawning grounds in the McCloud River and its glacial waters.

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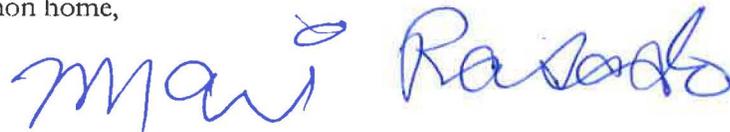
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234 Clay St  
Weed, CA 96094

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In support of bringing the Salmon home,

INSERT SIGNATURE



ANDREW FOSSO  
8936 Blue JAY LN  
WEED CA 96094

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in cursive script that reads "Mary Malhe". The signature is written in dark ink on a white background.

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in cursive script, appearing to read "Walker". The signature is written in dark ink and is located in the lower right quadrant of the page.

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In support of bringing the Salmon home,

INSERT SIGNATURE

Nate Scott natetomscott1@gmail.com

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In support of bringing the Salmon home,

INSERT SIGNATURE



A handwritten signature in blue ink, appearing to be "A. O. Sisk", with the email address "ALHAWANKER@HOTMAIL.COM" written below it.

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in blue ink, appearing to read "Lilly Hanger", with a long horizontal flourish extending to the right.

hmonger1@aol.com

Dear Bureau of Reclamation,

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In support of bringing the Salmon home,

INSERT SIGNATURE

Barbara Toney  
barbaratoney6684@gmail.com

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in blue ink that reads "J. S. Leasing Page". The signature is written in a cursive style and is positioned below the "INSERT SIGNATURE" text.

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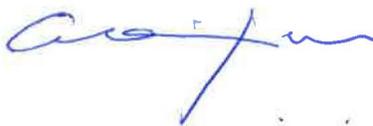
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In support of bringing the Salmon home,

INSERT SIGNATURE

Micah Ree MacMillan  
micahree@yahoo.com  
9512 N. Old Stage  
Weed, CA 96094

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in cursive script that reads "Crystal Scartell". The signature is written in dark ink and is positioned below the "INSERT SIGNATURE" text.

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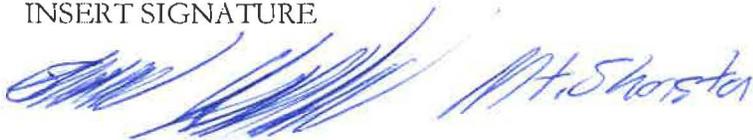
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In support of bringing the Salmon home,

INSERT SIGNATURE

Rose Wood, Grass Valley 95945  
Chebe Elliott, Grass Valley 95945  
Jodi Jangle, Grass Valley, 95945  
Carmen Jones, Nevada City CA 95959  
K. O. NEVADA CITY-CA 95959  
Carmen Jones DAVIS CA 95614  
Laura Dyer, Inglewood, CA 90301  
Sean Guerra, Bakersfield, CA 93305  
Celia Gantz, Arcata, CA 95521  
Sun Dyer, Chico, Ca. 95928  
Elizabeth Wilson, Redding CA 96003

Beau Heng Chico 95926

Mary Reeves Vacaville 95688

Yannah Mandujano Sacramento, CA

Jessie A. Sisk Redding, Ca, 96008

Jylene A Sisk Redding CA 96003

Maria Sisk Redding, CA 96003

Jessica Sisk Redding, CA 96003

Ann J Sisk Redding, CA 96003

Sherald Zahler Redding, CA 96003

Marianne Sisk Redding, CA 96003

John Sisk Snohomish, WA 98290

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in blue ink, appearing to be 'Reya12', written in a cursive style.

Reya12@hotmail.com



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You can do something almost unheard of, work with those that carry the traditional knowledge on the McCloud River, the Winnemem Wintu Tribe. Allow them to be partners in restoring their relatives, the Salmon, to their natural spawning grounds.

Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE





Dear Bureau of Reclamation,

I would like to make a comment regarding the Shasta Dam Fish Passage project.

To protect the Salmon from climate change, they must return to their traditional spawning grounds in the McCloud River and its glacial waters.

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PO Box 232

Fort Jones, CA 96032



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INSERT SIGNATURE

*Melissa E. Fullis*  
*respect for our ever-loving Mother*



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INSERT SIGNATURE

A handwritten signature in cursive script, appearing to read "L. Sisk". The signature is written in black ink and is positioned below the text "INSERT SIGNATURE".



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In support of bringing the Salmon home,

INSERT SIGNATURE

Ana Neileger

530 N. Adams

Rt. Shasta, CA 96067



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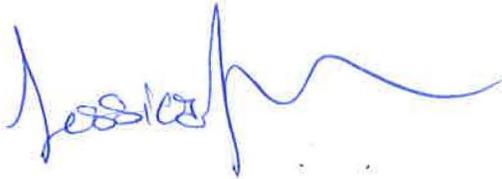
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In support of bringing the Salmon home,

INSERT SIGNATURE



Jessicaff@Gmail.com



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In support of bringing the Salmon home,

INSERT SIGNATURE

Roseanne A. Ware  
111 McCloud Ave  
Apt C  
Mt Shasta, CA 96067



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In support of bringing the Salmon home,

INSERT SIGNATURE



Zion M Johnson 56@yahoo.com



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INSERT SIGNATURE

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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in blue ink, appearing to read "Heather McL", is written over the "INSERT SIGNATURE" text.



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In support of bringing the Salmon home,

INSERT SIGNATURE

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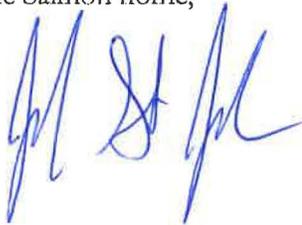
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INSERT SIGNATURE



3024 SE 31st  
Portland, OR 97202



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INSERT SIGNATURE



406 Red Sky St.



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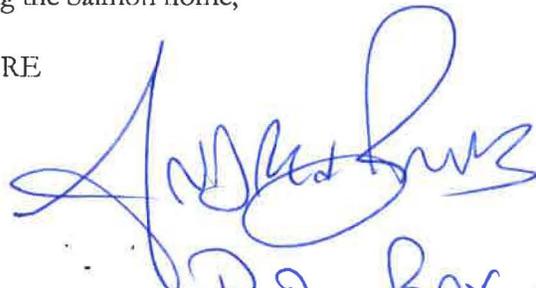
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INSERT SIGNATURE

  
P.O. Box 647  
Mount Shasta, CA  
96067



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INSERT SIGNATURE

*Phyllis Sloman 5309254592*



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INSERT SIGNATURE

A handwritten signature in black ink that reads "Mike Davis". The signature is written in a cursive style and is followed by a long, horizontal, sweeping line that extends across the width of the page.



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In support of bringing the Salmon home,

INSERT SIGNATURE

Noel Sullivan

Mount Shasta, CA

Bring the salmon home



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In support of bringing the Salmon home,

INSERT SIGNATURE



fourmumager@gmail.com



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INSERT SIGNATURE



Deborah D. Kuteby Kauder  
(RebeA), 8/1/2017



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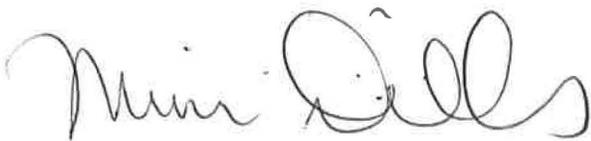
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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in cursive script that reads "Minnie Dells". The signature is written in black ink and is positioned below the text "INSERT SIGNATURE".



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INSERT SIGNATURE

*Keri Sebela*  
*Kerisebela@gmail.com*



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In support of bringing the Salmon home,

INSERT SIGNATURE

A handwritten signature in blue ink that reads "Chad Marshall". The signature is written in a cursive style with a large, stylized initial "C".



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INSERT SIGNATURE

Joey Collocaffi



JCollocaffi@gmail.com



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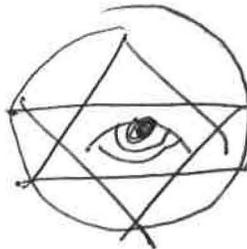
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Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE

*He who has NO NAME*





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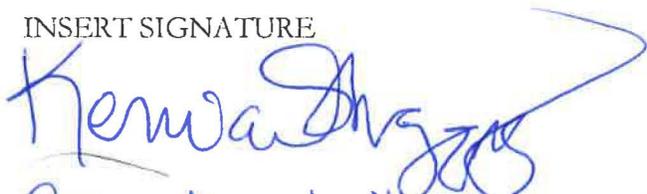
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Sacredbee@tribe@gmail.com

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INSERT SIGNATURE

*Bayla Greenpool*  
*724 Butte Ave*  
*MA - Shasta CA*  
*96067*

*Do the right thing! The Winnemem Wintu people have lived here in harmony with the environment for 100's of years. Listen to their deep wisdom. Please.*

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INSERT SIGNATURE

  
Mario Mastia  
916-212-3571  
1406 VST  
Sacramento CA 95818

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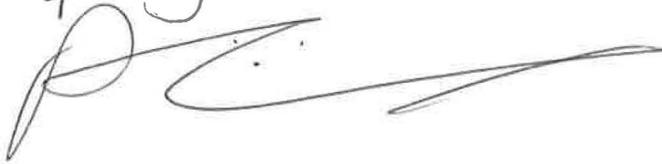
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INSERT SIGNATURE

Brytnee Miller  


2117 West St. OAKLAND, CA 94612

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INSERT SIGNATURE

MATTHEW FOSTER  
7493 ELIZABETH RD  
VACAVILLE CA 95688

A handwritten signature in blue ink, appearing to be 'M Foster', written in a cursive style.

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INSERT SIGNATURE

Michael Bosby

771 Dairy rd Auburn CA 95603

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INSERT SIGNATURE



Stacie (Sunny) Meredith  
1084 Ruby Dr  
Vicarville CA 95687

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FAS Koll

10509 Woodside Dr.

Forestville CA 95436

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Jason Wilson

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INSERT SIGNATURE



CHANEL KELLY

532 W 14th St - Chico  
CA, 95928



Kristi Narvaez

5500 SW BV Hillsdale Hwy  
Portland OR, 97221



Steven  
Schuman

1747 BROADWAY  
Chico, CA  
95928

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REBECCA MAYSIE KESTER  
INSERT SIGNATURE

6113 Kester way  
Elk Grove CA 95758

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*Debbie Castells M*

*916-247-6351*

*9470 Bowmont way*

*UK game Ct 95188*

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Tegan Laird

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12157 Lakeshore North Auburn, CA 95602

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Grace Wallach

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310 Ridge View Circle Rocklin, CA

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INSERT SIGNATURE

M. Thomits  
Megan Thomits  
2900 Red Clover Way  
Lincoln, CA 95048

The  
Salmon  
Will  
Run

Mahalo

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Kevin Gamble  
8130 Leafcrest Way  
Fair Oaks, CA, 95628

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INSERT SIGNATURE

Antonio Arreguin-Russo



2935 Sage Mill way  
Sacramento CA 95833

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INSERT SIGNATURE



2 Pacheco St.  
SF, CA 94116



5620 Longwood Way  
Citrus Heights  
95610

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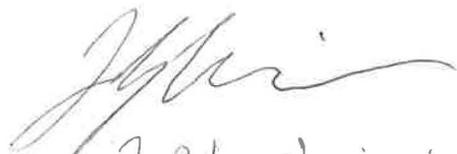
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2 Redwood St  
SF, CA 94116

Priscilla Costea 5770 Yellow Rose court Sacramento CA 95828

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INSERT SIGNATURE

Laura E Ball

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1977 Harrington Ave, Oakland, CA 94601

SHEILA FISHER  
3227 Renwick Ave #178  
Elk Grove, CA 95758

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Kenette Allan  
7190 Upper Palermo Rd.  
Palermo, CA 95968

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TERESITA CAUEN  
12290 DYER CT  
AUBURN CA 95603

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Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE

Vance Hedrick  
Vance Hedrick  
1514 20<sup>th</sup> St Sear CA 95811

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Alicia Edwards  
5427 Walmer Rd.  
Orville, Ca 95966

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*Naena Mekai*  
*P.O. Box 1975*  
*Nevada City, CA 95959*

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Myasha Nicholas  
32416 Aubrey Rd  
Fremont CA 94537

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Mathieu Desantes



Coffee Lane, Santa Rosa CA

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New Zealand government, as well as indigenous Maori, acknowledge that we now store fish in the Truckia River are chinook salmon from the "middle" river out of Shasta, now called the "McCloud". This is a gift held in sacred trust until the McCloud/Winnemem River is ready to be restored to her bounty and beauty. Please assist and support!

Lorraine Webb  
11110 White Oak Way  
Nevada City, CA 95959

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INSERT SIGNATURE

SOLIEL WEBB  
2036 NEVADA CITY HWY #544  
GRASS VALLEY CA 95945  
(530) 913-7442

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INSERT SIGNATURE

Oliver Can Erdemoglu

Avenue of the Giants, Miranda CA  
95553



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Daniel Olveda  
1402 Drake Ct.  
Oakley, CA 94561  
925-565-2866

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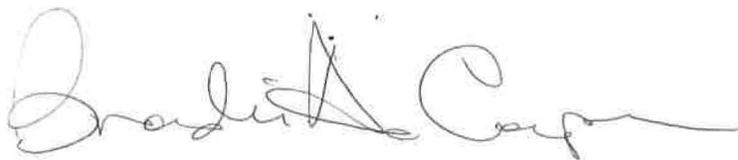
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A handwritten signature in black ink, appearing to read "Brad A. Cooper". The signature is fluid and cursive, with a large initial "B" and "C".

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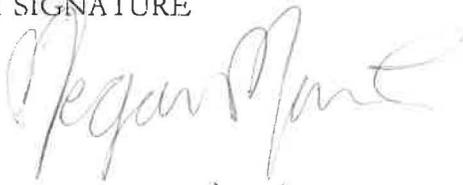
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INSERT SIGNATURE



Korey Kakuk

24858 Big Bend Rd.

Montgomery CR. CA. 96065

530-337-6172

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INSERT SIGNATURE

A handwritten signature in cursive script, appearing to read 'Ruby Avila'.

Ruby Avila  
5440 Bradford Drive  
Sacramento, CA 95820

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Malla Valentin  
236 Plymouth St  
Santa Cruz 95060

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*Mule Wagon*

*Mule Wagon  
PO Box 477  
Felton, CA  
95018*

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INSERT SIGNATURE

530  
220-2152 Lari Moreno intentional sanctuary@gmail.com

PDF Copy Forward!

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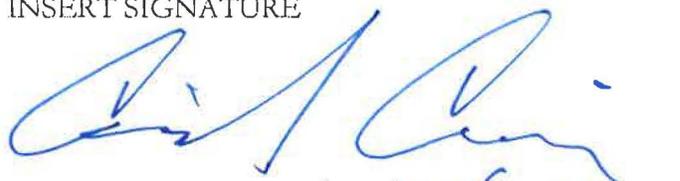
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3642 2<sup>nd</sup> Ave

Sac CA 95817

ccurrie778@gmail.com

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*M. J. Calver*  
911-54th St  
Sacramento CA 95819

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MEGAN ENFIELD  
2251 WYDA WAY  
SACRAMENTO, CA  
95825

Megan Enfield

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Raquel Williams  
263 Dana Ct  
Manteca, CA. 95336

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INSERT SIGNATURE

Sandra Lozano  
1748 friendly st  
Eugene, Oregon  
97408

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INSERT SIGNATURE

*Glena M Tarango*

7916 FARNELL WAY

Sacramento, CA

95823

Dear Bureau of Reclamation,

I would like to make a comment regarding the Shasta Dam Fish Passage project.

To protect the Salmon from climate change, they must return to their traditional spawning grounds in the McCloud River and its glacial waters.

The best solution is to follow the Winnemem Wintu's plan to build a swimway around Shasta Dam using natural creeks and bring home the McCloud River salmon descendants currently thriving in New Zealand.

These salmon are wild and far healthier and disease-free than the Livingston Stone hatchery fish. They have been spawning in high mountain rivers for generations and are far more likely to successfully adapt to the new spawning route than hatchery fish.

Trapping and trucking them is not a solution. There has never been a 'trap and truck' system that truly successfully re-established a fish population.

You need to follow the wisdom of Chief Sisk when she says we have to stop trying to control the salmon and let them return to their natural life cycle.

You can do something almost unheard of, work with those that carry the traditional knowledge on the McCloud River, the Winnemem Wintu Tribe. Allow them to be partners in restoring their relatives, the Salmon, to their natural spawning grounds.

Please bring these relatives back to the land they came from.

In support of bringing the Salmon home,

INSERT SIGNATURE

 Jennaver Eva van Hauksloot

4050 Weber creek drive, CA Placerville  
95667

(916) 670-0450

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- 051

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PUBLIC SCOPING MEETING ON SHASTA DAM  
FISH PASSAGE EVALUATION PROJECT

wednesday, June 28, 2017  
Lakehead Lions Club  
20814 Mammoth Drive, Lakehead, California

PRESENTED IN ALPHABETICAL ORDER BY:

JON AMBROSE - Reintroduction Coordinator,  
National Marine Fisheries Service  
CAROLYN BRAGG - Natural Resources Specialist,  
Bureau of Reclamation  
LUKE DAVIS - Natural Resources Specialist,  
Bureau of Reclamation  
JOANNE GOODSSELL - Cultural Resources Specialist,  
Bureau of Reclamation  
JOHN HANNON - Fish Biologist,  
Bureau of Reclamation  
DAVID MOONEY - Acting Manager,  
Bureau of Reclamation  
WILBERT "LOUIS" MOORE - Deputy Public Affairs Officer,  
Bureau of Reclamation  
BEN NELSON - Natural Resources Specialist,  
Bureau of Reclamation  
JANICE PINERO - Conservation and Conveyance Chief,  
Bureau of Reclamation  
FERNANDO PONCE - Public Affairs Specialist,  
Bureau of Reclamation

Reported by: Cheryl K. Smith, CSR License No. 5257

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1 SCOPING MEETING, JUNE 28, 2017  
2 6:00 P.M.  
3 ---o0o---

4 MR. MOONEY: Well, welcome. We have a few folks,  
5 come in. Thank you for coming to this Public Scoping  
6 Meeting for the Shasta Dam Fish Passage Evaluation Project.

7 So my name is Dave Mooney, I'm the Acting Manager  
8 for the Bay-Delta Office within the Bureau of Reclamation.  
9 And we are the office with the program managers leading the  
10 Reclamation's efforts. We have some folks from the other  
11 agencies that we partner with here as well. We're looking  
12 forward to talking with you today about this project and  
13 seek your feedback.

14 So public scoping is one of the ways that you can  
15 provide input into the project. We look forward to that  
16 input and your comments in helping us prepare the  
17 Environmental Impact Statement under the National  
18 Environmental Policy Act. And we will use this information  
19 to help us formulate alternatives, identifying the issues,  
20 and looking at the potential impacts of this project.

21 So we have our crew here from Sacramento to talk  
22 with you about the details. And with that, I would like to  
23 introduce Louis Moore, our Supervisor of Public Affairs  
24 Specialist from the Bureau of Reclamation, and he'll be our  
25 facilitator for today.

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1 MR. MOORE: Thank you, David.

2 Again, I'm Louis Moore, and so I would like to go  
3 over a couple of notes with you to kind of help us stay on  
4 track for tonight's meeting. What's real important about  
5 staying on track about today's meeting is that we have a lot  
6 to cover, we want to receive as much input as possible, so  
7 we just want to try to make sure that we can stay on track

8 and do that.

9 Key agency staff, would you identify yourselves,  
10 please.

11 MS. PINERO: Thank you. So hello, everyone. My  
12 name is Jan Pinero, I am the Conservation and Conveyance  
13 Chief at the Bay-Delta Office. And please let me know if  
14 you have any questions after the meeting and I will be happy  
15 to help. Thank you.

16 MR. HANNON: Hi, I'm John Hannon, I'm a Fish  
17 Biologist for the Bureau of Reclamation, and I'm Bay-Delta  
18 Office -- Bay-Delta Office, the project manager for the  
19 project.

20 MS. GOODSSELL: Hi, everyone. My name is Joanne  
21 Goodsell, I'm an Archaeologist with the Bureau of  
22 Reclamation, and I'm here to talk about cultural resources.

23 MR. AMBROSE: Good evening, I'm Jon Ambrose,  
24 Reintroduction Coordinator with National Marine Fisheries  
25 Service.

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1 MR. BRAGG: Hi Guys, I'm behind you. I'm Carolyn  
2 Bragg, and I'm the Bureau's Natural Resource Specialist that  
3 has been working on this project.

4 MR. NELSON: Hello, I'm Ben Nelson, I'm also a  
5 Natural Resource Specialist from Bay-Delta Office.

6 MR. DAVIS: Hi, I'm Luke Davis. I'm also a  
7 Natural Resource Specialist at the Bay-Delta Office.

8 MR. MOORE: Okay. I thank you all very much.  
9 That is the staff that's supporting and working on the  
10 project.

11 Are there any elected officials with us tonight?  
12 Seeing no elected officials. Media, I would like to make  
13 sure that you are aware of Mr. Doolittle. Mr. Doolittle  
14 will be recording tonight's meeting. Just acknowledge that  
15 the meet is being recorded.

16 We have tonight with us a Court Reporter. We have  
17 Mrs. Cheryl K. Smith, she's with J. V. Killingsworth and  
18 Associates Court Reporting.

19 Okay. If you're not familiar with the location,  
20 the restroom and water in the hall there.

21 We have a few ground rules here. So the purpose  
22 of the ground rules is to really just help us stay on track,  
23 help us work through getting as much exchange of information  
24 as possible. If you have a Smart Phone and you need to take  
25 a call, please do so. If you don't mind, step outside.

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1 Let's respect each other. This is very important. You're  
2 here tonight to exchange or share information. We want to  
3 receive that information, so that would be very helpful in  
4 making sure that that does occur. We listen to understand,  
5 we want to hear. If you're not clear about something,  
6 clarification is absolutely important.

7 Let's focus on tonight's issue, which is the  
8 Shasta Dam Fish Passage Evaluation. Your comments do  
9 matter. We want to make sure that we receive them, but we  
10 have to be able to hear them and understand what you want us  
11 to walk away with. And one person speaking at a time will  
12 definitely support and is important in capturing that  
13 exchange of your information. Please be brief, this will  
14 allow as many folks wanting to speak tonight to have that

15 opportunity. And as time allows, we will be able to go back  
16 around and have additional comments and conversations as  
17 necessary.

18           And so with that said, let's please try to honor  
19 the time limit. Our meeting is set from 6:00 to 8:00 p.m.  
20 tonight. Understanding that if we have good dialogue going  
21 we will definitely want to support that. But officially our  
22 meeting will end at 8:00, and we'll acknowledge that. But  
23 if folks need to stick around and have conversation, we'll  
24 try and accommodate.

25           Let's take -- talk one at a time and wait to be

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1 recognized by the facilitator, myself. The reason for that  
2 is we want to make sure that we get to capture your input.  
3 Materials available are comment sheets, presentations will  
4 be posted after these meetings. There are posters around  
5 the room. These posters have important bits of information.  
6 You will be able to after the presentation go to those  
7 stations and engage with folks to have conversation about  
8 any particular interest that you have.

9           And so through the presentation we will look at  
10 the project background, departmental compliance, public and  
11 state quota engagement, Action V mid-term activities, pilot  
12 plan studies, (inaudible) EIS, environmental population,  
13 cultural resources, and schedules and next steps.

14           Once the Reclamation presentation is completed, we  
15 will acknowledge Chief Sisk with the Winnemem Wintu, who  
16 will have an opportunity to come and share some information.  
17 We then will move to a break. After the break we'll come

18 back. So before we actually take a break we'll have an  
19 opportunity for questions, comments on what you've heard  
20 through the presentation, keeping in mind we want to be able  
21 to receive that information, so we will make that as orderly  
22 as possible. And then we will take a break. And then when  
23 you come back, please visit folks at the stations. Take  
24 your time and try and have any dialogue that you need.

25 That's all I have. I would like to have Carolyn

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1 Bragg who will come and do the presentation for us.

2 MS. BRAGG: Thank you, John.

3 Guys, I'm sorry about the heat in here, but we  
4 turned every fan on, so sorry about that. But welcome and  
5 thank you all for coming in, I agree (inaudible) because  
6 we're all interested in the project --

7 THE AUDIENCE: We can't hear you.

8 MS. BRAGG: Well (inaudible) okay. So thank you  
9 all for coming in -- it's really loud -- for coming in and  
10 sharing your interest in providing fish passage over  
11 impassable dams.

12 There's more coming in. Please take your seat.  
13 Sorry for the heat.

14 I am Carolyn Bragg, I've been working at the  
15 Reclamation and I've had the privilege of starting to work  
16 on this project a little bit ago. And it's been wonderful  
17 so far. I will be going over the background, and then we'll  
18 switch to this real quick. I just want to go over just  
19 quickly go -- this is the agenda. I will be going over the  
20 background portion of the -- basically why we're here, what  
21 we're doing, and then moving forward.

22 But John Hannon and Jon Ambrose are going to be  
23 going into more technical aspects of the studies that have  
24 been done thus far, and decided thus far, and how we're  
25 going to move forward with them. And Joanne is going to

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1 come in, and she's our Cultural Resources Specialist and  
2 discuss a little bit of the cultural resource background  
3 within the area, and also the proposed project that we're  
4 trying to implement. So bear with us on that.

5 Also I wanted to reiterate the fact that -- am I  
6 Okay. Hello. Can I step back now? Can you hear me?

7 THE AUDIENCE: Yes.

8 MS. BRAGG: So like Louis said, this presentation  
9 is also -- after this scoping meeting is going to be  
10 available online on our website, as well as a few things  
11 I'll get at the end of the schedule as what to comment and  
12 activities where the public can comment, and you'll be able  
13 to provide your comments and review the documentation.

14 So I'm going to move into background of -- can I  
15 move this. Okay. And so you can read the slides, but back  
16 in 19 -- or 19, 2009 National Marine Fishery Service issued  
17 a biological opinion on the long-term operations of this  
18 Central Valley Project and the State Water Project, I'm  
19 going to call them actually both NMFS and SDFPE from now on.

20 (Reporter interrupts.)

21 Okay. I'm going to start from the beginning.

22 So in 2009 the National Fisheries Service issued a  
23 biological opinion on both our Central Valley Project and  
24 the State Water Project for long-term operations of the

25 systems. (Inaudible) The Bureau actually -- (inaudible)

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1 biological opinion concluded that it was going to cause  
2 jeopardy to the fish species. And so with that we -- they  
3 included reasonable alternatives in the biological opinion  
4 that would not cause jeopardy for the continued operation of  
5 the Central Valley Project and the State Water Project if  
6 they were implemented. So the RPA actions -- action, it  
7 included alternate -- I'm sorry, included actions in  
8 Action V is the one that we're concentrating on here today,  
9 and that is the fish passage over dams. Good. Will you say  
10 okay, you know it.

11 Okay. So Action V underneath our (inaudible) is  
12 for safe fish passage. It's separated into near-term and  
13 long-term actions. And so this EIS that we're trying to put  
14 together is concentrating on the near-term actions of RPA  
15 Action V. Okay. And if you can read this slide it is -- it  
16 is a very good definition of what we are including in the  
17 near-term action -- actions of Action V. And they basically  
18 are to develop a pilot plan and associate studies to  
19 determine the feasibility of reintroducing winter-run  
20 Chinook salmon over Shasta Dam.

21 And both John and Jon will be going into a little  
22 bit more elaboration of how we got here in the last steps,  
23 and where -- where we're going to go from here, because a  
24 lot of steps have been taken since we got the RPA in 2009.

25 Okay. And so this brings us to the Environment

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1 Impact Statement purpose and need. And the construction of  
2 the Keswick and Shasta Dams limited the winter-run Chinook  
3 salmon (inaudible) and has resulted in the decline of the  
4 co-habitat below the dams, and especially salmon and in  
5 association with (inaudible) and habitat and suitability of  
6 the habitat there.

7           And so the purpose basically is the evaluation of  
8 the feasibility of establishing self-sustaining populations  
9 of listed salmon fish above Shasta Lake to make a well  
10 informed decision if a long-term fish passage above these  
11 dams is -- if we can go forward, if it actually is going to  
12 be feasible. Because when you think about it, the dams have  
13 changed a lot. When we put the dams in, a lot of the  
14 ecosystems up there has changed in 50, 60 years since then,  
15 and so there is a lot of testing to be made about the water  
16 quality, the suitability, what sites is above the dams, how  
17 much habitat is available, how we actually will be able to  
18 put them up, bring them down, and try to put it back up to  
19 make sure that it actually would be able to turn into a  
20 long-term action that would meet the exact purpose and need  
21 of the overall RPA Action V, because remember the RPA Action  
22 V is separated into near-term and long-term actions. And  
23 this EIS is just the near-term actions and concentrating on  
24 if it is actually is feasible through pilot studies if the  
25 reintroduction of these -- if they can sustain above the

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1 dams. And that way if it is, then we will move on to  
2 additional environmental documents and alternatives and also  
3 focus on the proposed long-term action of getting them up

4 and over and back to basically hopefully meet the purpose  
5 of the RPA and hopefully get the -- get th fish delisted at  
6 some point in our lives and bring them back. That's the  
7 goal.

8 I'm going to move on to the -- the next slide. If  
9 there is any questions on that one. There is one, yeah.

10 MEMBER OF THE AUDIENCE: (Inaudible) (Reporter  
11 interrupts.)

12 MS. BRAGG: I apologize.

13 MEMBER OF THE AUDIENCE: So you said the Action V  
14 is divided into long-term and short-term. Is there any  
15 prohibition about developing a project that could serve both  
16 long-term and short-term, or is this Fish Passage Evaluation  
17 strictly short-term?

18 MS. BRAGG: It is -- it is a question for John --  
19 or Jon Ambrose or John Hannon, but it is strictly near-term  
20 due to the fact that we have to figure out if they  
21 actually -- if it is feasible for them to even to -- if they  
22 really actually would strive and thrive in the habitat above  
23 the dams, and so these studies are required to figure out if  
24 a long-term action would even be worth doing.

25 MR. AMBROSE: So that's a really good question,

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1 and it is looking at short-term right now because there  
2 are -- we believe it's a high likelihood of success, but  
3 some things have changed in McCloud River. We have McCloud  
4 Dam that has gone in since construction of Shasta Dam.  
5 Flows out of McCloud Dam are significantly less than the  
6 historic base flow in the McCloud River, which we lost bull  
7 head trout in 1977 or so, and so we have brown trout in

8 there now. So the ecosystem has changed, the flows have  
9 changed. And prior to moving on with the full scale  
10 reintroduction of the project, we want to ensure that we're  
11 not spending a lot of taxpayer time, effort and money on a  
12 project that may not work because the habitat is no longer  
13 suitable.

14 But also the other key question, and John Hannon  
15 will talk about this a little bit, is can we actually  
16 capture the juveniles before they hit the reservoir, because  
17 the likelihood once they hit the reservoir they're probably  
18 going to be eaten, and it's a lot more difficult to capture  
19 fish in the reservoir. So there's -- there's a lot of  
20 logistics that have to be worked out and ecosystem questions  
21 that we want to work out in the short-term.

22 MS. BRAGG: Does that answer your question?

23 MEMBER OF THE AUDIENCE: Follow-up then. If  
24 you're going to all this trouble putting fish into the river  
25 and allow them to return and go down to, you know, go to the

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1 ocean, then are you -- you allowing for these fish to  
2 return, and if they do return, what are you going to do with  
3 them? I mean, is that part of the study, or are you just  
4 going to let these fish die and -- and -- and be stonewalled  
5 by the dams, by Keswick and Shasta Dam?

6 MS. BRAGG: That's a very good question. And I  
7 believe that John Hannon, you want to speak on that one?

8 MR. HANNON: Yeah. So, yeah, we'll -- we'll  
9 allow the fish to complete their whole life cycle, we won't  
10 just let them die. I mean, it's -- they'll come back -- I

11 will talk about the more details as we go through -- but we  
12 have facilities already in place at Keswick Dam where we  
13 can -- we can capture them, and they'll also come back.  
14 we're able to identify genetically the offspring of the  
15 fish. Once we release them up there, we'll be able to test  
16 them and figure out which fish came from upstream. So we --  
17 they won't be left to die, they'll be allowed to continue  
18 their life cycle.

19 MS. BRAGG: And that is part of the pilot  
20 studies; right?

21 Okay. And so basically I think this is the --  
22 this is the notice as to the purpose of why you're here is  
23 the subsequent questions, we would like complete and total  
24 input, and a lot of you guys have more experience with this  
25 area in situations, in lands -- land use, recreational use,

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1 fishing use, cultural significant areas, anything that  
2 actually would be helpful in developing these pilot studies  
3 as we move forward is -- it's kind of the purpose of what we  
4 need for -- to develop a really good Environmental Impact  
5 Statement analysis of the pilot study actions as we move  
6 forward to a long-term hopeful reintroduction of fish all  
7 the way up and down in the long-term action.

8 And so this is actually I think pretty much my --  
9 my last line. But I just wanted to show, you know, kind of  
10 what we've done previously, the habit assessment, Hannon is  
11 actually going to go over a little bit more about this, and  
12 it's going to be broken down. well, I'll let him speak on  
13 that.

14 The draft implementation plan was created now  
Page 12

15 underneath the RPA action, as well as the environmental  
16 assessment that we completed for NEPA. And both -- all  
17 three of these documents are available online on the website  
18 for viewing for your leisure purposes.

19 And then now we're moving on forward to  
20 documenting and preparing an environmental assessment on the  
21 near-term actions for the pilot studies for the feasibility  
22 of the reintroduction.

23 And with that, if there is any other questions I  
24 welcome John Hannon to come up and talk a little bit more.  
25 Okay. There's one.

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1 MEMBER OF THE AUDIENCE: Hi. I -- I just wanted  
2 to know, do you have copies of the Winnemem Wintu  
3 restoration plan for the McCloud River?

4 MS. BRAGG: Yes, it's on the website.

5 MEMBER OF THE AUDIENCE: Have you reviewed it and  
6 is that in consideration?

7 MS. BRAGG: It's online now, so it's on  
8 (inaudible) Yeah.

9 MEMBER OF THE AUDIENCE: And it is in  
10 consideration?

11 THE COURT: It's included in the implement draft  
12 EIR, and so yes, we have it, and it's online also.

13 MEMBER OF THE AUDIENCE: I can't understand.

14 MS. BRAGG: It has been taken into  
15 consideration. Okay.

16 MR. MOORE: Ladies and Gentlemen, thank you all  
17 very much. I understand there that are a large number of us

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18 here and we all want at some point to have a question. We  
19 want to make sure that we can capture this exchange, so if  
20 you will allow Mr. Ponce to get to you with the microphone  
21 so that everybody can hear the question, everybody is able  
22 to hear the response, it will be very helpful. Also the  
23 Court Reporter wants to capture this information for the  
24 development of the document as we go forward. So if you  
25 will be patient with us, please allow us to have that

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1 exchange.

2 MR. HANNON: Hi, I'm John Hannon, and I'm going  
3 to go through kind of some of the background, things we've  
4 done in the last couple of years, and I'll summarize what  
5 is -- what's in the pilot plan and what we hope to implement  
6 in the near future.

7 So in about 2010 our -- the RPA told us to form an  
8 interagency fish passage steering committee so that we have  
9 a committee made up of all these State and Federal agencies,  
10 it's the agencies with jurisdiction upstream of -- upstream  
11 of the dam, with the exception of U.S. Geological Survey on  
12 the bottom there, they -- we have them. They're the  
13 research arm of the Department of Interior, so they're --  
14 they're on board to do a lot of the biological studies, the  
15 on ground work looking at the fish.

16 We've done a number of public stakeholder  
17 engagement, other meetings. We had one here I think in 2013  
18 or 14. We've visited a lot of groups. Some of you have  
19 already been to earlier meetings, a lot of them in the  
20 McCloud River, meeting with landowners, Siskiyou County  
21 Board of Supervisors, we met with multiple times some

22 fishing groups, CalTrout, a whole list of public hearings  
23 that we have done, and we'll continue to keep people  
24 informed as we move along.

25 So kind of what -- where we've been and where

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1 we're going, we did the habitat assessment. Keith Marine I  
2 think is here from Water State Resources, he helped put that  
3 up, and completed it in 2014. It's online on our website.  
4 Our website is -- you can just Google Shasta Fish Passage in  
5 the website and it will come up and you can download and  
6 look at the details on that.

7 And when we get started, the two main things we  
8 want to look at is biological productivity. We want to get  
9 some fish in the river and see how they do. Like Jon  
10 Ambrose mentioned, we -- it's been a long time since  
11 anadromous fish have been above the dam. So we want to get  
12 fish in there as soon as we can and then see how well they  
13 survive down the river. And once they get down the river we  
14 have probably the most difficult part of the project will be  
15 catching the juveniles, or a way to get the juvenile fish  
16 from the river downstream passed the dams. So we have a  
17 couple of designs for pilot juvenile collectors to collect  
18 the juvenile fish, one in the river and one at the head of  
19 the reservoir.

20 And then once we go through -- this is laid out in  
21 the RPA for three years of studies. We'll go through the  
22 three years, if we have enough information to make a  
23 feasibility determination on whether the long-term passage  
24 program is feasible, when we have enough information we'll

25 do a -- do a comprehensive report, which we will make a

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1 recommendation on whether to move forward with the long-term  
2 fish passage project. If it is feasible, we will go  
3 forward. If it's not, then we have to re-consult with  
4 National Marine Fishery Service and find another -- another  
5 way to help the target species.

6 So these are the fish we're looking at in the  
7 Sacramento River. There is four runs that we've classified  
8 the Chinook salmon into, the fall-run, the spring-run the  
9 winter-run and late fall-run. So our targets -- main target  
10 is winter-run Chinook. So right here this picture would  
11 have been taken in about probably January at Red Bluff by  
12 Fish and wildlife Service where they monitor the fish coming  
13 down the river.

14 So the winter-run is the top priority based upon  
15 the middle of the summer in Redding, but right now is their  
16 peak spawning period and they need water less than -- less  
17 than 56, in the lower 50s for their eggs to survive. So  
18 that's part of why they're not doing that well during --  
19 during drought conditions like we've had recently. We don't  
20 have enough cold water in the lake to sustain them.

21 Steelhead down at the bottom here is another  
22 species within the RPA. We're not evaluating them right now  
23 because they're more complicated, and we have residential  
24 fish above the reservoir that would -- that would interbreed  
25 with steelhead that we passed, so we're just focusing on the

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1 winter-run and also the spring-run secondarily. The  
2 winter-run, they evolve because of the springs coming out  
3 of -- out of Mt. Shasta. The geologists estimate that there  
4 is about two -- one to two Shasta Reservoirs worth of water  
5 inside of Mt. Shasta kind of slowly coming out, it comes out  
6 at like at the mid-40 degree range, which is perfect for --  
7 for Chinook egg intubation, so that's why they evolved in  
8 these habitats. This is kind of what the rock looks like.  
9 If anyone has been to some of those springs, a lot of pores  
10 in the rocks, it kind of slowly comes out really cold, kind  
11 of perfect for the fish.

12           The target areas we're looking at, three main --  
13 the three main water sheds above the lake, the upper  
14 Sacramento River, the McCloud River and the Pit River.  
15 We're focused on the Sacramento and the McCloud. There's  
16 two dams, one of them is the Sacramento Box Canyon Dam, one  
17 is the McCloud River, the McCloud Dam - 37 miles of habitat  
18 on the Sacramento, 23 miles on the McCloud. So those --  
19 those are the target areas. The Pit River we're not looking  
20 at because there is a number of dams which would make fish  
21 passage more difficult there. So there is probably some  
22 cold water habitat high up on the Pit River.

23           So the habitat assessment as I mentioned was  
24 completed in 2014. This is used to -- to see if the habitat  
25 is suitable for the fish, and then inform where to

1 concentrate on in the -- in the pilot studies as we go  
2 forward. So the aerial video -- to bring this up, the  
3 aerial video brings up the main stems of the Sacramento and

4 the McCloud Rivers, and then the ground proving to verify  
5 what is seen in the video, estimate the capacity number  
6 of -- of female fish that could spawn in the rivers within  
7 the area where the water is cool enough, and also rearing  
8 habitat quality.

9           The McCloud river had -- has a little more longer  
10 reach of -- of cold water habitat, a little greater cold  
11 water resource than the McCloud River, and also more  
12 spawning habitat, although both rivers could likely support  
13 winter-run Chinook. So the McCloud River has a little bit  
14 better habitat.

15           So the dams we need to get them passed, for Shasta  
16 Dam has a 523 foot hydraulic high, we have a conservation  
17 hatchery right below the dam that was built when winter-run  
18 Chinook were listed. Livingston Stone National Fish  
19 Hatchery, It's used to sustain the population, especially in  
20 years of low populations kind of as a -- as a last resort  
21 kind of thing to -- in case -- in -- when the fish aren't  
22 doing well, like -- like recently during the drought  
23 conditions.

24           And then ten miles downstream Keswick Dam there's  
25 a fish trap in the middle of Keswick Dam already that's used

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1 for adult fish, so that can be used for this project, it's  
2 already in place, it's used to take fish to the hatchery  
3 right now. Fish can go into that trap and be put in the  
4 trap and taken to the hatchery, and could also be used in  
5 the future for this project. And also we have the  
6 temperature control device on the dam that -- that maintains  
7 water temperatures below the dam, it has temperatures that

8 eggs can survive.

9           So I'm going to go through kind of three years  
10 that we have laid out the pilot studies, what we're hoping  
11 to do in those -- those studies. The first year would be  
12 looking at releasing juvenile -- juvenile fish, fry  
13 juveniles. Looking at -- one main thing is migration within  
14 the lake, releasing some tag fish at the head of the  
15 reservoir seeing how they survive through the lake,  
16 whether they -- whether they make it through the lake,  
17 whether potential collection location near the dam would be  
18 possible. We're focusing right now up at the head of the  
19 reservoir and the tributaries because we don't think it's  
20 likely they'll make it through the reservoir, but we -- we  
21 are testing that just -- just to see how they do.

22           The rest of the fish we would release upstream  
23 near -- near one of the dams, look at their survival down  
24 the river. Use rotary screw traps to estimate survival down  
25 the river. And also have these pilot -- pilot juvenile

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1 collectors, one in the river and one in the lake, which all  
2 go through, and then try and answer -- answer all these kind  
3 of more detailed questions as we go through the monitoring.

4           Just some of the pictures of the activities we  
5 would do. Snorkle surveys, looking at the existing resident  
6 fish, predatory fish, how they interact if they introduce  
7 salmon. Some of the tags we use, acoustic tags, pit tags.  
8 We're planning on pit tagging some of the resident fish,  
9 like the brown trout, bass, and then have detectors in the  
10 river to look at how those predatory fish move, look at

11 their numbers, and help determine how they affect the  
12 salmon. And then this is an acoustic receiver just being  
13 placed in the -- that we would use in the lake to look at  
14 fish migrating through the lake. So that's the first year  
15 looking at juveniles.

16 Second year we do the same thing, add -- and add  
17 still looking at the juveniles, but adding eggs to the mix.  
18 So the goal with the eggs would be to get more of the -- of  
19 the life cycle in the river to have fish naturally  
20 incubating in the McCloud River water coming out into the --  
21 into the natural water. And then look at how they behave  
22 once they come down below Keswick Dam when they come out of  
23 the gravel, they largely head straight down the river.  
24 We're hoping they'll stay for awhile up in -- you know, the  
25 habitat is different up here. Hopefully they stay awhile

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1 and grow a little bit, because larger fish usually survive  
2 better. So hopefully they'll stay for awhile and grow  
3 before -- before they head out.

4 And a couple of different methods for eggs -- for  
5 working with the eggs. One we could set upstream side  
6 incubators, so just pipe -- pipe water from the river  
7 through an incubator, have the eggs in there incubating.  
8 When they -- when the eggs hatch, we can count the number  
9 going out into the river, we have a known number going into  
10 the river and can look at survival down the river. We can  
11 also plant them. There is a number of ways. This is just a  
12 water pump that pumps eggs into the gravel, but it would be  
13 a more natural way for the eggs to incubate. And naturally  
14 it emerges from the gravel, we wouldn't have a known number

15 of fish going down the river that way though. But it's a  
16 way to get them into the river naturally.

17           And then in the third year we would use adults,  
18 add adults into the mix. We -- before we can do that,  
19 Livingston Stone National Fish Hatchery gets water out of  
20 the lake, the fish in the river below the dam have  
21 infectious hematopoietic necrosis it's called, it's a virus  
22 which doesn't really hurt the fish in the wild, but when  
23 they get in a confined area like in a hatchery it can cause  
24 mortality. So we need to put a water treatment system in  
25 the hatchery to prevent diseases from the adult fish in the

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1 lake from being transferred to those hatchery fish and  
2 causing mortality. So we're looking into that before we  
3 release adults upstream, because of course we want to be  
4 able to have adults in the river if -- if we move into the  
5 long-term program and not deal with -- with eggs and  
6 juveniles.

7           So when we get adults in there, we'll be looking  
8 at these questions listed here - how they survive, do they  
9 spawn, where do they spawn, do they stay in the river. We  
10 want them in -- I mean they use the cold water, stay in the  
11 cold water and do -- do the eggs come out of the gravel and  
12 produce young fish.

13           So that's the three years. Now I'm going to go  
14 through kind of the two juvenile collection methods that  
15 we're looking at using. It's like as I mentioned, we have  
16 the in-river collection system design, one at the head of  
17 the reservoir kind of near where the river enters the

18 reservoir. This is the in-river one. Randy Beckwith from  
19 Department of Water Resources kind of headed up a team to --  
20 to develop these, had people from a number of states,  
21 experts that have done this on other systems got together to  
22 come up with the designs.

23           So the river flow is from the right to the left  
24 here. We have a debris boom on the upstream end. We have  
25 guidance nets to guide fish into a floating trap and

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1 inclined plane trap, and then people would -- would -- this  
2 is kind of an overhead view. People would go out every day  
3 and check the trap, get the fish from the trap and then take  
4 them down the river, or take them down below the dam. So  
5 this -- this -- we're thinking this could work up to about  
6 500 CFS flow in the river, 500 cubic feet per second in the  
7 river, which we get higher flows than that of course.

8           So we got another method, we're trying two  
9 different traps. The other one is at the head-of-reservoir,  
10 which work under -- under higher flows out of the rivers.  
11 This is the same -- same general design, got a debris boom  
12 on the upstream side, guidance nets to guide fish into a  
13 floating trap. It will be a little wider here, like up to  
14 about a 300 foot wide section of the head of the reservoir.  
15 The in-river trap would be maybe in 75, 50 to 75 foot  
16 width -- width of stream.

17           The addition on this system, we have a temperature  
18 curtain, which the winter-run Chinook start coming down the  
19 river in July, as early as July, and the water of course in  
20 the lake is really warm. It's too warm for salmon at that  
21 time of year. So from about July through September it

22 will -- it will be too warm to catch fish at the surface of  
23 the lake, so the goal is a temperature curtain is when we  
24 got cold water coming down the river to separate the cold  
25 water in the river from the hot water in the reservoir, try

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1 to keep the -- the fish in the cold water so that they'll  
2 survive.

3 This is kind of a close-up overhead view of that  
4 temperature curtain. Here's the trap, the temperature  
5 curtain. And then this is like if you were in the reservoir  
6 looking straight towards the temperature curtain, it  
7 completely blocks off the flow coming downstream, downstream  
8 except for a notch here, which is where the water would come  
9 through. Of course cold water sinks, so the cold water  
10 would be at the bottom. Warm water wouldn't be able to head  
11 upstream because we got water coming out through that notch,  
12 and the trap would be right in front of the notch. Salmon  
13 are -- are attracted to flow when they're heading  
14 downstream, so there would be a bit of an attraction flow to  
15 that notch to hopefully attract fish into the net, or into  
16 the trap.

17 And that's it for the three years. And if anyone  
18 has any questions on that, we can answer them now, or Jon  
19 Ambrose is going to talk next.

20 MEMBER OF THE AUDIENCE: I have a question.  
21 I'm -- I'm wondering three years. Does that take into  
22 account -- how does that take into account that five to  
23 seven year cycle that salmon have in the wild?

24 MR. HANNON: Yeah, it doesn't take into account



25 the full life cycle, so the -- the RPA is set up as a three

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1 year pilot plan. We'll go through three years. Every year  
 2 we'll look at what we've learned, update our pilot plan as  
 3 we need to based on that. After three years we'll look at  
 4 what we have, what we've -- we've learned. If it's enough  
 5 to make a feasibility determination we'll do that. If it's  
 6 not, we may need -- need a few more years to -- depending on  
 7 what we find out after three years we'll decide whether we  
 8 need to continue on, or whether we can make a decision at  
 9 that point or not.

10 MEMBER OF THE AUDIENCE: Haven't you seen enough  
 11 criteria from other areas that removed the dams and the  
 12 steelhead and salmon have returned and they're starting to  
 13 spawn? Shouldn't you also be looking at that, because  
 14 essentially a swimway around would be similar to removing  
 15 that dam. So... and it is, you know, about three to seven  
 16 years for those salmon to come back. In three years, you  
 17 know, that's kind of setting it up for failure. You're  
 18 going to have to look at it just a little bit longer.

19 MR. HANNON: Yeah. It's -- we may -- it's likely  
 20 we wouldn't have this whole life cycle. And this will be a  
 21 big investment if we -- if a fishway turns out if that's  
 22 feasible, there would be a lot money, a lot of water, you  
 23 know, passed around the dam. It would be a big investment,  
 24 so we have to make sure we know it's going to work before we  
 25 we do a big construction project like that.

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1 MEMBER OF THE AUDIENCE: It might enhance the  
2 survivability of the fish downstream. I know passed the  
3 rivers the fish have come up and spawned, and then -- and  
4 then after they've spawned the water was cut back out of the  
5 dam and those spawning beds were left high and dry. I  
6 walked the river, so it's kind of like, well, we let them  
7 spawn but we didn't let them hatch, so maybe that's the  
8 reason why the fish ain't here.

9 MR. HANNON: Yeah. Well, we -- well, we monitor  
10 the rivers and try to keep everything under water if the  
11 flow does go down. But we have -- we have a lot of folks  
12 out there looking at things in the river. One thing about  
13 the fishway, it would flow to come in downstream of where  
14 most the fish spawn in the river. So it -- it probably  
15 wouldn't affect the flow over the spawning area in the  
16 river.

17 MEMBER OF THE AUDIENCE: How was three years  
18 selected as the size or the length of the project, and is  
19 that a possibility of the minimum, there might be some more  
20 added to the -- to the pilot?

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21 MR. AMBROSE: Reclamation -- Reclamation is using  
22 the three years based on what is in the NMFS's biological  
23 opinion, that's where that number came from. And I think  
24 one of the things that we do as we talk about this project  
25 is we recognize that likely three years is not long enough.

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1 There's a lot of things to work out. It's a complicated  
2 system, so I envision that it will be longer than three  
3 years. But that's where that number comes, it wasn't

4 Reclamation, it's the National Fishery Service.

5 MEMBER OF THE AUDIENCE: So that's kind of the  
6 minimum?

7 MR. AMBROSE: Yes.

8 MEMBER OF THE AUDIENCE: During the presentation  
9 of -- of what's happening in the first three years, I didn't  
10 notice that you were going to capture any of the fry and  
11 transport them below the dam and release them into the  
12 Sacramento River. So is that something that will happen  
13 within these three year period?

14 MR. HANNON: Oh, yeah, sorry. Sorry, I didn't  
15 mention that. So, yeah, we have the traps. Every day the  
16 traps would be checked, they would be re-checked, they would  
17 be taken out of the traps, and the fish would be released  
18 below -- somewhere below Keswick Dam to continue downstream.

19 MEMBER OF THE AUDIENCE: Where are the fish going  
20 to come from? Are they going to be winter-run fish that are  
21 going to be used in this project, or are there going to be  
22 some other type of fish.

23 MR. AMBROSE: They will be winter-run.

24 MEMBER OF THE AUDIENCE: I was told there was a  
25 pilot of 10,000 fish, fall-run fish that are being set aside

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1 right now. What happened to that project?

2 MR. AMBROSE: That's part of the USGS Reservoir  
3 Transport Evaluation Project; isn't that right, John?

4 MR. HANNON: Yeah.

5 MR. AMBROSE: That -- That's what those are being  
6 set aside for.

7 MEMBER OF THE AUDIENCE: So is it just going to  
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8 be those used for migration pattern first, and then -- then  
9 that will be like the pilot program, before the pilot  
10 program; is that correct?

11 MR. AMBROSE: That's one way of putting it, yes.  
12 We -- we figured it was better to use non-listed fish for  
13 something such as a transit study through the reservoir  
14 where the likelihood of them being consumed by bass was  
15 probably pretty high.

16 MEMBER OF THE AUDIENCE: When is that program  
17 going to take place?

18 MR. AMBROSE: It's taking place now.

19 MEMBER OF THE AUDIENCE: When did they put them  
20 in? I mean, I --

21 MR. AMBROSE: John -- John knows more of the  
22 details on that. But they have actually done the first  
23 phase of that project. And I believe John, we're going to  
24 look at another phase where they're going to be released  
25 this summer.

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1 MR. HANNON: The fall.

2 MR. AMBROSE: In the fall.

3 MEMBER OF THE AUDIENCE: So in the fall that  
4 information will be available to the public?

5 MR. HANNON: Could be, yeah.

6 MR. AMBROSE: And I -- yes, provided the studies  
7 are complete. And I do have to say that USGS has been very  
8 good about giving us the -- the results up-to-date on the  
9 study.

10 And some of the things that have been surprising

11 is that a number of these fall-run fish have actually made  
12 it to the head of Shasta Dam, and it really surprised us.  
13 And we're not sure if that's because the fish were larger in  
14 size, or if that's because of the high turbidity in the lake  
15 because of the high winter flows, but we were surprised at  
16 what we're seeing so far.

17 MEMBER OF THE AUDIENCE: How are they capturing  
18 these fish?

19 MR. AMBROSE: By tags. They -- they have a raise  
20 around the reservoir and in McCloud, in the McCloud River  
21 that they detect these fish as they move through the area.

22 MEMBER OF THE AUDIENCE: So they're detecting them  
23 with the acoustic tags and then netting them?

24 MR. AMBROSE: I'm going to have to defer to John  
25 on that, for the specifics on that.

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1 MR. HANNON: So that they're -- they're acoustic  
2 tags, so they -- they send out a sound -- sound wave  
3 basically, and we set receivers in the reservoir that detect  
4 the sound waves. We never see the fish again, but we can  
5 just detect where they go for like up to three months. None  
6 were put in the river, they were all released into the  
7 reservoir similar to the stocking program that goes on.

8 MEMBER OF THE AUDIENCE: Are you saying -- are  
9 you saying that you will be releasing hatchery fish above  
10 the dam for the first time in history?

11 MR. HANNON: No, they have been released.  
12 They're there right now, they have been released for years  
13 for fishing.

14 MEMBER OF THE AUDIENCE: But -- but they're locked  
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15 in the lake, is that true, in the reservoir?

16 MR. HANNON: They're in the reservoir, right.

17 THE MOTHER: They're in the reservoir and they  
18 haven't ever gone up to the upper reaches of the McCloud  
19 River or the Sacramento River?

20 MR. HANNON: Not that any -- well, people would  
21 see them in the river I guess. No one that I know has  
22 documented them actually spawning or found any eggs, but  
23 they have been seen in the river, and reproduction has never  
24 been documented.

25 MEMBER OF THE AUDIENCE: Have you considered the

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1 impact of introducing hatchery fish into wild waters if  
2 there is only wild fish?

3 MR. HANNON: Say your question again.

4 MEMBER OF THE AUDIENCE: Have you considered the  
5 impact of releasing hatchery fish into areas that are wild?

6 MR. HANNON: We have. So that's the Department  
7 of Fish and wildlife project, the stocking project for --

8 MEMBER OF THE AUDIENCE: Okay, so...

9 MR. HANNON: So they -- they've evaluated, they  
10 have done a CEQA document on their re-entry program.

11 MEMBER OF THE AUDIENCE: So why haven't you  
12 considered it to genetically appropriate fish that are  
13 genetically appropriate in the Upper McCloud and Upper  
14 Sacramento River, why haven't you considered those fish?

15 MR. HANNON: To use in our project you mean?

16 MEMBER OF THE AUDIENCE: well, I'm considering  
17 that your project is meant to be long-term, and those are

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18 very cold waters that would support the life of wild fish,  
19 wild winter-run and spring-run, why haven't you considered  
20 that?

21 MR. HANNON: The affect of the fish in the lake  
22 on the habitat you mean, or --

23 MEMBER OF THE AUDIENCE: why haven't you  
24 considered introducing wild spring-run and winter-run  
25 chinook salmon if they are found to be genetically

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1 compatible or genetically similar to the ones that have been  
2 there before?

3 MR. HANNON: so that's -- that's what this  
4 project is, to get those ESA listed fish. There's a lot of  
5 regulations to deal with that type of fish, which Jon  
6 Ambrose is going to talk about right now. But that's the  
7 whole goal of the project is to get the -- those wild ESA  
8 listed fish into the habitat.

9 MEMBER OF THE AUDIENCE: Then if they can be  
10 found, then it seems like those would be the ones to use for  
11 your pilot project.

12 MR. HANNON: so we are -- the New Zealand fish  
13 you're talking about probably, so we are supporting sampling  
14 those fish right now.

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15 MEMBER OF THE AUDIENCE: so are you supporting  
16 them monetarily?

17 MR. HANNON: we are.

18 MEMBER OF THE AUDIENCE: Thank you.

19 ANOTHER MEMBER OF THE AUDIENCE: I just -- I know  
20 that there is some problems with the genetics that has  
21 increased since 2003, and they don't even spawn, they --

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22 they make it up river and they die. They don't have  
23 children, you know, maybe two out of each fish, you know,  
24 come back and their babies live if they spawn at all. So  
25 what affect is that going to have on the -- on the wild

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1 salmon? I mean, if they -- they cross-breed or whatever,  
2 are they going to have the same cancers and stuff that these  
3 other fish have, because I don't know, your guy's fish don't  
4 make it.

5 MR. HANNON: So your question is the affect of  
6 the hatchery fish on the wild fish?

7 MEMBER OF THE AUDIENCE: Yeah, because they have  
8 diseases, genetic diseases, and they don't make it, they do  
9 not -- they don't spawn. They make it upstream and they  
10 die. So the wild salmon, how are they going to be affected  
11 by these ill fish?

12 MR. HANNON: So they are --

13 MEMBER OF THE AUDIENCE: The farmed fish, they're  
14 not used to the wild, they aren't surviving. The wild  
15 salmon survive.

16 MR. HANNON: Right. So that's the goal of the  
17 project is to get wild -- in the long-term we would have  
18 wild fish upstream of the reservoir.

19 MEMBER OF THE AUDIENCE: You need to introduce the  
20 wild salmon now. We don't have years to wait. We have to  
21 bring them back.

22 MR. HANNON: That's what the project is about.

23 MEMBER OF THE AUDIENCE: we helped bring them --  
24 we need help bringing them back here, you know, we helped

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25 with these New Zealand -- those are our fish, they're wild,

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1 we want them back. They're our babies here. We don't want  
2 your farmed fish.

3 MR. AMBROSE: All right. So I'm Jon Ambrose with  
4 National Marine Fisheries Service. And the National Marine  
5 Fisheries Service is in support of Reclamation's moving  
6 forward with this pilot program. And it's not simply  
7 because the pilot program is something that we put forth in  
8 a jeopardy biological opinion regarding Reclamation's  
9 operation of the Central Valley Project. That -- that --  
10 that RPA -- execution of the RPA is a few years behind  
11 schedule.

12 We also support reintroduction of winter-run and  
13 spring-run from the Central Valley back into the historical  
14 habitats. We have a recovery plan that was released in 2014  
15 that's pretty much unlike any other National Marine  
16 Fisheries Service recovery plan in California.

17 The lions share of historical habitat for  
18 spring-run is lost. 85 percent of their historical  
19 spawning, rearing, juvenile rearing, holding habitat is  
20 inaccessible because of the construction of the dams in the  
21 Central Valley. 100 percent of winter-run's habitat is cut  
22 off. Now I can't think of too many animals that continue to  
23 survive 100 percent excluded from their native historical  
24 habitat, so we are strongly in support of reintroduction,  
25 not just here but in other areas in the Central Valley.

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1           The -- the past 100 years of the bargain that we  
2 made of blocking these rivers and using hatcheries to  
3 supplement the runs hasn't worked as well as we hoped it  
4 would, and we believe that getting these fish back into that  
5 historical habitats is a key to their recovery.

6           One of the -- one of the tools that we're going to  
7 be using to do this is something that was put into effect by  
8 Congress 1982. In 1982 Congress recognized that, you know,  
9 trying to recover some of these animals by putting them on  
10 private lands or lands where the animals aren't currently  
11 listed doesn't also meet with resounding enthusiasm from  
12 landowners, water users, recreationalists. As a matter of  
13 fact, they became and were very concerned that  
14 reintroduction of animals with the encumbrances associated  
15 with the listing could impact ways of life.

16           So Congress decided we're going to give you a tool  
17 to allow a little more flexibility, and that was Section  
18 10(j) of the Endangered Species Act. Section 10(j) allows  
19 us to customize some of the protective regulations and allow  
20 those to be customized to a particular area where an animal  
21 is reintroduced. And that's what we're planning on doing  
22 here. We are looking at and currently drafting a NEPA  
23 document and Federal register notice for an experimental  
24 population associated with this project that would occur in  
25 the area from Shasta Dam, up to Box Canyon Dam, up to the

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1 headwaters of the McCloud, and to Pit 7 Dam on the Pit River  
2 and all the areas in between.

3           So this -- this -- this rule that we're working on

4 will not only include listed winter-run Chinook, it will  
5 include spring-run as well, because that was part of the RPA  
6 from the 2009 biological opinion. And the reason we're  
7 including spring-run is because it's a difficult regulatory  
8 task to go through this and we figured, you know, we're  
9 doing winter-run, spring-run shouldn't be that much harder.  
10 I was wrong, it is. It is. And that's part of the reason  
11 why this has taken longer than we had hoped. But we are  
12 looking at releasing a public draft of the NEPA document in  
13 fall of this year, along with a draft of the Federal  
14 Register Notice in the fall of this year. We really look  
15 forward to hearing from you and receiving comments from you  
16 on our draft rule. We've been working with a number of  
17 cooperating agencies to help us understand and refine the  
18 NEPA document and Federal Register Notice so that it's more  
19 customized to the particular area. But that's where we are.  
20 We're really looking forward to those public comments, as we  
21 hope to receive today from you as well.

22 Any questions on that? Yes, sir.

23 MEMBER OF THE AUDIENCE: You mentioned "they" in  
24 reference to landowners. Who are they, and why do they have  
25 a voice in this proceeding if they're not at the scoping

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1 meeting yesterday as far as being hostile.

2 MR. AMBROSE: Some have been hostile, and I think  
3 that was more in reference to the reasons for Section 10(j)  
4 being developed in the first place. When, for example --  
5 and section 10(j) has been used for a number of species.  
6 And just to give folks an idea that of -- of how often this  
7 is used, National Marine Fisheries Service has done it three

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8 times, on the Okanogan and Deschutes and San Joaquin. U.S.  
9 Fish and wildlife Service has done it more than 60 times.  
10 They've done it for species that have small home ranges,  
11 fishes in some of the rivers in Tennessee, but they've also  
12 done it for a very wide ranging species, such as California  
13 Condor, Whooping Crane and the Mexican Wolf. And for these  
14 wide range species, landowners and other users can sometimes  
15 not be particularly supportive of recovery actions if they  
16 think that is going to impact their way of life.

17 Yes, sir.

18 MEMBER OF THE AUDIENCE: So along with this  
19 section 10(j) rule, are you allowing safe harbor type  
20 protections for private landowners if -- if an endangered  
21 species is reintroduced into a stream on these private  
22 properties?

23 MR. AMBROSE: That's a good question, and that's  
24 something that we wrestled with for a long time. But a safe  
25 harbor is a voluntary agreement process where landowners,

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1 water users, whatever it may be, have to come in and ask to  
2 be part of a safe harbor agreement. We're working on  
3 something like that now on the Shasta. We've done  
4 something -- we've done our first safe harbor on Dry Creek  
5 tributary to the Russian River. However we felt a 10(j)  
6 rule could encompass people that may not want to come into  
7 the process because they don't understand it, they don't  
8 have the money to do it, and this is another way of  
9 providing that coverage that -- that -- that folks may be  
10 looking for.

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11 All right. I will turn it over to Joanne.

12 MS. GOODSSELL: Hi, everyone. As a reminder my  
13 name is Joanne Goodsell, I'm an archaeologist with the  
14 Bureau of Reclamation, and I work in the cultural resources  
15 compliance branch.

16 Just to give you a bit of a background if you're  
17 not familiar with cultural resources, this is our definition  
18 from our directives and standards at the Reclamation, so we  
19 consider cultural resources to be a prehistorical or  
20 historical sites, buildings, structures, objects, districts,  
21 cultural landscapes, sacred sites and traditional cultural  
22 properties.

23 To sort of define those a little bit more for you,  
24 in general when we think of archeological sites, at least  
25 in -- in my line of work, we're primarily focused on Native

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1 American sites from pre-contact time period. Historical  
2 sites, we're generally talking about anything that's  
3 postdated Euro-American contact. So, you know, things like  
4 bridges or dams, canals, things like that were constructed  
5 and used for human -- by humans for human use within  
6 anything over 50 years old we can kind of think of as a  
7 cultural resource. Traditional cultural properties are  
8 places that are rooted in the living community's history,  
9 and that are important in maintaining their cultural  
10 continuity.

11 We have all of those in the McCloud and Sacramento  
12 watershed. For Reclamation and for most Federal agencies,  
13 for any project we have we call them undertakings, and we're  
14 required by law to consider the affects of those

15 undertakings on something we call historical properties.  
16 And a historical property is any cultural resource that has  
17 gone through the evaluation process and been determined  
18 eligible for the National Register of Historic Places.

19 When we have a property that's gone through that  
20 evaluation process and been determined to be historical  
21 property, the effects of any Federal action on that that  
22 would be adverse require us to go through a process where we  
23 need to avoid, minimize or mitigate those effects.

24 These are my three slides. And I'm going to be in  
25 the back of the room afterwards and look forward to talking

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1 with anyone who wants to speak with me more about our  
2 efforts right now to identify historic properties that could  
3 be affected by what we're proposing to do for these  
4 near-term actions.

5 As a bit of background, we have been involved in  
6 Section 106 Process, which basically starts when we identify  
7 an undertaking, we identify historic properties, we evaluate  
8 the effects of whatever the undertaking is on those  
9 properties, and then we go through the process where we  
10 resolve any adverse effects. And we're -- we're working to  
11 identify the historic properties that would be affected by  
12 what we're proposing to do.

13 We're -- we're open and willing to work with any  
14 consulting party that wishes -- wishes to work with us on  
15 this. And I'm hoping that -- we've had limited success in  
16 our dialogue, I will be the first to admit that we've made  
17 mistakes so far in moving through this process, but with the

18 development of the analysis that's going on in this EIS, we  
19 have a responsibility to continue to work towards making  
20 sure this project goes forward in a way that's -- that's not  
21 going to have an adverse effect, or if it does that we --  
22 that we avoid or minimize or mitigate that through the  
23 Section 106 Process.

24 One more thing, the EIS process is a -- is a NEPA  
25 process, but the cultural resources laws for the National

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1 Historic Preservation Act Section 106 is a -- is a much more  
2 robust process and analysis of effects caused by Federal  
3 undertakings, so we use that as our mechanism for reaching  
4 an assessment under NEPA as well. So we're working on  
5 that. We -- we have sent out in the past, we've identified  
6 potential consulting parties, we will do that again now that  
7 we're starting this new NEPA analysis.

8 So thank you for your time.

9 Question?

10 MEMBER OF THE AUDIENCE: Yeah, I got two  
11 questions. First of all, can you give us a rough time table  
12 of both the 106 and the NEPA process and how they coincide?

13 And the second is how -- how, you know, once you  
14 make determinations in the 106 Process, how will those  
15 determinations be used to -- in the planning process for the  
16 project itself in the EIS process?

17 MS. GOODSSELL: Okay. Let me make sure I got  
18 your question. So you're asking about the timeline for  
19 Section 106 and NEPA and how they're coordinated, and then  
20 how the results of that coordination are used in the  
21 planning process for --

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22 MEMBER OF THE AUDIENCE: Yeah, how the  
23 determination and the finding of 106 could be used in the --  
24 (Reporter interrupts.)  
25 Yes. Now I forgot my answer. How the --

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1 MS. GOODSSELL: How the determinations are --  
2 MEMBER OF THE AUDIENCE: How the determinations  
3 and findings of the 106 are used in the decision-making  
4 process in the EIS in the planning of the project itself?

5 MS. GOODWELL: Those are both very good  
6 questions. The timeline is difficult because the 106  
7 Process can go on for a long time. The way that we are  
8 involved in this, and when I say "we," I mean me because  
9 this is my bread and butter, I work in cultural resources  
10 compliance, and we're tasked with moving through the  
11 process, so step-by-step we go through the process. That  
12 may or may not flow well with this project timeline that is  
13 going on here. But Federal agencies are required to  
14 complete the Section 106 Process before approving and  
15 undertaking the final approval. So there -- we go through  
16 as far as we can go, and we try to work with consulting  
17 parties to resolve any effects and to at least have  
18 something in place, an agreement or something in place of  
19 how we're going to do that before a project moves forward,  
20 before a decision is made final.

21 That said, there can come a point in the Section  
22 106 Process where, you know, that the agency will make a  
23 decision and move forward. That's not -- that's not me who  
24 does that, and that's no one that is in this room that would

25 do that. But there are mechanisms that would allow projects

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1 to move forward without us completing Section 106 Process as  
2 we like to.

3 would you like to -- yes, go ahead.

4 MEMBER OF THE AUDIENCE: It seems to be me that  
5 you would be risking foreclose of the project if -- if the  
6 project were to proceed without completion of the 106  
7 Process. And especially in this -- in this case where the  
8 TCP that we're talking about would be extremely affected  
9 by -- by this project. And without some kind of resolution  
10 and adverse effects, without some kind of resolution of how  
11 this project is developed and planned that would not  
12 adversely affect, you know, the winnemem wintu cultural  
13 properties that would be affecting this project. I -- I  
14 just don't see how you can do that without risking more than  
15 just foreclose.

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16 MS. GOODSSELL: And, you know, obviously  
17 foreclosure is not something that we want to do or  
18 anticipate at all. I mean, our goal is to have a  
19 consultative process with the winnemem wintu tribe where we  
20 can come to some sort of agreements on how to avoid,  
21 minimize or mitigate effects, if -- if the effects are --  
22 are there. And, you know, that's my -- that's my hope is  
23 that we can do that. You know, the foreclose process would  
24 happen if we just cut off consultation, but we have -- we've  
25 already invited the winnemem wintu tribe, we have the

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1 preservation officer and we've invited the advisory counsel  
2 to participate. And, you know, if we can't come to some  
3 sort of agreement that's -- that's acceptable, you know,  
4 the -- the advisory counsel will play role. And, you know,  
5 the outcome of that, I don't know. But I'm hoping -- I'm  
6 hopeful that we can all work together on this. And I -- I  
7 feel like the Reclamation has -- has made some I would say  
8 good faith efforts, maybe not on the Section 106 side, but I  
9 feel like we're working together in a way that maybe we  
10 haven't in the past. And I think I -- I would like to see  
11 that as a path forward for the 106 Process as well.

12 MEMBER OF THE AUDIENCE: I have another question  
13 about -- about the 106 Process based on your description of  
14 it. So you -- you mentioned that the primary concern is  
15 Native American cultural heritage sites, but you also  
16 mentioned anything older than 50 years, and mentioned the  
17 dam. Do you guys follow any sort of guidelines about the  
18 priorities of Native American cultural heritage sites versus  
19 settlement monuments?

20 MS. GOODSSELL: I don't know if I would say  
21 priorities. I mean for my self personal interest I got into  
22 archeology because I was more interested in Native American  
23 cultural. But as a Federal agency we're required to -- to  
24 look at all cultural resources and the effects of what  
25 projects we're proposing on -- on everything.

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1 MEMBER OF THE AUDIENCE: So there's no guidelines  
2 regarding the origins of those historical sites? Like  
3 just -- I'm sorry --

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4 MS. GOODSSELL: No, sorry.

5 And to follow-up a little bit more again on the  
6 second question for planning, our goal is to get to  
7 coordinate with the Bay-Delta Office and folks who are  
8 working to develop this project, we share our information  
9 with them that we're getting through the Section 106  
10 Process.

11 Any other questions? All right, thank you.

12 MS. BRAGG: Actually I want to -- I want to thank  
13 Joanne because really you kind of did a very good job at  
14 kind of giving the overall of the why we're all here with  
15 cultural aspects. Please again, we want all your  
16 information and all your input on the honest type of  
17 situations moving forward, because we really do think that  
18 they're going to come together and be able to get through  
19 this process together and -- and be able to come up to an  
20 understanding in moving forward on these kind of things.  
21 And also the importance of -- of realizing these fish  
22 species that are endangered, and so we're really hoping.  
23 So thank you, Joanne, I think you did a great job at that.

24 And so at this time, I'm here as it's -- again it  
25 will be on -- posted on the website because it is robust.

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1 So the public's convenience means we will be completed this  
2 summer. The scoping report will be at the end of August due  
3 to the fact that we requested all of your guy's comments  
4 that you have. And like Louis said, the comment sheets,  
5 even if you don't have them now, please take them home,  
6 share them with your friends and send them in. But they're  
7 due by July 28th so we can put the scoping report together

8 by the end of August. But please share them with whoever  
9 you think would have a comment, please come up and bring it  
10 up just so we can move forward with this project in trying  
11 to bring salmon back.

12 So also the -- also after that, the public draft  
13 hopefully will be at the end of the winter of 2017. It  
14 might be pushed back, but that's what is our goal is. And  
15 that will be another opportunity that will be sent out to  
16 the public. And we'll -- and we'll send out a press release  
17 and all that. I think John, he has the distribution lists  
18 with most of the people on it and if you signed up on the  
19 sign-in sheets we'll add you to the distribution list and so  
20 you'll know when the draft public EPA is coming out and give  
21 you all an opportunity to review it and provide comments on  
22 that before we review it and go to a final.

23 Is there anything else that you would like to  
24 talk -- anybody else? Can I welcome Louis up here to --  
25 no? Yeah?

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1 MEMBER OF THE AUDIENCE: My name Anthony with AC  
2 Guide Service.

3 MR. MOORE: Okay, sir, we want to make sure that  
4 we get this.

5 MEMBER OF THE AUDIENCE: No one in general.  
6 Well, it's a general question, sorry.

7 MR. MOORE: Thank you.

8 MEMBER OF THE AUDIENCE: My name is Anthony with  
9 AC Guide Service, and I'm also appointed on the Board of  
10 Directors for NOR-CAL Guides and Sportsmen's Association.

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11 In my hand I have a chart that was produced of the  
12 winter-run adult Chinook salmon and adult abundance. Based  
13 on this chart in 1978/79 the alarm should have went off and  
14 after that date everyone should -- all agencies should have  
15 been in panic mode. These fish pretty much went extinct in  
16 91 with almost zero into the -- into the hatchery for our  
17 winter-run.

18 Without going too much into that and taking up all  
19 the rest of the time this evening, as a professional guide,  
20 my biggest concern -- and I appreciate your efforts on what  
21 you're trying to do for a species that we'll never be able  
22 to harvest as a professional guide. Most people, and the  
23 members of the tribes in this room will never be able to  
24 harvest these fish. They have no economic value other than  
25 the fact that we saved them. Good job if you can save them,

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1 because according to this chart that job has been pretty --  
2 pretty well looked over and tried. So your attempt up  
3 river, and I have a family home on the Sacramento River in  
4 Dunsmuir, you're right we see salmon up there all the way in  
5 the back in Box Canyon, but those are the planters that they  
6 have put in the lake who have managed to migrate on up.

7 But as professional guide, my biggest concern,  
8 because there's a model in the river now, we're facing the  
9 closure. The closure in the river was done over 30 years  
10 ago to protect these winter-run, and now we're sitting on a  
11 double closure from April to August 1st. My question is, is  
12 how do we know, how can you tell everybody in this room that  
13 the Department -- that the Bureau, CFW, Fish and wildlife  
14 Service, that you don't shut down the rivers, or they don't

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15 shut down the rivers up above Shasta like they have below  
16 Shasta and the lake because they're an endangered species,  
17 because that's the very word they used against us to close  
18 the river, they're an endangered species, and we can't fish  
19 for trout. People who professionally fish for trout can't  
20 fish in that river anymore for a fish they can't save. How  
21 can the Bureau with the Department of Fish and wildlife  
22 guarantee us anglers -- I don't just speak in professional  
23 guide terms, I'm talking about anglers as well, that they  
24 don't -- we're now looking at more closure issues and  
25 fishing restrictions than we already have? We appreciate

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1 the efforts you want to save the fish, but really what are  
2 we doing?

3 (Reporter interrupts.)

4 MR. AMBROSE: Those are really good -- really  
5 good points. And people said you can't save the California  
6 condor. I get that. I get that attitude, I get that it's  
7 too late, it's too hard. But there are -- there are real  
8 consequences to not trying. And right now it's not just the  
9 in-river guides and the recreational fishing community  
10 that's being impacted, it's the commercial fishing based on  
11 the by catch of winter-run in the ocean fishery. What we  
12 have to do is we have to make more of those animals. And  
13 the drought of 2014, 2015 all the fish that died, all the --  
14 all the eggs that died in the redds just show that keeping  
15 one population in one place is all you're collective eggs in  
16 one basket. Distributing the risk is paramount, because I  
17 will bet you anything in 2014 and 2015 those fish would have

18 survived if they were in the upper Sac or McCloud.

19 To your point about concerns about regulations  
20 and -- and further impacts to fishing, we're hearing this  
21 loud and clear from the fishing clubs on the McCloud. And  
22 what the draft rule that we're proposing is that otherwise  
23 legal activities such as recreational fishing pursuant to  
24 California Fish and wildlife fishing guidelines, if you were  
25 engaged in those activities and you incidentally take a

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1 salmon you're not going to be liable.

2 We understand. I get it, that the impacts to your  
3 community and your livelihood by having this occur on the  
4 Sacramento. The way we're trying to draft this 4(d) rule is  
5 to ensure that that can't happen, while at the same time  
6 making more fish so some of those restrictive regulations  
7 that impact you, impact the offshore ocean fishery can be  
8 let up because we have more animals. That's the goal here.  
9 All our eggs in one basket, we tried that and it hasn't  
10 worked. We got to get those fish back into their historical  
11 habitat, make more fish. We're acknowledging there are  
12 other constraints to their life history in the Sacramento  
13 River.

14 MEMBER OF THE AUDIENCE: And -- and I understand  
15 that. Me and my associate, also a Board of Director of  
16 NOR-CAL Guides and Sportsmen's, went to Livingston Stone  
17 Hatchery and viewed the process. And that's a hatchery  
18 that's grossly misused. It's not even being utilized to its  
19 fullest capacity, and that's sad because we should have been  
20 pumping fish into this system in these lean years and was  
21 basically put out by an organization. Why haven't we boost

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22 production in the hatcheries to offset the losses downstream  
23 outside of all the other downstream issues that we're facing  
24 now.

25 And -- and, you know, we got -- just to kind of

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1 throw this out there, the -- the last public meeting we had  
2 with CDFW before they closed the door on us and closed the  
3 river, they said the same thing in the very first meeting -  
4 we're not going to close the river, we're going to try this  
5 for one season. Look what we have now. So please forgive  
6 me if I just come out in public and say I don't believe you.

7 MR. AMBROSE: I understand.

8 MEMBER OF THE AUDIENCE: Because those folks lied  
9 to us in our opinion, okay.

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10 So at the last meeting as well we got them to  
11 admit that there are five to six thousand trout per mile in  
12 the Sacramento river in the catch and release zone. They  
13 would love those little baby salmon. We talked about  
14 increasing maybe a limit odd and even years, doing something  
15 in that regard. I just spoke to three professional guides  
16 the other day, they're catching juvenile strippers at Churn  
17 Creek, Bonnyview and somebody will catch one of them at the  
18 Sundial Bridge, and nobody wants to address the probation.  
19 And they had the audacity to stand in the room and tell us  
20 that the biggest threat to the salmon was the catfish  
21 downstream. I said what about the six thousand trout per  
22 mile before the catfish. No answer. We're just going to  
23 kick you off the river for a fish we will never be able to  
24 fish for ever downriver, upriver, whatever.

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The point of the matter is they use the

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1 Environmental Protection or the -- the -- the Species Act to  
2 shut the river down. They will do it up here because there  
3 will be somebody that pulls up a big old salmon on the  
4 Facebook, the social media, we all know that they all watch  
5 that, and the restrictions will come.

6 Is there ever -- from what we understand from  
7 Livingston there needs to be a 10,000 fish for ten years for  
8 these fish to come off the Endangered Species List. That's  
9 never been achieved, never, not even in the 30 year closure  
10 that's already in the river now.

11 MR. AMBROSE: There is more than one question  
12 there.

13 MEMBER OF THE AUDIENCE: Yes.

14 MR. AMBROSE: And I would be stepping outside to  
15 use my -- what I'm familiar with to be able to comment on --  
16 on why Livingston Stone isn't being used to capacity. I  
17 can -- I can find that out for you, but I don't know the  
18 answer tonight.

19 MEMBER OF THE AUDIENCE: The -- as far as Keswick  
20 Livingston Hatchery, that means -- the production obviously  
21 needs to be ramped up there. And why aren't we not just  
22 utilizing Keswick, the tailwaters to raise and release these  
23 fish and have a better improvised fish catching and  
24 releasing system at Keswick since it's a less substantial  
25 height of the dam? Why are we not bringing those fish into

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1 keswick and having a trap like they do at Coleman right  
2 there at the hatchery? They're in the tailwaters of Shasta,  
3 that water is cold all the time.

4 And the other issue with the temperature and the  
5 egg die-offs is the cold water gate on Keswick or Shasta, we  
6 have not been able to clarify which one has been broke for  
7 over ten years, so how are we going to regulate or how can  
8 we prove to public that those issues have been fixed on the  
9 dam.

10 MR. AMBROSE: More questions I don't have answers  
11 to. But I would defer to Reclamation to help with those.

12 It's -- I think we're keeping -- keeping on track,  
13 the time is really important, and I think you want to have  
14 Chief Sisk speak.

15 MR. MOORE: I would like to make a comment before  
16 we do that. We've had some really good exchanges tonight,  
17 and we would really appreciate that you take some time, take  
18 some comment sheets with you. If you have additional  
19 comments, if you would like to take some time and fill those  
20 comments out before you leave tonight, we welcome those.  
21 But either way, we want to have your input. We greatly  
22 appreciate all the input that you've provided and the  
23 exchanges that have been made.

24 This concludes the Reclamation portion of the  
25 presentation for tonight. I do what to welcome an

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1 opportunity for Chief Sisk to provide some comments that is  
2 of interest, and so we will make time for that. We still  
3 would like to conclude our meeting at 8:00 o'clock. If we

4 need a couple of minutes to reach out to someone, we'll try  
5 to accommodate that. But I want to make sure that we  
6 acknowledge before folks start to split out that you have  
7 additional conversations that you want to hold.

8 So if Chief Sisk, if you would like to.

9 CHIEF SISK: Thank you. We're here to talk about  
10 our -- I'm going to read these notes, but I was just  
11 wondering also since the buyout, how much money has been  
12 spent on this -- on this project?

13 MR. HANNON: A million.

14 CHIEF SISK: A million, okay. About a million  
15 dollars. And we're still rolling it; right?

16 I wanted to share with you -- of course now I  
17 can't find it. Well, you know the winnemem wintu people  
18 have been here for a long long time, and when our fish  
19 started getting managed that's when they started to  
20 decline. And when they started to decline was after the  
21 dams were built. So nobody really studied the fish before  
22 the dams, so you really didn't get to study wild fish in the  
23 wild. And so there is a lot of misnomers about the studies  
24 that have been done on the fish and trying to project on to  
25 wild fish what the results would be.

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1 And so what we're here to try to ask for is one,  
2 you've had a lot of years doing this without us. You know,  
3 we've tried to get on the committee and you won't let us,  
4 beyond the steering committee for this project there is a  
5 number of rules, and since we're not a Federally recognized  
6 tribe there is some problems in -- in allowing us at that  
7 table, and yet we can't go away. We can't leave it alone

8 because our sacred places are on that river. The way of  
 9 life is on that river. Even though you took it, and we own  
 10 nothing on the river, everybody else owns everything title-  
 11 wise, paper-wise, but they don't know about the sacred  
 12 sites. They don't know about the places that you're trying  
 13 to establish these fish traps are sacred places, and so we  
 14 have to object.

15 And you know the cultural part of this hasn't  
 16 really included us to any degree to understand what part  
 17 that we can do. But there is several things that -- that I  
 18 think, you know, since the buyout, you know, I think we made  
 19 a mistake in the buyout by saying we need our wild New  
 20 Zealand salmon to be that salmon that comes back to this  
 21 river. And for sure we need a passage, a fish passage, a  
 22 serious look at fish passage before you can even measure if  
 23 the fish can survive in the upper rivers. And if you use  
 24 the hatchery fish you're re-using what's already not  
 25 working. You're doing everything that's not working

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1 already.

2 And so even though you've kept us from our fish  
 3 since the Shasta Dam, we're still fish people. We still  
 4 have fish knowledge. We still know the songs and dances for  
 5 those fish. We know the patterns that they are supposed to  
 6 have. And that we know that a fish passage way is the most  
 7 important thing to their staying wild and going wild. If  
 8 you don't let them swim because of money, you know, this is  
 9 the same thing in 1937 or 8 when the Bureau of Reclamation  
 10 and others decided it was too expensive to provide a passage

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11 for the fish at that time, even though they did the  
12 Stillwater Project, and the fish swam those redwood planks,  
13 and they knew that if they had that water that they would go  
14 back. But it was \$130,000 at the time. Too much money;  
15 right. So I'm wondering what is it now to build that fish  
16 passage? How much is that we're just kind of overlooking  
17 and saying we're going to make sure they're going to  
18 survive. The only way they're going to survive is if they  
19 can swim in and out of their wildlife habitat area.

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20 And so because this thing is so -- so long and so  
21 big, I'm also asking that -- that you give us a 60-day  
22 extension to get our comments in and to get to review some  
23 of this stuff, because it's -- it's so horrendous; right.  
24 who reads all this stuff and all of that biological talk.  
25 You know, that doesn't work, that's -- that's what I say, it

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1 doesn't work, otherwise you wouldn't be doing this. If the  
2 hatcheries were working you wouldn't be looking and you  
3 wouldn't be forced -- of course you were forced to do this,  
4 to go above the rim dams. And on this rim dam you have the  
5 option to use wild fish that were from this hatchery, from  
6 this river that now live in New Zealand to bring them back.  
7 But they would need a fishway to swim in and out. And they  
8 would need more than three years to actually prove that they  
9 are going to survive.

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10 If you put hatchery fish in the river and watch  
11 them swim across the lake and they don't make it, it's like  
12 hatchery fish are not even equipped to swim in the McCloud  
13 River. They're not capable, they're not built for swimming  
14 the McCloud River. If anybody has gone up the McCloud River

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15 you would know that it's a canyonness river. And while  
16 biologists will say there is not enough food, maybe the  
17 system only can support 4000 fish I heard at one time. Can  
18 only support 4000 salmon on the McCloud River. Once those  
19 fish come back they are the changing agents. They are the  
20 ones that will determine how much food is available as they  
21 come back and as they build that, it is not people to do  
22 that.

23 And so this three year study, you know, we have to  
24 include in there if -- if we're really going to seriously  
25 bring salmon back, that we have to stop stocking brown trout

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1 in the river and -- and allow the salmon to take their place  
2 again. And in doing that part we need to be a part of that.  
3 we're the cultural tribe. We're there. Those are our  
4 sacred pools that mean things to us. And when those fish  
5 come back there are certain things traditional ecological  
6 knowledge that we have about fish that biologists have not  
7 even studied yet. They haven't studied other than water,  
8 where they smell the water, you know, they do more than just  
9 smell the water to come back to their places of spawning.  
10 And even in that -- in that situation it's like we can't --  
11 I can't imagine that there are winter-run still here,  
12 because in my knowledge of our fish they're out in the ocean  
13 four to seven years, maybe even eight years, they come back,  
14 they seek out the exact spawning ground. And when we say  
15 the exact spawning ground, that means when you stop them in  
16 Redding they're not going to spawn. They have to go back,  
17 otherwise they become something else. They're not the same

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18 thing.

19 when you -- when you induce the hatchery process  
20 in them and you pick them up and milk the eggs and grow the  
21 eggs with artificial foods, then they're not the wild  
22 salmon. we give them a truck ride down the river and  
23 release them at different places, of course they're go to  
24 stray. The straying number increases because the fish are  
25 lacking the knowledge from their spawning ground, and so

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1 that in itself is -- is losing fish. They're going to  
2 lose -- and you don't even know how many fish that are  
3 coming up the river that belong in Trinity. when you  
4 release Trinity water down this river maybe those are the  
5 wild fish that are coming up is from Trinity. No one is  
6 even studying that. where are the biologists on that?  
7 where is the studies that show how many Trinity River fish  
8 are coming up when there is a major release of Trinity water  
9 going down the Sacramento River?

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10 And the -- the habitat, I mean I think -- I think  
11 you're putting -- like you want to -- you want to sample the  
12 habitat, like can the fish survive. we're from the river,  
13 you know. we believe that if you put it in there they will  
14 survive. If you remove the obstacles, they will survive.  
15 If you let us go back to the river, we would survive there,  
16 you know.

17 But the times are -- are different now. But we  
18 have to work with the different groups that are on the  
19 river. we have to work with PG&E. You said like you needed  
20 5000 CFSS in the river. That means PG&E has to agree to  
21 allow that water to come downstream instead of shipping it

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22 over the Pit River for hydropower.

23                   So we have -- I can't find that. We have to be on  
24 the river also, I mean to protect our sacred sites, to  
25 protect our way of life. We have no other place to go

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1 accept for here. Winnemem wintu are only in this area.  
2 They are not anywhere else found in the world. We can't go  
3 to Hoopa and still be Winnemem. We can't go to Navaho and  
4 still be Winnemem. We have to be Winnemem here. And we're  
5 fortunate enough to have a salmon in New Zealand from here,  
6 yet we know there are fish biologists, or the people who are  
7 in charge of this project are not certain about that, not  
8 certain about if they are salmon or if they have evolved  
9 into something else. And you know we are surviving here and  
10 we have evolved in the same way and we still are Winnemem.  
11 If you checked our DNA, we are still Winnemem DNA. So I'm  
12 confident that the fish are still DNA would match our DNA  
13 because they're -- we're still from the same -- same  
14 places.

15                   I wanted to -- if I can find it. These gadgets  
16 are pretty technical here. It's like it's frustrating me.  
17 Maybe because I'm not connected, that could be the problem.  
18 But as far as back as 1853 when the fish hatchery was not  
19 even thought of yet, that the concerns of California people  
20 about the salmon on the rivers was evident by the rulings  
21 that they placed to not place weirs or dams or diversions or  
22 netting or other things on the river to protect the salmon.  
23 In part I think that was against us, because we were  
24 probably the only ones who were putting weirs out at that

25 time on the rivers and taking numbers of salmon where people

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1 didn't really understand that that was a whole part of the  
 2 process. The process of getting that cycle of life to  
 3 finish. The salmon need us as much as we need them, and  
 4 that's the part that hasn't been studied. The scientist  
 5 don't know, you know, they want to line everything up, the  
 6 cold water, the food source, the flow -- the flow levels.  
 7 But they're not lining up the stars. Why do the winter-run  
 8 run in the winter. Well, they don't know that. But if we  
 9 let these go dormant or disappear, these fish at each run  
 10 carry a DNA for that run and cannot adapt. You can't put a  
 11 summer-run or a spring-run and expect it to turn into a  
 12 winter-run fish. It has to have the genes for a winter-run.

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13 And right now, you know, the hatchery system has  
 14 messed up our fish so badly that we do not fish or take fish  
 15 from the Sacramento anymore. We used to up until the late  
 16 60s, but the fish changed, their color changed, their  
 17 texture changed, they changed, and then they started having  
 18 bugs. And so the -- most of the -- of the tribes around  
 19 here don't take fish from the Sacramento River. And at this  
 20 point, you know, with the buyout, the Winnemem Wintu should  
 21 be a major player with the same amount -- same chairs high  
 22 enough to do work with the Federal agencies and the fishing  
 23 agencies on the same level in trying to do these fish.

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24 And one of -- one of the things is like we should  
 25 just do it. I mean, why do we have to do this, spend

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1 another million on figuring out giving them a habitat that  
2 really we're not giving them anything. We have to -- I  
3 mean, just like the Elwha Dam, is like we have to provide  
4 them a way to swim in and out, and they will do what they're  
5 supposed to do. You can't -- man cannot make the fish do  
6 what you want. You know, you can inject those eggs into the  
7 rocks -- I mean, right now it's like you have a hatchery,  
8 you take the fish and milk them, you raise them and you feed  
9 them whatever you want to feed them, you give them a truck  
10 ride halfway down to the ocean, and you tag them. And now  
11 you're injecting their eggs into the rocks because obviously  
12 salmon don't know how to spawn their own eggs. It's like  
13 what's left for the salmon to do. The salmon don't have to  
14 do anything. And then you wonder why they all stray. Well,  
15 there's a problem in this whole process.

16 And when we're talking about the 106, you know,  
17 and we're hoping to come together on that in the NEPA  
18 process. And -- and I hear that, you know, we're hoping to  
19 come together. But the I also hear there is an advisory  
20 group that's going to override us probably to get this  
21 project done if we're not in line with what needs to be  
22 done. So it's -- it's a hard thing to try to work with the  
23 system, but it's the only thing that we have, you know.  
24 We've been knocking our heads against the wall, we've come a  
25 long way. We are in a process now of getting DNA samples

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1 from New Zealand to -- to prove, you know, which I think is  
2 a waste of money, but we have to prove that the DNA matches  
3 up California in the winter-run. And once we do that, we

4 definitely want to have that opportunity to bring those  
5 salmon back and -- and have a fishway.

6 But the fishway, you know, it's almost impossible  
7 to get people to talk about the fishway because of the  
8 money. But we don't know how much money we're talking  
9 about. But if we don't to the fishway, we can't really  
10 measure wild salmon success and survival when we're using  
11 hatchery fish in a river system that's closed off. And so  
12 my thing is that we need more time to answer these  
13 questions. And obviously we need to be able to sit at the  
14 table with the cultural resource person, which we haven't  
15 done so far. You know, we're this far into this project and  
16 we haven't really been able to talk about a living culture  
17 that is dependent upon this river, and dependent on the  
18 return of these fish. That it is a cultural prayer that has  
19 been taken to this level, and that everybody will benefit.  
20 All of the fisheries, all the people who depend on these  
21 fish and the river system itself will replenish. Birds,  
22 wolves, coyotes, you know, bears, everything benefits.

23 But if we allow, you know, I'm not sure that we  
24 have to raise the money for the fishway, but we should at  
25 least study it and find out how much money that is. Because

1 this world without salmon on these -- these waters will make  
2 changes to this state of California forever, because they  
3 are the water changers, they are the ones who indicate how  
4 well our water is doing both in the ocean and in the high  
5 mountain streams. And we take out that indicator then, you  
6 know, it's -- it's pretty much shame on us.

7 So the winnemem wintu tribe is up for the long

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8 haul. And we're going to try to speak our -- our mind about  
 9 this until, you know, it's -- it's done. But I think  
 10 that -- I still can't find that thing. It's bothering me.  
 11 Anyway, I wanted to just ask you that -- for the 60-day  
 12 extension, that we need to study the -- the fish passageway,  
 13 that we need to know some answers on that. And we need to  
 14 hold off on hatchery fish in our river to gauge the success.  
 15 That if we get DNA from New Zealand and it turns out to be  
 16 winter-run, then we need a commitment that we will use the  
 17 winter-run salmon, the true winter-run salmon that is not  
 18 hatchery raised in New Zealand to return to these waters,  
 19 and then we can watch the success rate, and then we can view  
 20 the changes on the rivers.

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21 But also the brown trout needs to be reduced. We  
 22 need to stop stocking them. Just like when is that going to  
 23 happen, you know, so the salmon can have a better way to  
 24 survive. And also that the number of bass in the river  
 25 system, that needs to be controlled to some degree. And in

♀

1 this, the returning or restoring the salmon, all of those  
 2 things have to be approached and have some sort of an answer  
 3 to.

4 In the meanwhile, you know, we are doing -- trying  
 5 to raise awareness of people in the state about the salmon  
 6 run from the Delta to these high waters up here and to wake  
 7 people up because, you know, the salmon have gone by the  
 8 wayside now except for the fishermen, the commercial  
 9 fishermen, the guides, most everybody else doesn't know  
 10 anything about the salmon in that way.

11                   So I'm -- I'm glad that we had this meeting here  
12                   and that I hope that people will share with other groups  
13                   that there are -- there are other ways that need to be  
14                   explored even if it's not scientifically proven right now.  
15                   And I always think that we should go with something that is  
16                   not scientifically proven, because the science has already  
17                   destroyed the salmon fishery and already made the minimum  
18                   water flows that have created these deficits in our water  
19                   systems. So now is the time to let some of the tribal  
20                   people, some of the other, you know, people who have been on  
21                   the McCloud River kind of lead the way a little bit here.  
22                   And I still can't find that, but anyway thank you  
23                   for your time. And we're going to continue on to work on  
24                   this project and hope that more people will become  
25                   involved.

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1                   (A Winnemem Wintu prayer is recited, not reported.)  
2                   MR. MOORE: Chief Sisk, thank you very much for  
3                   sharing.  
4                   We are nearly out of time, so the break is really  
5                   on you at about 8:00 o'clock. But if you'd like to take a  
6                   couple of minutes to go around to the stations, connect with  
7                   folks. And in just one moment -- we have additional  
8                   questions, I understand that, we'll take those, but I want  
9                   to make sure that folks that need to leave at 8:00 can take  
10                   off at 8:00 o'clock. Those that do want to stick around for  
11                   a few minutes, please feel free to do so.  
12                   At this point I do see a number of hands for  
13                   additional questions. Please identify who you think might  
14                   be -- what your question is related to.

15 Yes, ma'am.

16 MEMBER OF THE AUDIENCE: I was told that we were  
17 going to have public comment, that we are were able to  
18 public comment on what's happening here, okay, so that's why  
19 I came down from Mt. Shasta.

20 Okay. First I want to thank people that came from  
21 Sacramento. I want to thank the winnemem wintu Tribe for  
22 being here. I want to thank all the management. All the  
23 fishery people that are here, thank you for coming together.  
24 It's very very clear to me that people want to work together  
25 in this room. And I want to thank you for the apology that

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1 I heard earlier, it's very very important.

2 My name is Holly Irene Cardoza, I live in Mt.  
3 Shasta. I came down tonight to say a few things. I want to  
4 second Chief Sisk's request for a swimway. I don't  
5 understand what the issue is. There's lots of dams that  
6 have swimways and ladders. Give these people -- give them  
7 their salmon swimway. What is the problem? Okay.

8 I would also like to second her request for  
9 extension of 60 days. We need to remove all the obstacles  
10 that are fish blocking, specifically blocking the salmon  
11 habitat. This is very very important, not only for the  
12 people of this entire region, but for all of the habitat.  
13 Okay.

14 I want to bring to your attention the culvert case  
15 in Washington State that recently set the precedent, the  
16 precedent to protecting wildlife habitat. Look it up. It's  
17 very very important. The Ninth Circuit Court of Appeals had

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18 something to say about this. Okay. Look it up. I'm  
19 bringing your attention to it. My voice is shaking because  
20 I'm nervous. I don't care. I'm speaking the truth right  
21 now and it's very important for everybody to hear.

22 I think it's also very very important that we  
23 protect indigenous rights that we've already messed up.  
24 It's very very important to make reparations to the Winnemem  
25 wintu, which means that we owe them an apology. Okay. It

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1 means that we own them amends. The least that we can do  
2 after the genocide of tens of thousands of innocent lives,  
3 the loss of their land, and here I am shaking, and the loss  
4 of their sacred salmon, and we're talking about 10 to 20 to  
5 possibly 40,000 people that innocently lost their lives,  
6 okay. That is now down -- I checked with Michael and  
7 thought it was 143, he told me it's 123 surviving Wintu.  
8 What is the problem? Give these people their salmon back.  
9 It's our salmon too. It's everybody's salmon. What is the  
10 problem?

11 I want to invite you all up to Mt. Shasta. I'm  
12 working a run for salmon booth, please come up. I also make  
13 run for salmon buttons as a fundraiser. Once again my name  
14 is Holly Irene Cardoza. Thank you so much for being here  
15 tonight. And thank you for listening to me.

16 MEMBER OF THE AUDIENCE: I want to thank  
17 everybody for being here, all the hard work you guys have  
18 put into this -- the beginning of the project. I like  
19 everything I hear about the project. The Chief's here, her  
20 words carry a lot of weight with me. They lost a lot of  
21 their native habitat, they lost their fish. A lot of people

22 have lost their fish.

23 I'm basically here now to address who I am and  
24 what I have to offer all the agencies. My name is Robert  
25 Weese Dunn, I've been studying the fisheries for over 45

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1 years. I'm a local residence of this area. I've been a  
2 fishing guide since 1985. I've been fighting these battles  
3 for over 30 years, going to all these meetings and I've seen  
4 the turnover from every agency, all the people that they're  
5 trying to bring our fish back.

6 I want to address the major issues that weren't  
7 addressed that should be coinciding with this project. Our  
8 main problem why our fish do not make it out to the ocean,  
9 there is -- there is about four of them. It's called the  
10 cross Delta channel. That is where a wall -- a hole has  
11 been cut into the wall of the Shasta -- or from Sacramento  
12 River and the water has been diverted down into the  
13 California aqueduct system. That's where all or winter-run  
14 are being lost.

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15 when they started farming the land down in Kern  
16 County, down in Southern California and taking all our  
17 water, that's when our fisheries went down to nothing. If  
18 you look back on our studies we've had here, the winter-run  
19 number had been in the hundreds of thousands, all the way up  
20 to 1970. So that was way before the dam. Those fish were  
21 able to spawn and reproduce and have successful runs of  
22 winter-run salmon in the Redding area. Okay. That needs to  
23 be screened off with new technology screens like they have  
24 at the Red Bluff pumping facility. If you do that, that

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25 eliminates a lot of our lost fish down into that cross Delta

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1 channel.  
2 we need more fresh water flows out into the system  
3 that will help this project be a success, because those fish  
4 need that water to travel down through the system and get  
5 out into the Delta. That Delta is toxic right now. That's  
6 their foraging habitat where all our salmon go to forage and  
7 acclimate so they can go into the ocean and survive.

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8 No. 3 is we need to restore the river side  
9 channels. Those are going extinct. Those are rearing  
10 habitats for the fish when they migrate out of our rivers,  
11 they go off to sides and due to the flow events I've seen  
12 over the past 50 years, those side channels are becoming  
13 extinct. There is almost none left.

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14 we need to fix the cold water device on Shasta  
15 Dam, make sure that's working properly so we can have cold  
16 water during the drought years, because that's been a real  
17 big issue is not having enough cold water for our natural  
18 spawning fish.

19 And the Chief here, she wants to get -- she wants  
20 to have more natural fish for the release up into the upper  
21 rivers. You know, that would be my No. 1 choice if we're  
22 able to do that.

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23 My No. 2 choice is, is to boost the production at  
24 the Livingston Stone Hatchery, raise more fish, and make  
25 them naturally spawn in the river so we can build

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1 generations of natural spawning fish. A second generation  
2 natural spawning fish is about as close to a wild fish as  
3 you can get in this day in age. That would have been my  
4 second choice is we would what take those natural spawning  
5 fish and use those as our fish that we want to implement up  
6 there in the upper Sacramento River, McCloud River, that  
7 would be my second choice if the New Zealand fish do not  
8 work out.

9 But until we, you know, if we don't ramp up --  
10 ramp up production at the Livingston Stone Hatchery we're  
11 not going to be able to achieve those goals. And that  
12 hatchery is more than capable of producing more than a  
13 million fish, so that's very important. And we need to have  
14 the water flows. We need close flows to release those fish.  
15 We don't truck our winter-run fish, we release them down  
16 river a little ways. But we don't truck them down to the  
17 Delta because they will not enter and come back. So we need  
18 to have higher flows into the river system so those fish can  
19 travel out to the ocean. Very important. We call that a  
20 pulse flow.

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21 I've been working on these issues for a long time.  
22 I've been working with the Department of Water Resources,  
23 the National Marine Fisheries, totally different agencies,  
24 difference people from the same agencies that are here today  
25 on these projects. But those issues that I'm talking about

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1 today are essential for this one to be successful up river.  
2 If we don't have a good conveyance system for our fish that  
3 we're trying to raise up here and bring back, this project

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4 here is -- it's just a waste of money and time and you might  
5 as well forget about it, because it's not going to happen.  
6 You got to have that conveyance system. You got to have  
7 those fish to be able to travel out of the system into the  
8 ocean.

9 MR. MOORE: Okay. So I thank you very much. We  
10 appreciate all the comments that we received tonight. We  
11 want to receive additional comments. Again, please use the  
12 materials made available for you to provide additional  
13 comments. And our meeting is officially concluded at this  
14 time. So our folks can stay a little bit longer if you want  
15 to continue to talk to them.

16 This gentleman has a question and then we will  
17 actually end the meeting.

18 MEMBER OF THE AUDIENCE: I spoke more about this  
19 yesterday about this issue from a social side perspective  
20 and want to add a comment in follow-up to Chief Sisk's  
21 statement that for the winnemem wintu to be excluded from  
22 the steering committee because of their status as not a  
23 Federally recognized tribe is absolutely absurd. The -- the  
24 Federal regulations for recognizing tribes were developed in  
25 response to the cultural systems of the Great Plains people

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1 and the -- and has absolutely no bearing on the weight of  
2 how the winnemem wintu people live their life. It's a hell  
3 of a thing to say in their presence.

4 One of the -- one of the Johns at some point  
5 mentioned that he could not think of a single creature that  
6 can survive when 100 percent of it's natural habitat has  
7 been destroyed, but these people are here now. And this

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8 program of the -- so the Federally recognized tribe is being  
 9 developed in response to the cultures of the Great Plains  
 10 people was developed in concert with a Federal program of  
 11 culling and management of Great Plains bison. And it seems  
 12 to me that it's pretty similar to what has happened here  
 13 with our fish, where the illegal backbone of a people's  
 14 survival has been depleted by intervention and then  
 15 transferred to Federal management, and then the  
 16 inconvenience and the run around of that Federal management  
 17 is leveraged to use the inconvenience caused by that  
 18 management to turn public opinion away from Indian people of  
 19 this land. And I think that that's a problem that needs to  
 20 be addressed moving forward.

21 MR. MOORE: Thank you very much. Okay. So the  
 22 meeting is officially over. Please provide additional  
 23 comments using the comment forms. Thank you all very much.

24 (The Public Meeting Concluded At 8:04 P.M.)  
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1 STATE OF CALIFORNIA )  
 2 ) ss.  
 3 COUNTY OF SHASTA )

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I, CHERYL K. SMITH, Certified Shorthand  
 Reporter, do hereby certify:

10 That I acted as such Shorthand Reporter in

11 the above-entitled matter; that I took down in  
12 shorthand notes the proceedings given and had at said  
13 time and place;

14

15 That I thereupon caused my stenographic notes to  
16 be transcribed by computer-assisted transcribing, and that  
17 the foregoing 75 pages constitute a full, true and correct  
18 transcript to the best of my ability due to the hearing  
19 issues involved thereof.

20

21 DATED: July 23, 2017.

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23

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CHERYL K. SMITH, CSR 5257

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DAVIS, CALIFORNIA 95616-8751

September 27, 2017

Carolyn Bragg,  
Bureau of Reclamation, Bay-Delta Office,  
801 I Street, Suite 140,  
Sacramento, CA 95814.

Re: McCloud River

Dear Ms. Bragg:

This letter is a comment for the Draft Environmental Impact Statement for the Shasta Dam Fish Passage Evaluation, California.

I am Professor Emeritus of fisheries from the University of California, Davis. My expertise lies in the ecology and conservation of the freshwater fishes of California, based on over 250 publications. I have studied the McCloud River and its fisheries off and on since the early 1970s. The attached report is my evaluation of the suitability of the McCloud River as a re-introduction site for winter-run Chinook salmon. The conclusions of the report are as follows:

The McCloud River, from McCloud Dam to Shasta Reservoir, is one of the best wild trout streams in California. This is despite the fact that Shasta and McCloud Dams have reduced its flows, flooded long sections, and otherwise altered its habitat. The dams have converted the river from one of the most productive spring-fed salmon streams in the Central Valley to a regulated trout stream and a drowned river valley.... The historic productivity of the river was presumably related to the recycling of nutrients from dead salmon, now absent, the effects of year-around flows from springs, and abundant spawning gravels and rearing habitat now under Shasta Reservoir and probably McCloud Reservoir as well. Today, natural physical processes in the lower river, such as gravel recruitment and high flow events, depend on tributaries. ...

The lower McCloud River has sufficient spawning and rearing habitat to support a small population of winter-run Chinook salmon.... However, the abundance of trout of diverse size classes in the river suggests that rearing habitat may be close to saturation. A re-introduction program should meet the ten criteria outlined by Lusardi and Moyle (2017).

Peter B Moyle  
Distinguished Professor Emeritus

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**The potential of the McCloud River as an anadromous salmonid restoration site.**

Peter B. Moyle  
University of California, Davis  
September 28, 2017

**Summary**

The McCloud River, a tributary to Shasta Reservoir, Shasta County, California, is proposed as a reintroduction site for winter-run Chinook salmon, an endangered species. Before Shasta Dam, the river was one of the most productive salmon streams in California and the principal home of winter-run Chinook. Today it is a highly regarded trout water and novel ecosystem, reflecting large-scale change from its historic condition. 80% of its water is diverted for hydropower generation. The available habitat for salmon spawning and rearing in the river is limited in area and condition, so any salmon reintroduction program should proceed cautiously, making sure all the requirements for success can be met before it is established.

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**Introduction**

In their Recovery Plan for Central Valley salmonids (NMFS 2014), NMFS proposes reintroduction of Sacramento River winter-run Chinook salmon, Central Valley spring run Chinook salmon, and Central Valley steelhead into habitats upstream of impassable dams. The McCloud River was identified as a "primary" watershed,

having the top priority for reintroduction of winter-run Chinook. NMFS proposes fish passage over Shasta Dam is needed in both upstream and downstream directions for reintroduction to take place. In this report, I review the McCloud River as a potential site for use of trap and haul to re-establish Chinook salmon populations.

#### **McCloud River as a reintroduction site.**

The McCloud River, a tributary to the Sacramento River in north-central California, was once one of the most important salmon and steelhead streams in western North America. The California Fish Commission in 1890 considered it to be “the best salmon-breeding river in the world” (Yoshiyama 2002). Its spring-fed waters were cold year-around (<12-13 °C) and they supported a remarkable four runs (winter, late-fall, fall, spring) of Chinook salmon (*Oncorhynchus tshawytscha*), as well as run(s) of steelhead (*O. mykiss*). It was also the principal river in which bull trout (*Salvelinus confluentus*) were found in California. This meant the river had use by salmon and steelhead throughout the year, resulting in abundant salmon carcasses that fertilized the river continuously, keeping fish and invertebrate abundance high. The most distinctive anadromous fish in the McCloud was the winter-run Chinook salmon. This run is the most distinct in terms of genetics, life history, and behavior of any Chinook salmon population in California, and probably the west coast (Moyle 2002, Moyle et al. 2017). It was adapted for taking advantage of cold spring-fed rivers, mainly the McCloud and upper Sacramento, which allowed its embryos to incubate during the hottest time of the year.

The McCloud River’s renown as a salmon and steelhead river led to it being chosen, despite its remote location, as the site for the first salmon and steelhead hatchery in California (Yoshiyama and Fisher 2001; Yoshiyama 2002). This egg-collecting station was built in 1872, with the help of the local Wintu people. The principal species used for egg collection appeared to be spring run Chinook, fall run Chinook, and steelhead (but mixed with resident rainbow trout). The station produced millions of fertilized salmon and steelhead eggs which were shipped all over the world, establishing runs in a number of locations<sup>1</sup>. Millions of fry were also produced and released into the river on the assumption that their release would improve salmon fisheries. The hatchery operated through 1935, although in some years production was low because so few salmon and steelhead returned to the river.

In 1945, Shasta Dam on the Sacramento River was completed. The dam blocked all access of anadromous fishes to about 350 kilometers of salmonid spawning and rearing habitat in the upper watershed, including all native habitat for winter run Chinook salmon (Yoshiyama et al 1998, 2001). As a result the winter run is now

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<sup>1</sup> Some of the earliest shipments of embryos to New Zealand were from the McCloud River. However, these early introductions apparently failed to become established and the present populations of Chinook salmon in New Zealand most likely came from later introductions of fish from Battle Creek (Quinn et al. 1996).

listed as an endangered species by both state and federal governments. Today, it spawns and rears only in the Sacramento River below Keswick Dam where it is entirely dependent on flow releases from Shasta Dam, artificial gravel placement, and hatchery production. Central Valley spring run Chinook salmon and steelhead are also listed under the ESAs but Shasta Dam is just one of many dams that cut off their access to upstream habitats (Yoshiyama et al. 2001).

In 1965, McCloud Dam was built by PG&E, which diverts about 80% of the flow of the McCloud River to Iron Canyon Reservoir, for hydropower. Throughout this period, much of the watershed was logged, removing old growth trees, with the exception of a few areas along the main river. The region was also subjected to a number of severe wildfires.

During this period of change, however, the river continued to support a high quality trout fishery, focusing on native rainbow trout, for which it continues to be famous today. The fishery is for both resident rainbow and brown trout (*Salmo trutta*), which are slow-growing (Sturgess and Moyle 1978, Nevares and Liebig 2009) There are also runs large rainbow and brown trout that migrate into the river from Shasta Reservoir. The trout populations were lightly harvested largely because most of the riparian lands became privately owned by a handful of trout fishing clubs. The clubs both protected riparian forests and maintained relatively low fishing pressure, which has evolved into catch-and-release fishing today. Nevertheless, the bull trout was extirpated from the river by 1975, the year of the last authenticated capture of two individuals (Moyle 2002); it was largely replaced as a large piscivore by non-native brown trout, introduced into California in the 1920s. The demise of bull trout was apparently the result of the a combination of blockage of access to spawning habitat by McCloud Dam, reduced food supply from the absence of salmon, somewhat increased water temperatures, decreased flows below McCloud Dam, and competition from brown trout (Moyle 2002).

McCloud Dam and the entire Pacific Gas & Electric Company (PG&E) hydropower project (McCloud Pit Hydroelectric Project) associated with it have recently undergone extensive study as part of the Federal Energy Regulatory Commission (FERC) relicensing procedure. The Environmental Impact Statement for relicensing of dam operations was approved by FERC in 2011 and PG&E, the dam owner and operator, did extensive studies on the lower river as a condition of license renewal

(<http://www.eurekasw.com/MCP/Technical%20Memos/Forms/AllItems.aspx>). The results of study and potential alternative flow regimes were submitted to the State Water Resources Control Board for Water Quality Certification. PG&E and angling groups sought to maintain the present flow regime, with some increase in minimum flows and addition of dam releases in the spring months to mimic the snowmelt hydrograph (FERC 2011). Their basic arguments are (1) the river from McCloud Dam to Shasta Reservoir maintains a high quality trout fishery under present conditions, (2) inflow from major tributaries creates a more or less natural hydrograph for much of the river (Figure1), and (3) significantly increased flows would show a relatively small increase in fish habitat for amount of water involved

with a major increase in the difficulty of fishing the river. Alternative flow regimes considered were (1) having a natural flow regime reflected in dam releases, (2) providing recreational flows for kayaking for short periods, and (3) providing increased flows that might be needed for re-establishing Chinook salmon, mainly to keep water below 16-18°C down to Shasta Reservoir (or Squaw Valley Creek).

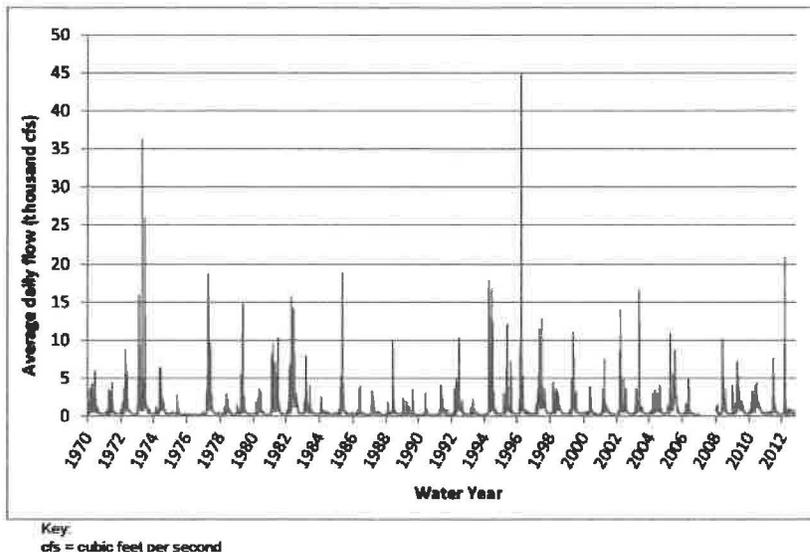


Figure 1. Average daily flow in McCloud River, 1970-2012, based on a flow gauge (USGS Gauge 1136800) just above Shasta Reservoir. From USBR 2014.

**McCloud River today**

Despite the high quality trout fishery, the McCloud River between McCloud Dam and Shasta Reservoir is not the same river that it was before Shasta and McCloud dams were built.

Current altered conditions include:

1. The lowermost reaches, presumably important spawning and rearing areas for salmon historically, are under Shasta Reservoir, although the amount of inundation depends on reservoir levels, which fluctuate on an annual basis.
2. McCloud Dam diverts much of the flow, altering flow and temperature regimes, as well as some gravel recruitment, below it. However, larger tributaries continue to contribute peak flows and coarse sediment to the

- mainstem river and make the flow regime increasingly 'natural' in a downstream direction (PG&E and Stillwater Sciences 2009a).
3. Bull trout are extirpated and brown trout have invaded.
  4. The system has been deprived of ocean nutrients from the lack of spawning salmon, steelhead, and possibly lampreys since the 1940s.
  5. Shasta Reservoir is a source of fish moving into the river to spawn including brown trout, rainbow trout, Sacramento sucker (*Catostomus occidentalis*), and Sacramento pikeminnow (*Ptychocheilus grandis*).
  6. The McCloud arm of Shasta Reservoir, like the rest of the reservoir, is dominated by non-native species such as centrarchid basses (*Micropterus spp.*), catfishes (Ictaluridae), and threadfin shad (*Dorosoma petenense*).

In this section, I examine the river today, focusing on factors related to the proposed re-introduction of winter run Chinook salmon, especially the suitability of spawning and rearing habitat. Of particular interest are the effects of a recent (2012) fire, which caused large amounts of debris and gravel to flow down Claiborne Creek, changing the nature of the river downstream of its mouth. In general, water temperatures in the McCloud River are suitable for all life history stages of most salmonids, with temperatures not increasing above 15°C except in some regions nearer to Shasta Reservoir in July (PG&E and Stillwater Sciences 2009b, Figure 2). However, temperature modeling of the river at different flow stages shows that warmer temperatures (>15°C) are likely under critically dry conditions, especially in reaches exposed by dropping water levels of Shasta Reservoir (Stillwater Sciences 2009). The following descriptions of seven major sections of the river are based on personal knowledge of the river and available literature

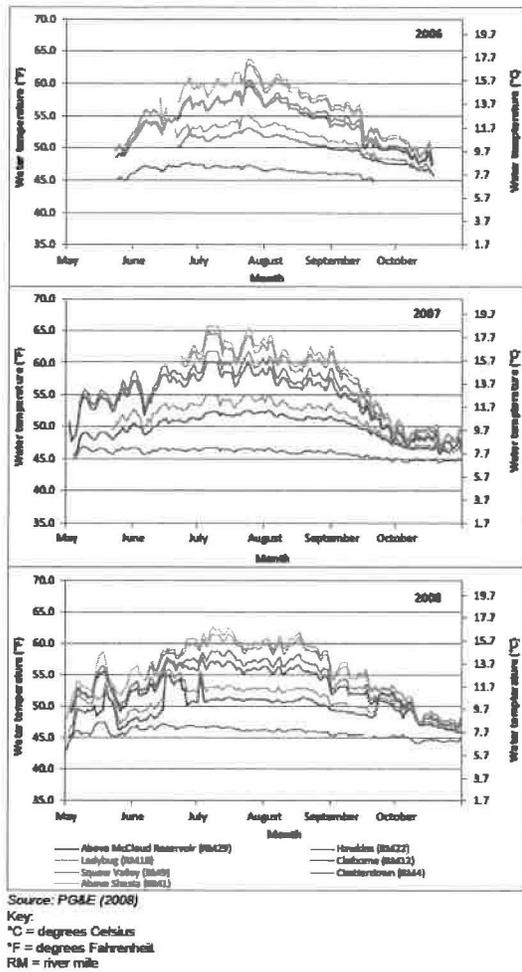


Figure 2. Average daily water temperature between May and November during 2006-2008 at seven locations on the McCloud River from above McCloud Reservoir down to Shasta Reservoir. 16°C is roughly equivalent to 61°F. From USBR 2014.

*Above upper and lower falls*

The McCloud River above the falls is a cold wade-able stream, managed to support native redband trout. While snowmelt is important for its flows, summer flows are also maintained by springs and its appearance does not seem to have been altered much since when it was described by Joseph Wales (Wales 1939). Historically, it was managed for trout fisheries and heavily planted with hatchery fish. In general, in summer, it is a shallow, cold stream, inhabited by rainbow trout.

#### *Between lower falls and Big Springs*

The two falls were an impassible barrier to salmon and steelhead. Historically, only limited spawning by Chinook salmon was noted in this relatively short reach (2.5 km)(Yoshiyama 2002). Flows are typically low in summer and may be too warm for winter-run Chinook incubation during most years) and gravel beds adequate for spawning are limited in area. Lusardi et al. (2016) found abundance of invertebrates was highly variable in this reach but peaked in the fall.

#### *Big Springs to McCloud Reservoir*

Big Springs is the main source of water for the McCloud River below river km 79. Originating from Mt Shasta snow and glacier melt, the water gushes from the side of the canyon, at a temperature of 7-8°C. It is extremely clear; kayakers experience ice-blue waves that splash over them in the cascades (P. Moyle, personal observations). The rocks below the springs are covered with moss (*Fontinalis antipyretica*). The reach is almost entirely boulder cascade with few pools. During a visit in August 2014, the deepest pool I could spot was about 2 meters deep and was more of a fast run rather than a pool. There were few fallen trees in the river. This means that that there were few resting places for migrating fish except behind boulders. Potential spawning gravels were scarce and mainly along the edges. The Wintu people recognized that few fish spawned in or above this cascade, so concentrated their fishing below river km 66 (about 1.5 km below present-day McCloud Dam); apparently the highest village site was at this location (Yoshiyama 2002).

#### *McCloud Reservoir*

McCloud Reservoir was created in 1965 and covered about 8 km (5 miles) of river. The dam blocked movement of fish upstream and reduced flows and raised temperatures of the river below the dam. The reservoir has a distinct blue-white tint to it, created by Mud Creek, which often has bursts of sand and silt flows during the snowmelt season. These "mud" flows are denser than the reservoir water and so flow along the bottom, where they often emerge from the dam, making the mainstem down to the reservoir cloudy. The reservoir is heavily planted with hatchery rainbow trout and supports a fishery for them by boat anglers. A few large brown trout are also caught.

The biggest impact of the McCloud Dam is that it diverts about 80% of the water in the upper river to Iron Canyon Dam and Reservoir, from which it flows into the Pit River, generating hydropower.

#### *McCloud Dam to bottom of TNC Reserve*

This reach, which includes The Nature Conservancy (TNC) preserve, was intensively studied by PG&E as part of the Federal Energy Regulatory Commission (FERC) relicensing process. Their findings are summarized here, supplemented with my own observations.

The river immediately below McCloud Dam is dominated by boulder substrate although gravel augmentation has been done in the region by PG&E at the request of U.S. Forest Service. After about 2 km, Hawkins Creek enters the river and it is apparently a major source of gravel and sediment to the lower river. According to fishing guide John Rickard, the reach below Hawkins Creek is called the "miracle mile" by anglers because of the abundance of rainbow trout there. The river gradient downstream at Ah-Di-Na (USFS campground) is somewhat lower, reflecting the wide flat bench that exists there. The bench was the site of a Wintu village and early resorts. The Ah-Di-Na reach contains extensive gravel beds and was identified in the PG&E studies as the major spawning grounds for potadromous brown trout. It is quite likely that this reach was also very important as a spawning area for Chinook salmon, given the gravel beds still present. Downstream, the gradient increases through TNC's McCloud River Preserve but there are many large pools suitable for holding salmon as well as extensive pockets of gravel for spawning.

Sturgess and Moyle (1978) and Tippets and Moyle (1978) studied the biology of trout in the TNC reach. They found that (1) rainbow trout were relatively slow growing compared to trout in many other wild trout populations, (2) many brown trout reared in the river for two years before migrating downstream to Shasta Reservoir, and then returning 1-3 years later to spawn, (3) rainbow trout were feeding more on the bottom than the surface, although they were opportunistic in feeding habits and (4) bull trout were extirpated from the river. Studies by TNC biologists through the years have confirmed these findings, as have Nevares and Liebig (2009). Also abundant in this reach (and below) are sculpins (*Cottus sp.*). These small bottom fish were originally described as a distinct species (*C. shasta*) which was merged with the riffle sculpin (*C. gulosus*) (Moyle 2002). It is possible that the McCloud sculpin is most closely related to the Pit sculpin (*C. pitensis*) or is a species endemic to the McCloud River (J. Baumsteiger, unpublished data).

Existing aquatic habitat, although reduced and altered, continues to present favorable conditions for rainbow and brown trout. Surveys of biotic (macroinvertebrate bioassessment, angling surveys) and abiotic (temperature, turbidity, dissolved oxygen and pH) conditions at TNC's preserve document the high quality and stability of most habitat parameters (Fowler and Babcock 2005). From 1996-2004, all parameters stayed well within the tolerance limits of rainbow trout. Average water temperatures stayed below 60°F (15.5°C) in spring through fall. Dissolved oxygen exhibited a cycle within salmonid tolerance limits (~4.5 mg/L) that does not seem associated with temperature. Dissolved oxygen concentrations usually fell to between 11 and 14 mg/L. Turbidity (>100 NTU) associated with glacial melt and subsequent sediment introduction via Mud Creek was identified as a potential limiting factor to primary productivity and salmonid prey food production. However, annual assessment of macroinvertebrates yielded a diverse fauna (10-12 orders; up to 44 families) comprised of sensitive taxa and a variety of functional groups, indicative of high water quality conditions throughout the year.

#### *McCloud River Club Reach*

The river in this ca. 10 km section has a somewhat lower gradient and broader canyon than above, especially below Claiborne Creek. It is characterized by alternating deep pools and long runs and boulder-dominated riffles. Gravel suitable for salmon and trout spawning is common in large patches as demonstrated by PG&E study of a short section above Claiborne Creek (Klobas 2011). As the result of a forest fire followed by heavy rain in December 2012, large-scale erosion took place in the headwaters of Claiborne Creek, filling in the deep pools below the creek with several meters of gravel and sand (John Rickard, pers. comm). The new substrates in many of these areas looked suitable for spawning by salmon and trout, although potential holding habitat for adult salmon was reduced, (Moyle, unpublished observations, 2014). Juvenile rainbow trout and brown trout are common in edge habitats and tributary streams, indicating importance of the reach as a rearing area.

Habitat surveys completed for the entire river below McCloud dam in 2000 found a relationship between habitat types and river geomorphology. Glides and riffles were the dominant habitat throughout most of the river but these were usually associated with long pools downstream of Squaw Creek (Crandall and Middleton 2000). Temperature data suggests that warmest temperatures occurred in July (Figure 2) and that maximum daily temperatures above 15-16°C for approximately 4-6 weeks likely would have inhibited successful Chinook salmon egg incubation in parts of this reach, especially in lower-flow years.

#### *McCloud River Club to Shasta Reservoir*

This reach is wider and lower gradient than most upstream areas (Wales 1939). A number of creeks flow into it, which presumably deliver gravel to the river. Reduced summer flows have likely made this reach unsuitable for winter-run Chinook spawning in many years, due to summer temperatures exceeding 16°C.

Adult Chinook salmon have been recorded moving into the river from the reservoir, although there is no record of successful spawning (Nevares and Liebig 2007). Healey and Rode (1994) observed seven adult Chinook passing through a weir set on the lower river in 1986. The salmon “showed up....only in September and October, 1986, and appeared to be in pre-spawning condition (p 18).” Presumably, these salmon originated from the thousands of juveniles planted in the reservoir each year to support a reservoir fishery (Perales et al. 2015).

#### *Shasta Reservoir Reach*

The lowermost 24 km or so of the McCloud River are now submerged under Shasta Reservoir, re-appearing only in dry years. This reach ended at the Pit River, a large and fairly cold river in its own right. The submerged habitat has not been evaluated but the river was apparently fairly wide and was a long series of runs and pools, which were likely the best salmon holding, spawning, and rearing habitat in the river under the original flow regime. The original Baird Station, built to collect eggs

from salmon and steelhead, was built a few kilometers above the Pit River, to take advantage of the abundant fish.

**Are conditions in the McCloud suitable for winter-run Chinook salmon?** These observations suggest the following:

1. Spawning habitat below McCloud Dam and above the McCloud River Club is suitable for Chinook salmon, with plenty of spawning gravel for a least a small run of fish (see below). Summer temperatures for egg incubation are adequate for winter run Chinook, in the 9-13 °C range (48-55 °F). The further downstream from the dam, however, the less suitable temperatures may be for incubation but temperatures would likely be suitable for rearing of juvenile Chinook, regardless.

2. Spawning habitat for Chinook salmon above McCloud Reservoir was historically limited and continues to be so due to the boulder-cascade nature of the river.

3. The river is probably at or close to carrying capacity for salmonids, or at least for rainbow trout, at present, given the light, catch-and-release fishery, slow growth rates of the trout, and the cold temperatures of the river.

4. The slow growth of McCloud River rainbows indicates they might benefit from having the river fertilized with salmon carcasses, if carcasses were provided in sufficient number. The many large deep pools in the river would retain carcasses, allowing local increases in production. We assume the rainbows would feed on salmon eggs, pieces of carcasses, and aquatic insects resulting from increased production.

5. Brown trout would presumably also benefit from carcasses, as described for rainbows, although they would most likely also prey on juvenile salmon in the same manner as the salmon were historically preyed upon by bull trout.

6. Tributary streams are an essential source of gravel and sediment for the main river. The massive 'debris flow' down Claiborne Creek in 2012, for example, delivered large amounts of gravel to downstream areas, which is gradually moving through the system. There apparently has been a short-term decline in the trout fishery below Claiborne Creek, but it should improve as the gravel is flushed downstream.

7. Turbidity in the lower river created by fine sediment from Mud Creek passing through McCloud Reservoir may decrease salmon productivity by reducing the ability of juveniles to feed effectively under low-light conditions, as noted by Tippetts and Moyle (1978) for resident rainbow trout. These sediments were likely flushed through the system more quickly during high winter/spring flows prior to construction of McCloud Dam.

Overall, existing conditions in much of the McCloud appear suitable for reproduction and rearing of a small population of winter run Chinook salmon, as well as of spring run Chinook salmon. The best reintroduction site appears to be at Ah-Di-Na because of accessibility, the proximity of some of the best spawning habitat, and cool summer temperatures. The question remains, however, as to whether or not a reintroduction program can work, especially in terms of improving the status of the endangered salmon. Currently, NMFS is proposing to use Two-way

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Trap and Haul as the method to reintroduce winter-run Chinook into the McCloud River with the goal of establishing a self-sustaining population, although there are problems with the method that need to be resolved (Lusardi and Moyle 2017).

#### **How many adult Chinook salmon could the McCloud River support?**

Extensive habitat surveys and accompanying models have tried to assess the amount of suitable habitat available for different stages of Chinook salmon, especially winter-run Chinook (see PG&E and Stillwater Sciences 2012). Based on suitable criteria found in the primary literature, temperature and flow modeling, and habitat assessments of stream substrates, flows of about 125 to 550 cfs should provide adult winter-run Chinook (and other runs) with the most usable area for spawning. When the modeling assumes that redd sizes average about 200 ft<sup>2</sup>, these flows would result in supporting 575 to 1821 redds under optimal temperature (<12°C) conditions. If each redd represented one mating pair (1:1 sex ratio) then the McCloud River under current conditions could support *ca.* 1150 -3650 winter run Chinook adults. This estimate is likely low because redds overlap so more fish would use an area than a simple number would suggest. Tussing (2006) estimated that the McCloud River could support about 12,000 redds for all runs of Chinook, based on the calculation that 39% of historic spawning habitat remains in the river and the historic number of redds was around 25,000 plus 890 in Squaw Valley Creek (as estimated by Hanson et al. 1940). Such estimates are very rough, providing a range of possibility, so further studies are necessary to establish habitat use estimates. Clearly for a reintroduction program to create even the lower numbers of redds, a much larger population of winter-run Chinook would have to exist below Shasta Dam to support removal of so many spawning adults.

#### **Impacts of Climate Change**

Climate change is a major threat to the persistence of winter-run Chinook salmon (Williams 2006, Katz et al. 2013). Summer maximum temperatures in some sections of the Sacramento River already exceed 18°C (California Data Exchange Center 2015). Thus, small increases in summer water temperatures could result in conditions that reduce winter-run Chinook distribution and abundance (Ebersole et al. 2001, Roessig et al. 2004) and reduce the suitability of the McCloud River as a reintroduction site. Most likely negative impacts are on incubating embryos, which require water of less than 13°C for survival. Assuming flows from Big Springs stay the same in volume and temperature, as do releases from McCloud Dam, then much of the river below the dam will likely be suitable for salmon holding and rearing throughout the year, at least through the end of the century. However, flows and temperatures will be altered in the tributaries such as Hawkins and Squaw Valley creeks, which will influence conditions in the main river.

Changes in precipitation patterns may also alter habitats. If climate change model predictions hold true then more precipitation will fall as rain, rather than snow, resulting in stream flows that peak quickly and earlier. Reservoirs, such as Shasta Reservoir, will potentially have less water available for fishery releases due to a reduction in snowpack, particularly during summer when winter-run Chinook eggs

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would be incubating in stream gravels. Water that is available for fish flows is also expected to be warmer due to rising air temperatures (Hamlet et al. 2005, Stewart et al. 2005). Snowpack losses are expected to be greatest at elevations below 3,000 and as much as 80% (Hayhoe et al. 2004). In California, changes in stream flow and temperature are consequently expected to be much greater in the Sacramento River basin which is fed by the relatively lower Cascades and northern Sierra Nevada (Mote et al. 2005), although spring-fed rivers may be an exception to this expectation. Additional analysis of potential climate change impacts on the McCloud River can be found in Tussing (2006).

**Overall Conclusions**

The McCloud River, from McCloud Dam to Shasta Reservoir, is one of the best wild trout streams in California. This is despite the fact that Shasta and McCloud Dams have reduced its flows, flooded long sections, and otherwise altered its habitat. The dams have converted the river from one of the most productive spring-fed salmon streams in the Central Valley to a regulated trout stream and a drowned river valley. Historically, millions of juvenile salmon were likely produced by the river each year. The historic productivity of the river was presumably related to the recycling of nutrients from dead salmon, now absent, the effects of year-around flows from springs, and abundant spawning gravels and rearing habitat now under Shasta Reservoir and probably McCloud Reservoir as well. Today, natural physical processes in the lower river, such as gravel recruitment and high flow events, depend on tributaries. Thus the fire-related debris flow down Claiborne Creek in 2012 can be regarded as being a more or less natural event that filled in pools with sediment but also greatly increased gravel in the lower river, which will move downstream with passage of time. The new flow regime adopted by PG&E and cooperators, resulting from the FERC relicensing process, is designed mainly to maintain the lower McCloud River in its present state as a highly fishable trout stream, with some increase in minimum and spring flows to create a somewhat more natural flow regime immediately below the dam.

The lower McCloud River has sufficient spawning and rearing habitat to support small populations of winter-run and spring-run Chinook salmon, with the Ah-Di-Nah area the most likely release point for adults. However, the abundance of trout of diverse size classes in the river suggests that rearing habitat may be close to saturation. A reintroduction program should meet the ten criteria outlined by Lusardi and Moyle (2017). In the future, climate change is likely to make the river somewhat warmer, decreasing further spawning habitat for winter-run Chinook salmon. However, it will also increase the demand for refuges for coldwater fishes such as winter-run Chinook salmon.

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## Appendix A. Research questions

Key questions about the suitability of the river for winter run Chinook salmon reintroduction include the following. The short answers provided are based on information in this report:

- Is there sufficient habitat above Shasta Reservoir and below McCloud Dam to support reintroduced winter run Chinook?

*Answer: There is habitat above the dam but how many spawning pairs it can support has not been determined. Presumably there is enough habitat to sustain a small (<500 spawners) population but whether or not the current low productivity of the river can support a large population of juveniles is an open question.*

- Is there sufficient habitat above McCloud Dam to support reintroduced winter run Chinook?

*Answer: The reach above McCloud Dam had historically only limited spawning habitat for salmon, which was recognized by the Wintu who did little fishing in the reach. That apparently is still true today although detailed surveys are lacking.*

- What do temperature and flow models and data tell us about whether current flows below McCloud Dam could support winter run Chinook?

*Answer: The current conditions are suitable for winter run Chinook salmon spawning and incubation down roughly to the McCloud River Club due to high water temperatures in summer. Juveniles could rear throughout the entire river at all times, although food may be limiting.*

- How is predation from brown trout likely to impact reintroduced experimental winter run fish under the current flow regime?

*Answer: Brown trout large enough to be significant predators on juvenile salmon are present in the river mainly as migrants from the reservoir, moving upstream to spawn. But they will feed on small salmon if readily available. Under present conditions, they are co-existing with rainbow trout. But brown trout are one of an array of natural predators that could prey on salmon, such as kingfishers, herons, otters, and even rainbow trout. How they would affect survival of juvenile salmon is not known.*

- FERC flow regime? *[To be discussed.]*

- Should flows be increased or changed to support winter run Chinook? If so, at what times of year and how much more water would be needed to support winter run Chinook? How would these flows impact habitat for existing trout populations? *[To be discussed.]*

- What are current stressors to survival of existing winter run Chinook populations?

*Answer: See NMFS recovery plan for discussion of many stressors affecting winter run Chinook salmon. These include degraded habitat and small population size.*

- Are current population dynamics of remaining winter run Chinook a good fit with reintroduction into the McCloud River? Could fish from the reintroduced population make a significant contribution to the total population?

Rebecca Quinones 1/20/2015 4:00 PM

**Comment [1]:** Do we need to add this?

Rebecca Quinones 1/20/2015 4:00 PM

**Comment [2]:** Ditto.

*Answer: The answer to both these questions is uncertain. If the reintroduction is a desperation measure because the habitat below Shasta Dam is too warm, then the fit doesn't matter much. With a large investment in the reintroduction program, including construction of a major weir above Shasta Reservoir, a program could produce many juveniles. Whether or not the fish could survive well when moved to habitat below Shasta Dam or survive to adulthood is unknown.*

- What is the overall likelihood of a trap and haul reintroduction effort being successful?

*Answer: It depends on how success is defined. It is unlikely to make a large population possible but could be used to maintain a small population.*

- What are the opportunity costs of spending limited agency resources on recovery of this population vs. conserving other salmon populations?

*Answer: This is a question more of policy and economics than biology. It is clear saving endangered salmon requires multiple approaches.*

## **Appendix B. Observations from our visit, McCloud River Club, July 28-30, 2014.**

**July 28.** 0800. Hiked to end of MRC trail to the Narrows, a steep-walled rocky gorge. The water was murky with glacial silt because Mud Creek had spilled into McCloud Reservoir a few weeks earlier, so we could not see far into the river. John R. said pools had filled with gravel from the December 2012 flood. The pools were normally 18-20 feet deep but were now 3-4 feet deep, wade-able in places. 0915. E-fished the main river just above the mouth of Squaw Creek. At that site, the gravel had filled in pools to the point where there was no problem wading across the river. We e-fished along shore and caught mostly small (40-50 mm) rainbow trout but also a few brown trout and some sculpins. This was followed by a habitat assessment and pebble counts. Substrate was mostly gravel on bedrock.

1100 Moved over to Squaw Creek, where we e-fished; as in the main river we caught mainly juvenile rainbow trout with a few brown trout and sculpins. The creek was clear, cold (16 degrees C), and largely riffle-run stream with some boulder cascades. Flow was probably around 15 cfs. Fish numbers were not high; we had to work hard for the fish we caught, about 35 in a hundred meters. Nice looking stream, though, with Indian Rhubarb along the edges.

1330. We moved to Claiborne Creek near its mouth. The effects of the 2012 high flow event were visible on trees 2-3m above the channel. According to John R. Claiborne Creek changed from boulder/pocket water dominated stream to being one dominated by gravel beds and runs. Presumably this gravel will wash out of the stream under future high flow events. E-fishing revealed only small rainbows and few sculpins. At the end of the day we visited the nominal "swimming hole" which historically had been a pool at least 2 m deep but was filled with gravel. It was now a bend in the creek, with the pool turned into a big gravel bar. The gravel is sitting on bedrock so could easily scoured in a high flow event, recruiting to downstream areas. If salmon were reintroduced here, they could probably spawn successfully in this gravel, although incubation temperatures for winter run Chinook could be problematic [need to examine thermograph data]. We next e-fished the edges of the McCloud with little success, a few juvenile rainbows and sculpin. But it was wade-able across the river for folks who did not mind getting wet. A pebble count was performed upstream of mouth showed more even distribution of sediment sizes than below the creek mouth.

**July 29** 0800. We drove downstream to a point where the river had a braided channel, thinking some of the smaller channels would be easier to sample by e-fishing. Juvenile rainbow and brown trout were common; we also caught a few sculpin. Spent the rest of the morning doing gravel surveys. John R. went downstream with an aquarium net and a vial of alcohol to capture some small juvenile fish we had seen yesterday in the shallows near the mouth of Squaw Creek; they turned out to be Sacramento suckers. The McCloud was a lovely turquoise color, with visibility of about a meter, not good enough for snorkeling, even in bright sun. The water appeared to be clearing, however. As noted before, former deep pools are now filled with gravel. The gravel is loose and well sorted in most places; it clearly has recent origin because many pieces are angular, not well smoothed by grinding against one another.

1300. We went up Squaw Creek and sampled a mile or so up the stream, at an access point created by the club trail system. We snorkeled the creek and saw a reasonable number of trout, mostly rainbows, none over 25 cm. E-fishing worked well and showed fish to be common, if not abundant. It took about an hour to capture 20 large sculpins I wanted for the fish collection and taxonomy. We also did gravel surveys, measured flows, and assessed the habitat.

**July 30.** 0800. E-fished above Harvey Pool, followed by two pebble counts. Catch was mostly small rainbow trout <65 mm long; disappointingly few sculpins; I had expected more because of coarser substrates. Pebble counts were done above and below, one by bridge 18. After lunch, the crew did pebble counts at Chancellor Pool, while we placed the Hobotemp thermographs, #1 (10553393) at the seasonal bridge between Chancellor Pool and Hat Mountain Creek; #2 (10553391), at Noyes Pool; and #3 (10553392) at main bridge pool. Then three of us hiked up to the upstream property line to look for e-fishing sites. None were found. The gradient was surprisingly shallow; lots of gravel was present, especially as bars along the stream. "



# Comments on Pilot Plan and EA

## Introduction

The primary flaw in the proposed Pilot Implementation Plan (Plan) and the Shasta Dam Fish Passage Evaluation Preliminary Draft EA is the lack of consideration of viable alternatives including the most viable. Specifically, the Plan and EA do not consider study areas above McCloud Dam on the McCloud River. The Plan should have considered study areas above and below the McCloud Falls (Figure 1). The area above the falls is a potentially a highly desirable location for many reasons and should have been considered. The following comments on the Plan and EA relate directly to the advantages of the study area above the falls. This area offers unique and considerable advantages over those in the Plan. The main arguments against the alternatives above McCloud Reservoir are that (1) private landowners do not want these areas included and (2) salmon are not native to the area above the falls. Neither argument are valid to negate the pilot program technical aspects of the Plan. Details of these arguments are also discussed in the following comments on the Plan and EA.

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*The NMFS RPA includes a Fish Passage Program (Action V) to evaluate the reintroduction of winter-run and spring-run Chinook salmon and steelhead... The near-term goal for Action V is to increase the geographic distribution and abundance of the listed fish. The long-term goal is to increase abundance, productivity, and spatial distribution, and to improve the life history, health, and genetic diversity of the target species. **Comment:** the most effective means to meet these goals is to perform the pilot studies at the suggested site above the Upper McCloud Falls/Larkin Dam area. It has far better access and important habitat attributes, and fewer limitations of the lower river sites.*

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The suggested site above the falls complex on the Upper McCloud offers distinct advantages over the lower McCloud site proposed in the preferred alternative.

1. The upper river has a much more benign hydrograph and is not subject to ravaging flood flows of late fall and early winter as is the lower McCloud.
  - a. Dec 2012 – 31,378 cfs
  - b. Dec 2014 – 13,380 cfs
  - c. Dec 2005 - 11,508 cfs
  - d. Dec 2010 – 3,429 cfs
  - e. Jan 2017 – 12,780 cfs

Although base flows are similar at near 50 cfs at the upper end of the three sites, the upper McCloud site on the south flank of Mt Shasta has minimal flood flows. The low gradient meadow stream also has a large floodplain (Bigelow Meadow) to attenuate higher winter flows.

2. The upper river site has fewer predators – primarily small native redband trout. The lower river sites have large brown and rainbow trout, plus abundant smallmouth and spotted bass, lake rainbow and brown trout, and channel catfish at the mouth recovery sites.
3. The suggested upper McCloud site has far better access. It is 1 hr from Shasta Dam versus 2hrs and on better roads.
4. The upper McCloud site has far better spawning and rearing habitat. Water temperatures are primarily in the optimal range of 50-55°F in summer rather than the extremes of <50°F or >60°F

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in the lower river. Slope, substrate, riffles/pools, large wood, riparian, and floodplain habitats are superior at the upper site.

5. The upper McCloud site is all with Forest Service ownership in the special management zone for Redband trout.
6. The upper site is ideal for winter run and/or spring run, but not for steelhead because of potential conflict with redband recovery.

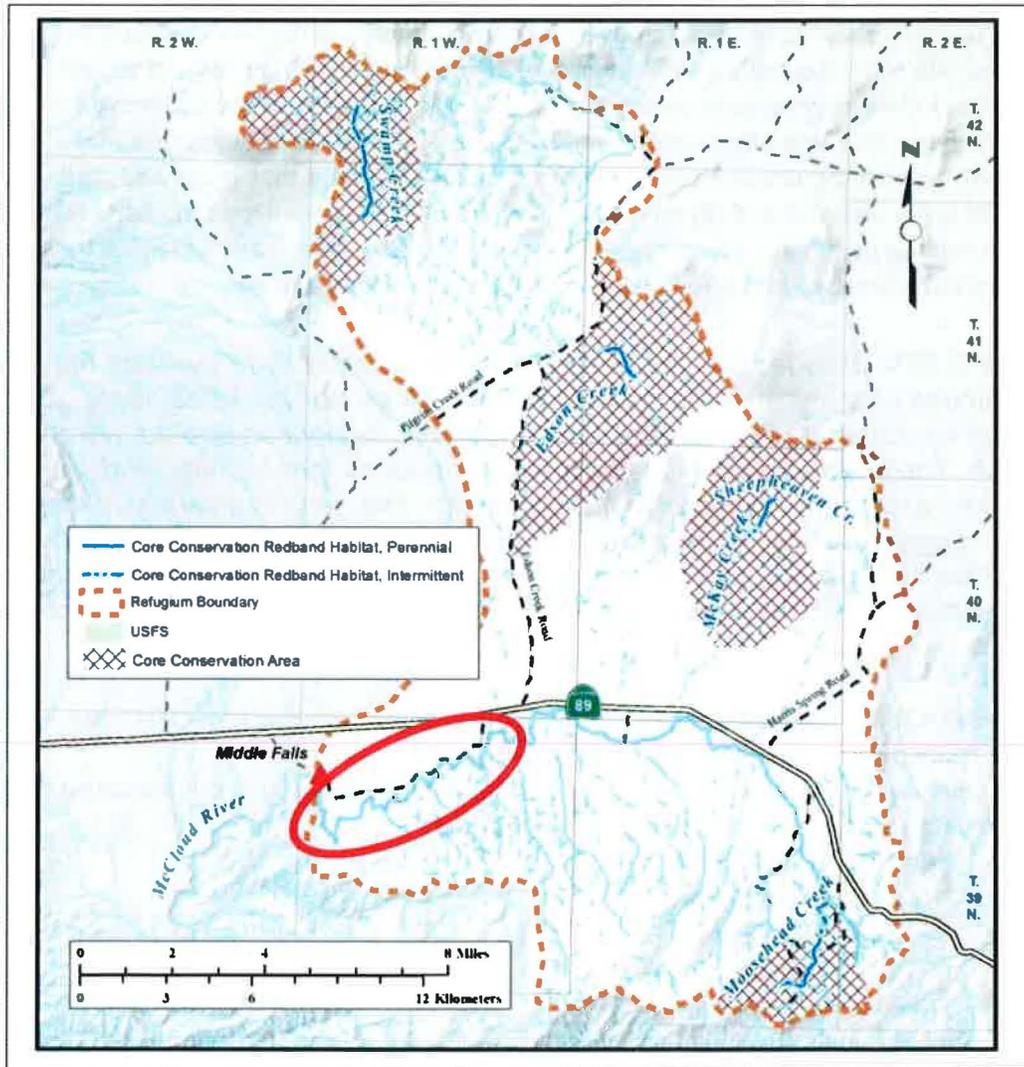


Figure 1. Suggested Upper McCloud site (red circle).

### Pilot Implementation Plan

Identify optimal release locations for fish, based on access, habitat suitability, disease concerns, and other factors (e.g., those which would minimize disease concerns, recreational fishery impacts, interbreeding with non-native *O. mykiss* strains, regulatory

impacts, special authorities for studies/construction, and complications from upstream dams). **Comment:** the upper McCloud site is optimal site for many reasons.

Identify and evaluate options for providing tailored ESA regulatory assurances for non-federal landowners above the dams where species could be re-introduced. **Comment:** the upper McCloud site is all within Forest Service land.

The Steering Committee identified four categories, each with multiple criteria, to help prioritize studies and study sites in the Pilot Program:

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- *Ecological – Holding habitat, spawning/incubation habitat, rearing habitat, conditions for juvenile migration, estimated spawner capacity, water temperature, water supply reliability, flow variability, predation, resource competition, disease, food, ability to foster life history diversity, and resilience to climate change.*  
**Comment:** the suggested upper site has significant advantages in all these features.

- *Stakeholder/Landowner – Public lands, economic perceptions, recreation, landowner concerns, concerns of the native people, and watershed stewardship organizations.* **Comment:** upper site has significant advantages.

- *Regulatory Implementation – USFS Land and Resource Management Plan, California Wild and Scenic River protections, California Endangered Species Act, California Forest Practice Rules, and Consistency with the Recovery Plan and RPA.*  
**Comment:** upper site has significant advantages.

- *Physical Implementation – Transportation stress on fish, cost of fish collection and transportation, adult release sites, juvenile collection sites, and field studies.*  
**Comment:** upper site has significant advantages.

the regulation at McCloud Reservoir does not significantly influence peak flow events in the watershed, because tributaries immediately below McCloud Dam supply over three times more runoff during peak flows to the McCloud River than is supplied by the entire upper McCloud River (USFS 2011). During high-precipitation years, McCloud Reservoir usually spills for several weeks in the spring, contributing to higher flows in the lower river (USFS 2011). P1-15. **Comment:** the upper site does not have this problem.

the long-term reintroduction will likely rely on translocation. Means of capturing adults from downstream of the dam and passing them above it, as well as then capturing juveniles from upstream from the dam and passing them below it are critical to countering the reintroduction constraint posed by the presence of Keswick and Shasta dams. P2-5. **Comment:** trap and haul would be most effective from the suggested upper site.

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*Interactions with Other Species and Populations – Interactions with existing/resident species in the target area could influence the likelihood of a successful reintroduction. Shasta Reservoir is home to populations of non-native fish such as spotted bass, largemouth bass, smallmouth bass, and brown trout, all of which may present predation and competition challenges for juvenile Chinook Salmon. Competition and predation from trout in the Upper Sacramento and McCloud rivers also may constrain Chinook Salmon colonization. Ecological interactions between Chinook Salmon and the existing fish community will be studied as part of the Pilot Program.p2-6. **Comment:** the upper site would have the least conflict.*



*The McCloud River has a baseflow of about 40 cfs, where it flows from the southeast flank of Mount Shasta onto a volcanic plateau (known locally as McCloud Flats) until just downstream from Lower McCloud Falls, where two large springs (Little Muir and Big springs) increase flows, transforming the river into a large, very clear and cold river, with summer temperatures rarely exceeding 46°F (7.8 degrees Celsius (°C)) (Rode and Dean 2004). Summer baseflow of the river downstream from these springs is about 800 cfs (Rode and Dean 2004). Lower McCloud Falls, about 35 miles upstream from Shasta Lake, was historically the upstream limit to migration of anadromous fish (Hanson, et al. 1940) before construction of Shasta Dam.p3-3. **Comment:** the suggested upper site is primarily spring fed but not to the extreme as the lower McCloud where water temperatures are too cold for salmon spawning and rearing (<50°F). Bundora Spring (46°F) serves to keep the lower portion of the upper site above Larkin Dam in Bigelow Meadow sufficiently cool during the warm summer months.*



*McCloud Dam and Reservoir is part of PG&E's McCloud-Pit Project (FERC Project No. 2106), which diverts about 70 percent of the inflow at McCloud Reservoir to the Pit River for hydroelectric generation. The current minimum flow releases from McCloud Dam range from 40 cfs (December-April) to 50 cfs (May through November); the minimum flow requirement at Ah-Di-Na Campground gage (3.5 miles downstream from McCloud Dam) ranges from 160 to 200, depending on season and water year type (PG&E 2006). The minimum dam release and flow schedules for the McCloud-Pit Project may change subject to the pending final issuance of the new FERC license. The diversion of water at McCloud Reservoir, however, does not significantly influence the larger peak flow events in the watershed.p3-3. **Comment:** the upper site is not influenced by a reservoir or hydro project.*



**Potential Resilience to Climate Change.** *The Recovery Plan recognized that climate change may potentially affect salmon throughout their life cycle and will likely pose stresses additional to the original factors implicated in the listings of Central Valley anadromous salmonids.p3-4. **Comment:** the upper site on the south flanks of Mt. Shasta will be least affected by climate change.*



*But in the context of climate change, refugia can also be places where a population may persist through decades and centuries of unfavorable climate conditions and instability. For coldwater obligate fish species, refugia will continue to be areas where groundwater emergence influences water temperature and volume. These refugia will exist on multiple scales: (1) local areas of cold water emergence within a reach otherwise insufficiently cold; (2) lower sections of rivers downstream of reservoirs with large amounts of coldwater storage; and (3) entire stream systems where groundwater hydrology is dominant or*

snowmelt hydrology is preserved due to high elevations.p3-5. **Comment:** the upper site has these advantages.

Generally, the limiting Chinook Salmon rearing habitat attributes were lack of the diversity and quality cover. The literature-based rearing cover criteria used for the habitat assessment are highly dependent on amounts and diversity of large woody debris (LWD) for pool-formation and physical cover. p3-7. **Comment:** the upper site has superior diversity with abundant LWD.

Low spawning habitat condition scores were mostly a function of the relatively limited frequency of deep pools for adult holding and distribution of spawning areas in many isolated patches.p3-8. **Comment:** the upper site would have superior scores with abundant adult holding and spawning habitat.

Winter-run Chinook Salmon were adapted for spawning and rearing in the clear, spring-fed rivers of the Upper Sacramento River Basin, where summer water temperatures were typically 50°F to 59°F (10°C to 15°C), and require clean loose gravel from 0.75 to 4.0 inches in diameter for successful spawning (NMFS 1997).p3-11. **Comment:** the upper site has these superior attributes.

The highest life-stage specific mortality rate in salmonids generally occurs during the incubation period and is often related to the characteristics of the spawning habitat. Studies on salmonid spawning habitat requirements have tended to focus on stream depth, velocity and physical properties such as substrate size and compositions. However, other physical and biological habitat features such as water quality, interspecific interactions, overhanging vegetation, woody debris and undercut banks affect spawning site selection (Quinn 2005, McRae et al. 2012). Cover features have the potential to provide protection from predators as well as adverse stream conditions, such as high stream velocity.p3-13. **Comment:** the upper site has these superior attributes.

Rearing habitat value is strongly related to the availability of sufficient water quantity and floodplain connectivity necessary to maintain a sufficient levels of habitat complexity and diversity. Fry seek streamside and other shallow water habitats containing beneficial aspects such as riparian vegetation and associated substrates that provide food, predator avoidance cover, slower water velocities for resting, and favorable environmental temperatures (NMFS 2014a). P3-13. **Comment:** the upper site has these superior attributes.

The quality of migration corridors is linked to water quantity and quality, absence of barriers to fish passage, and the availability of natural cover such as submerged and overhanging large wood, native aquatic vegetation, large woody debris, rocks and boulders, side channels, and undercut banks.p3-13. **Comment:** the upper site has these superior attributes.

fry and juvenile emigration past the RBDD primarily occurs from July through November.p3-13. **Comment:** young salmon can be readily captured at the suggested upper site during the emigration period.

*The first years of the Pilot Program will be limited to studies using fry, juveniles, and/or eggs (see Chapter 7) obtained from Livingston Stone NFH. The potential for unintended or undesirable evolutionary (homogenized population structure and/or reduced fitness) and demographic (depletion of source population) risks may be low because fish will be sourced from Livingston Stone NFH rather than from the wild population, and because homogenization risk is lower with the small number of hatchery-origin fish being released into an area that is unoccupied by wild Chinook Salmon.p4-4. **Comment:** the upper sites meets these requirements.*

*Including a reasonable timeframe to achieve reintroduction benefits will help bound expectations and establish temporal benchmarks. Some reintroductions only take a few generations to establish, whereas others take decades. Establishing a realistic time frame is crucial in preventing a premature end to a reintroduction program. Reintroductions targeting genetic diversification generally take longer to achieve due to the need to accommodate multiple generations.p5-2. **Comment:** the upper site offers distinct time scale advantages.*

*Thorough monitoring and evaluation of adaptive management actions are essential to resolution of the biological uncertainties, as well as potential stakeholder uncertainties (though it is the biological uncertainties that direct the pilot studies), surrounding the reintroduction of winter-run and spring-run Chinook Salmon upstream from Shasta Dam.p5-3. **Comment:** the upper site offers optimal monitoring and evaluation advantages.*

*The Pilot Program includes multiple pilot (i.e., monitoring) studies that are conducted on a short-term basis. One of the goals of the Pilot Program is to help improve the methods for monitoring, measuring, or interpreting data, in particular by explaining cause-and-effect relationships. This allows the Steering Committee to be able to respond quickly to new information and/or concerns, assess new technical approaches, investigate key questions that have defined endpoints, and evaluate new directions for the Pilot Program. A critical point is the decision about whether the Pilot Program should be modified, transitioned into the long-term reintroduction program, or terminated.p5-4. **Comment:** the upper site offers considerable advantages in these areas.*

*While the Pilot Program focuses on biological feasibility, it does acknowledge socioeconomic, landowner, stakeholder, and other concerns that are crucial for policy decisions regarding the continuance of the Pilot Program and the potential long-term reintroduction.p5-4. **Comment:** the upper site offers considerable advantages in these areas.*

*reintroduction of anadromous fish should proceed in phases, which require some level of iteration between developing the sequences of actions to support reintroduction and strategies and techniques for recolonizing fish populations (McClure et al. 2011).p5-5. **Comment:** the upper site offers considerable advantages in phasing.*

*Pilot Program addresses immediate uncertainties associated with initial regulatory and technical procedures and biological constraints that would preclude successful reintroduction; experiments with colonization strategies; assesses limiting factors that may affect whether or not Chinook Salmon can recolonize and establish self-sustaining sub-populations; design temporary, interim fish passage/conservation facilities constructed and*

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operated during this phase. The Pilot Program will last until it is determined that Chinook Salmon either can or cannot be feasibly reintroduced above Shasta Dam.p5-6. **Comment:** the upper site would deal easier with uncertainties, would have fewer, and offer better success potential.

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the goal is to maintain or increase the life history diversity of the source population through local adaptation to the introduced habitat until the minimum number of returning spawners and outmigrating juveniles are reached, p5-7. **Comment:** the upper site offers maximum potential and high productivity in the least amount of area.

The reintroduction should increase the capacity of an existing population by expanding the available habitat area. Ideally, the potential for population growth within extant populations is roughly determined by the proportional increase in the currently occupied habitat and should be evaluated relative to clearly defined long-term performance measures.p5-7. **Comment:** the amount of expanded habitat is significant as is the potential population expansion.

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Abundance is the total number of naturally spawned fish. Reintroduction benefits to abundance include an increased carrying capacity of an existing population by expansion of its range, or an establishment of a new, discrete, demographically independent population.p5-7. **Comment:** the upper site offers maximum benefit.

In the preservation phase of the reintroduction program, which includes the Pilot Program, the number of fish for pilot studies will be constrained by the availability of sufficient numbers of the target life stages from Livingston Stone NFH. Because of the limited number of fish in the lower Sacramento River, a captive broodstock will be used for the Reintroduction Program for the first few years, until the fish originating from the Upper Sacramento and/or McCloud rivers through the Pilot Program return to spawn (which will be differentiated through either genetic or physical marking when possible), or unless there are high numbers of returning lower Sacramento River spawners available to be used in the Pilot Program.p5-7. **Comment:** the upper site will be most effective under these program constraints.

In 2013, a habitat assessment was conducted in both rivers (See Chapter 3.0) to determine the distribution of potentially suitable habitat and an estimate of spawner capacity of each system. Because of access and timing restrictions in the McCloud River, only a partial assessment could be completed; therefore, additional assessments of the distribution of potentially suitable habitat in the McCloud River may be conducted prior to or during the Pilot Program. This assessment could provide more accurate information on spawner capacity which can produce values that should establish a sustainable natural population goal based on estimated habitat capacity.p5-7. **Comment:** a habitat assessment can be readily conducted at the upper site.

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Productivity is a primary driver of long-term persistence of a population. When considered in isolation, populations with productivity that exceeds the replacement rate are self-sustaining (greater than 1.0), whereas those with persistent negative production rates (less than 1), even with current high abundance, cannot persist in the long- term. The use of hatchery-origin fish will confound productivity of natural spawners in the early period of the

*Pilot Program. However, as the number of hatchery-origin broodstock used for supplementing returning naturally-produced fish are reduced, natural productivity is expected to increase.p5-10. **Comment:** the upper site offers greater potential of providing high replacement rates and earlier reliance on naturally-produced fish.*

*Reintroductions offer an opportunity to restore historical distributions, reduce isolation, and restore natural patterns of dispersal and connectivity within a metapopulation. The risk of extinction due to single catastrophic event would be decreased in most ESUs by increasing the number of extant populations and subpopulations (NMFS 2014a).p5-10. **Comment:** the upper site provides the highest potential for producing new subpopulations.*

*The foundation of the Pilot Program is the development of a Pilot Plan. The Steering Committee has already worked through, and will continue to work through multiple key steps and milestones in the development of the Pilot Program and Pilot Plan, including:p5-11.*

- *Anticipating environmental and social issues/concerns*
- *Anticipating the public concerns and communicate with the public how these concerns will be addressed*
- *Continuing to practice environmental stewardship*
- *Bringing environmental issues into long range planning*
- *Transferring information to subsequent phases*
- *Connecting vision and goals with alternatives selection through the development of an Environmental Assessment*
- *Structuring decision-making by using a formal process with interagency collaboration*
- *Using performance measures and evaluation criteria*
- *Continuing to collaborate through the Steering Committee with the public*

**Comment:** adding or switching to the upper site should minimally delay the pilot program. It should make for easier implementation and greater time efficiencies.

*Collection and transport options may provide a degree of flexibility to adjust release locations, depending on availability of access roads (or other means) to deliver fish to specific release locations.p6.1. **Comment:** the upper site offers excellent flexibility.*

*emphasis would go into fish transport vessels equipped with life support systems, and acclimation facilities potentially needed at release sites.p6.1. **Comment:** the upper site would allow for the most efficient transport systems.*

*juvenile collection in the pilot program will focus, at least initially, on collection in or near the mouths of the tributary rivers. The initial configuration involves testing of pilot juvenile collection methods both at the head of the reservoir and in the tributaries. With the uncertainty in collection efficiency for untried juvenile collection methods both locations will be tested concurrently to maximize collection efficiency and potential learning. Trap efficiency tests will initially be conducted with test fish and will occur over the range of flows available at the time. Hydraulic performance will be measured as part of the trap testing. P6-2. **Comment:** the upper site does not have the difficulties of the lower river site. The lower sites also has a significant predator problem at the mouths in the lake.*

*When flows exceed 500 to 1,000 cfs it is expected that the netting will need to be removed and the primary collection would occur at the head of reservoir location. The system will be flexible so that the configuration can be modified to maximize juvenile collection efficiency.p6-7. **Comment:** this is the most significant flaw in the plan for the two proposed sites. Juvenile winter and spring run emigrate during first fall-winter pulse flows, which are nearly always far in excess of the 500-1000 cfs equipment limit. This problem would be extremely rare at the upper site.*

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*An up-front question needing to be answered in the pilot program is whether the existing state of the habitat and the species present upstream of Shasta Dam would enable a highly productive salmon population to be sustained over time if a successful passage route can be provided.p6-14. **Comment:** the upper site has the greatest potential to provide productive population.*

*A preliminary sequence of colonization experiments and technical evaluations is provided for the first three years of the Pilot Program, beginning with fry or juvenile releases in the first year (Y1), fry or juvenile releases as well as in-stream and/or streamside egg incubation in the second year (Y2), and juvenile releases, instream and/or streamside egg incubation, and adult releases in the third year (Y3).p7-19. **Comment:** the upper site can readily accommodate the schedule.*

*The main objectives for the pilot studies in Y1 are to determine transport and handling survival of hatchery-released juveniles; in-river survival; size and growth rates; relative abundance; habitat use; movement in the study reach; potential for adverse competitive and predation interactions between reintroduced winter-run Chinook Salmon and resident fishes of the Upper Sacramento and McCloud rivers.p7-21. **Comment:** the upper site can readily accommodate these objectives.*

*some evaluations of transport and handling procedures and collection trap efficiency calibrations will likely require use of surrogate Chinook Salmon, at least during the early years of the Pilot Program.p7-23. **Comment:** the use of surrogates should be less likely at the upper site.*

*Spatial distribution, habitat use, and size and growth of hatchery-reared and outplanted and naturally-produced juveniles during the period of rearing in the Study Area can be monitored using direct observation techniques supplemented by electrofishing. For this study purpose, a number of fish distribution index monitoring sites, 400 to 800 feet long and strategically located along the rearing reach, will be pre-selected and established for each study river.p7-23. **Comment:** the upper site would be far more effectively monitored.*

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*Direct observation by snorkeling is expected to be the primary technique because much of the Upper Sacramento and McCloud rivers is too deep and swift for effective electrofishing.p7-24. **Comment:** this is not the case for the upper McCloud site.*

*RSTs, fyke nets, or other appropriate traps fitted with large live cars, and located either near or at the head of the reservoir will be required to monitor juvenile salmon migrating downstream toward and arriving at Shasta Lake. Additionally, a floating, incline plane collector is under consideration by the Technology Subcommittee and Steering Committee*

for installation at the head of Shasta Lake in study tributary arms to be used as an alternate or in tandem with in-river traps to collect juvenile Chinook Salmon.p7-24. **Comment:** such complications are unnecessary with the upper site location.

Juveniles from all three methods of colonization are expected to distribute downstream throughout the McCloud River as they rear and begin to emigrate; however, the duration that juvenile salmon will occur in any of the accessible study reaches is uncertain. Consequently, the amount of information on movement, habitat use and growth during the rearing period is expected to be limited.p7-29. **Comment:** such problems would be limited with the upper site.

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*Controlled Cultured Colonization – Rearing:* Some fry and/or juveniles may also be reared in temporary rearing facilities using Upper Sacramento or McCloud river water so as to increase the survival and imprinting. This is meant to increase the likelihood of returning adults homing to the target river, and, because there would be a concentrated number of fish, these may be used for testing collection efficiencies.p7-32. **Comment:** Early emigration from the upper site and collection and transport below Keswick is possible. There are many options in the program for dealing with such a nice problem to have.

## Redband Plan

### Upper McCloud Habitat

Temperature data collected in 1978 from eight upper McCloud River basin streams ranged from 45-50°F (7-10°C) and is reported in Bacon et al. (1980). Average daily water temperatures during June and July of 1994 and 1995 on three streams (Trout, Swamp and Sheepeaven creeks) ranged from 41-57°F (5.0-13.9°C; SPI file data). Water temperatures collected in June, 2011 from Sheepeaven Creek ranged from 44.6-46.4°F (7.0-8.0°C) and those collected in August, 2011 from Swamp, Moosehead, and Edson creeks ranged from 43.3-50.9°F (6.3-10.5°C). In 2013-14, annual water temperature profiles (recorded hourly over a year duration) for Edson, Moosehead, Sheepeaven, and Swamp creeks indicated water temperatures ranged between 32.1-56.4°F (0.06-13.6°C). Spring source water temperatures for all sampled creeks appear to be in the low to mid 40's°F (4-7°C), but can show delayed seasonal fluctuations (CDFW file data). P-21. **Comment:** studies undertaken in the Redband Reserve help in evaluating potential habitat in the upper McCloud site area.

nonnative trout certainly compete for food and space since their populations tend to dominate in some parts of the drainage (e.g., Bundoora Spring Creek, and the McCloud River main stem near Colby Meadows, below Tate Creek, and below Lakin Dam).p30. **Comment:** non-native and native trout do occur in the upper site, but not to the extent as in the lower river sites. The type of competition expected from the abundant redband is natural to the historical situation.

The unintentional introduction and spread of other aquatic non-indigenous species, such as the New Zealand mud snail (*Potamopyrgus antipodarum*, "NZMS"), poses an ongoing threat to the McCloud redband and other native aquatic organisms throughout the state. Although not currently present in the McCloud River, NZMS has been

*inadvertently introduced into many waters across the western United States, including local waters such as Lake Shasta and the Sacramento River, near Redding in Shasta County.* p31. **Comment:** such intruders presently are not found at the upper McCloud site.

*Low Potential Redband Stream Habitat - reaches of perennial and intermittent stream sections known to contain introgressed McCloud redband and/or other trout species that have a low potential for restoration and successful reintroduction/establishment of non-introgressed McCloud redband. These streams, tributaries, and their watersheds will be third in priority to "Redband Stream Habitat" for restoration, conservation, and protection actions. An example stream, as of 2015, includes the main stem upper McCloud River.* p38. **Comment:** the suggested upper McCloud site may not be optimal for redband trout because of genetic introgression with historic stocking of hatchery rainbow trout. Use of the upper site would not further compromise redband restoration.

031-010

*Candidate sites for potential barrier installation will be identified as part of an upper McCloud River basin barrier assessment, in order to protect McCloud redband from invasion of introgressed or non-native fishes.* p44. **Comment:** It may prove advisable to place barriers to keep winter or spring run from moving upstream from the upper site study area.

031-011

### Comments on EA

The Pilot Program would be implemented to test the methods and tools needed for a successful Reintroduction Program.

*NMFS concluded that providing passage for listed species to historic habitat will be needed to maintain viability of these species so as not to jeopardized their continued existence.* P1-3, p3. **Comment:** Although the suggested upper McCloud site technically immediately above the historic upper limit of salmon, the upper site provides ideal historic habitat with a significant chance of success.

031-012

*The RPA notes that the near-term goal is to increase the geographic distribution and abundance of listed species. The long-term goal is to increase abundance, productivity, and spatial distribution, and improve the life history and genetic diversity of the target species.* P1-3, p4. **Comment:** the upper sites is ideal for such goals.

*NMFS and Reclamation are focusing the first stages of the Pilot Plan on re-introducing Sacramento River winter-run Chinook Salmon upstream of Shasta Dam as the initial location for the Pilot Program based on: a) the imperiled status of winter-run Chinook Salmon and the resulting urgency to move these fish back into their historical habitats and a means of reducing extinction risk, and b) the good habitat conditions. NMFS has recommended the NF actions of the Pilot Program be limited to the McCloud River due to the instream habitat conditions of the McCloud River, which provide more suitable spawning, and rearing habitat than the upper Sacramento River.* P1-3, p4. **Comment:** the upper site provides more suitable habitat and logistics.

*Due to road conditions and limited accessibility along the McCloud River, release sites would be more limited than in the upper Sacramento River. Use of helicopter transport could expand the number of release and operation sites in the McCloud River for various pilot reintroduction studies. Aerial transport of fish is not intended as long term fish passage solution but may be used for the Pilot Program. Field monitoring sites in all rivers are expected to be accessed using four wheel drive vehicles. P3-3,p1. **Comment:** such concerns would be much lessened at the upper site.*

*Collection and transport methods allow reintroduction to target specific sites for release. For example, spawning adults could be released into the highest quality habitat or dispersed among several upstream areas. Collection and transport options may provide a degree of flexibility to adjust release locations, depending on availability of access roads (or other means) to deliver fish to specific release locations. Maintaining water quality during transportation is also a concern with collection and transportation of fish, particularly water temperatures and dissolved oxygen. Fish may experience thermal stress if the water warms up during transport and the water temperature in the transport tanks is not close enough to the water temperatures at the release location. Therefore, emphasis would go into fish transport vessels equipped with life support systems, and acclimation facilities potentially needed at release sites.p3-3;p6. **Comment:** such concerns would be much lessened at the upper site.*

*Pre-Spawning (Adult) Survival, Movement, and Spawning Monitoring Fish telemetry would be used to obtain information on adult Chinook Salmon movement, habitat use, and survival.p3-8,p1. **Comment:** fish telemetry conditions would be optimal at the upper site.*

*Telemetry surveys in the McCloud are expected to be primarily aerial (helicopter flights in concert with weekly or biweekly redd surveys).p3-9,p2. **Comment:** ground and drone surveys can be readily carried out at the upper site.*

*Temperatures vary seasonally in the McCloud River, increasing from June to mid-July, remaining warmest in mid-summer, and declining from mid- to late-August through September. Typically, daily average water temperature in the McCloud River remains below 68°F (20°C).<sup>3</sup> Seasonally, water temperature in the lower reaches of McCloud River can rise to around 68°F (Figure 4-4 and Figure 4-5), especially in hot, critically dry water years, under both the previous and new hydropower operating licenses (FERC 2011). P4-11,p6. **Comment:** water temperatures are more optimal at the upper site.*

*Non-native species such as smallmouth bass, spotted bass, and channel catfish (*Ictalurus punctatus*) are also found in the Upper Sacramento River, primarily in the lower reaches near the delta gauge. Along the length of the Upper Sacramento River, species distribution varies, with upstream areas inhabited almost exclusively by trout and sculpin. Other fish species increase in abundance downstream, making up approximately 45 percent of the fish population near the mouth of Dog Creek. Smallmouth and spotted bass, channel catfish, speckled dace, and California roach inhabit the quieter areas of the lower river (Thomas R. Payne and Associates 2005, NSR 2010, Reclamation 2014). As recently as 2008, fishery surveys in the Upper Sacramento River documented non-native warmwater species occurring immediately upstream from Dog Creek, but they were not observed at any upstream survey sites where the fish communities were comprised of native fishes (i.e.,*

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trout, sculpin, Sacramento sucker and Sacramento pikeminnow) (Weaver and Mehalick 2008).p4-3,p1. **Comment:** this ghastly array of predators and competitors is not found at the upper site. This is a serious problem with the lower sites.

## Comments on UC DAVIS/CALTROUT REVIEW<sup>1</sup>

Juvenile trap and haul (TH):

*Overall, these studies indicate that TH of juveniles works only if great care is taken in capture and handling before, during, and after transport. They also suggest that juvenile salmonids released after transport experience delayed mortality and thereby contribute little to adult returns. It is worth noting that TH of juvenile salmonids is typically with hatchery-reared fish.p480.*

**Comment:** the second sentence is simply not true in many cases.

Adult

*it has been used successfully in places where water is cold and transport distance is short..... Movement of adults may also have consequences. p480. **Comment:** the upper site is cold and transport distance relative short (1hr) on good roads.*

Recommendations p480

*1. There is a clearly defined success metric, with goals set in numerical terms and related to the number of returning adults that are progeny of previous TH2 spawners. Population replacement rates should be greater than 1.0 and monitored using genetic parentage analysis in exploratory programs or modeled for programs under consideration. An exception can be made if the donor population is threatened by imminent extinction if no action is taken.*

**Comment:** All three locations have potential, but the suggested new location above McCloud Falls has greater potential for a higher replacement rate for many of the reasons mentioned above.

*2. There is adequate spawning, incubation, and rearing habitat in the recipient river to meet success metrics. Suitable water temperature is regarded as a key part of this assessment.*

**Comment:** Again, the suggested site has more potential success.

*3. The effects of climate warming on stream temperatures and hydrological processes at potential reintroduction sites will not affect program success.*

**Comment:** The suggested site is at higher elevation on the flanks of Mt. Shasta and not below a large reservoir.

4. Captive breeding facilities used in conjunction with trans-

<sup>1</sup> <http://goldrushcam.com/sierrasuntimes/index.php/news/local-news/11301-disconnected-salmon-catching-a-ride-over-dams-new-report-advises-proceed-with-caution-on-two-way-trap-and-haul-programs>

*location programs, such as salmon hatcheries, are operated with established genetic protocols to increase survival of progeny in the wild and decrease artificial selection. **YES***

*5. Trapping and transport of adults and juveniles between donor and recipient rivers minimizes stress and potential for delayed mortality.*

**Comment:** The suggested site has far less potential stress to fish through the collection and transport process.

*6. Traps for collecting juveniles from the recipient river are effective in capturing sufficient juveniles to sustain a program.*

**Comment:** The suggested upper site has far greater potential effectiveness.

*7. A well-designed release program for juveniles back into river of origin is in place. This program must provide assurances that juveniles will have survival rates high enough to support an adult population at least as large as the number of adults moved originally into the recipient river.*

**Comment:** the suggested site has the highest potential for survival and juvenile capture.

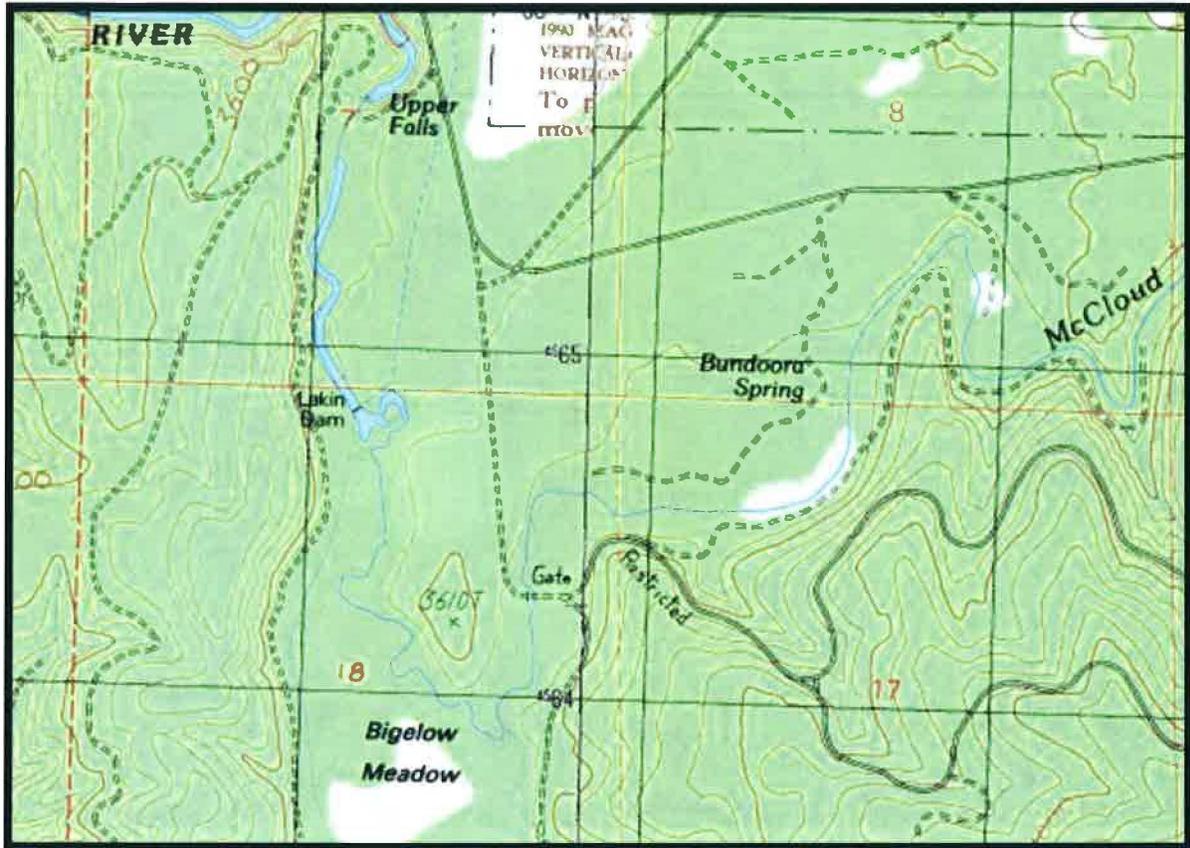
*8. Potential conflicts between existing runs of salmon (above dam adfluvial populations) and other fishes in recipient habitats are well understood to ensure that hybridization or competition for habitat is minimized.*

**Comment:** Potential conflicts are less at suggested upper site.

*9. The TH2 program is first conducted experimentally in an adaptive management framework where monitoring is in place in both donor and recipient rivers. Such an experimental program should use fish of known identity to determine success over the entire life cycle of the species. Experimental evaluations should also focus on effectiveness of out-migration capture independent of hatchery supplementation.*

**Comment:** the suggested site has greater potential out-migrant capture efficiency.

*10. A TH2 program should be part of a more comprehensive program that considers all limiting factors on different life stages of the target species. Programs should not move independently of important restoration actions that improve, for instance, downstream rearing habitat, migration routes to the ocean, or removal of dams to historically important tributaries. **YES***



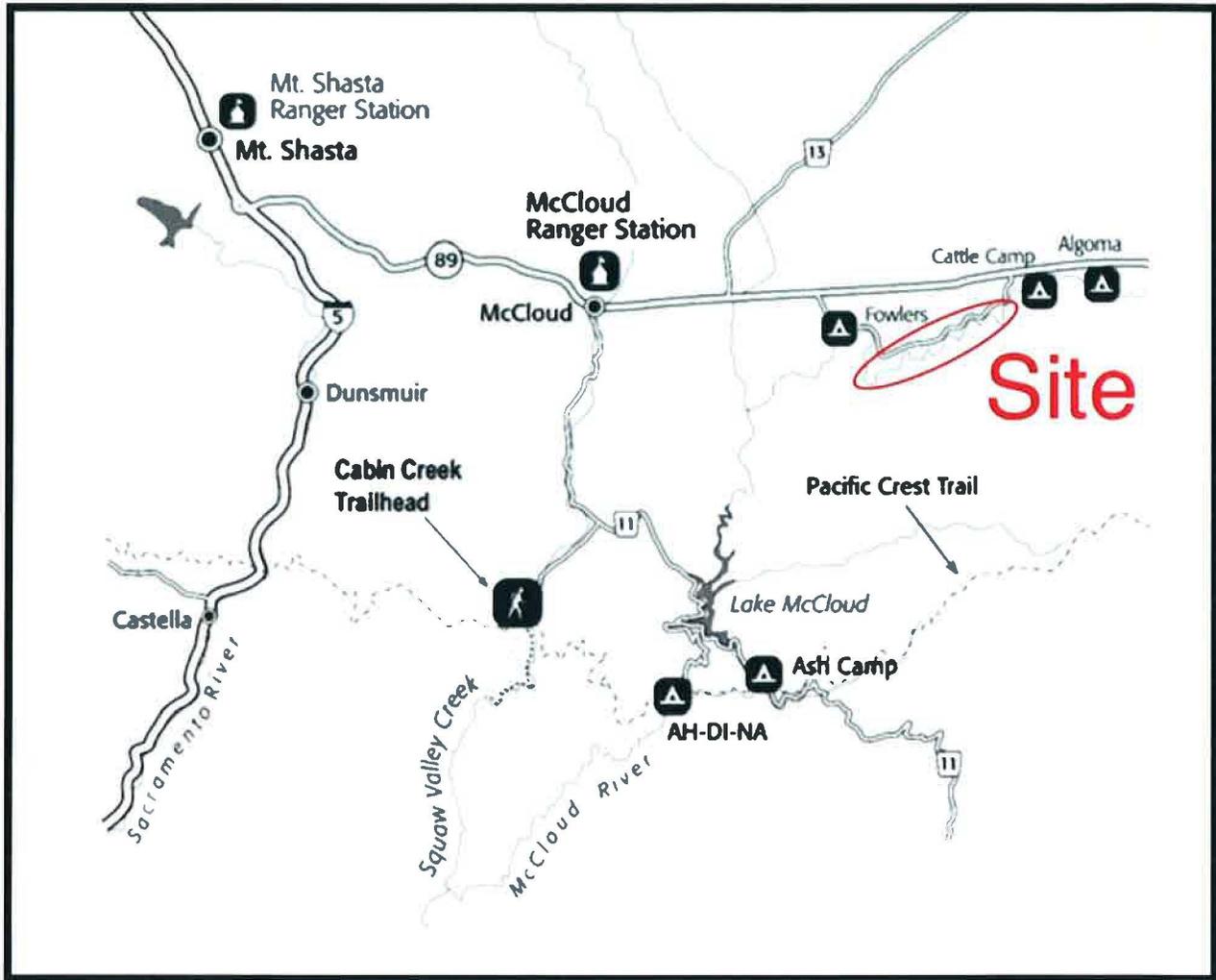
Upper McCloud Site



Lakin Dam is a dam located just 6.9 miles from McCloud, in Siskiyou County



Topography of upper McCloud site.



Upper McCloud site location