



# FRIENDS OF THE SHASTA RIVER

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**FSR Briefing paper 21-01:**

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## **NOAA's Shasta River Safe Harbor Agreement: A Flawed and Harmful Response to an Acute Ecological Crisis**

Following nearly ten years of planning and negotiations with Shasta River water diverters, the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Association (NOAA Fisheries) released a "Finding of No Significant Negative Impact" (FONSI) and final Environmental Assessment (EA) for the Shasta River Safe Harbor Agreement (SHA) on March 1, 2021.<sup>1</sup> The Shasta River SHA incorporates 14 agreements with 10 entities which, in exchange for habitat improvements on their properties primarily funded at taxpayer expense, will receive legal protection from any enforcement of the Endangered Species Act (ESA) for anything they do that kills endangered coho salmon as long as they continue to abide by the relatively minimal terms of the SHA. The proposed Shasta River SHA improvements fail to meaningfully address the decades long practice of excessive and destructive irrigation practices which significantly harm native salmon species, especially endangered coho salmon, that depend on Shasta River water for survival.

SHA participants undertake voluntary activities on their properties to enhance, restore, or maintain habitat benefiting ESA-listed species. SHAs include the issuance of Enhancement of Survival Permits (ESPs) which waive future land use restrictions even if shown harmful to endangered species. The public funding of property owner conservation improvements, and issued ESPs, do not depend on

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<sup>1</sup> For NOAA Fisheries documents on the Shasta River SHA (posted for public comment on 10/ 2019) see: <https://www.fisheries.noaa.gov/resource/document/shasta-river-template-safe-harbor-agreements-and-site-plans-review>. For the completed Environmental Assessment and the Finding of No Significant Impact (FONSI) posted 3/1/21 see the links at the bottom of this page: <https://www.fisheries.noaa.gov/west-coast/laws-and-policies/esa-section-10-nepa-documents> For the Biological Opinion, signed on 11/17/2020, see: <https://repository.library.noaa.gov/view/noaa/27571>

whether those measures actually attract or improve the number of the endangered species that depend on property owner habitat.

Most SHAs to date have been implemented by the US Fish and Wildlife Service in other habitats than rivers. While NOAA Fisheries approved its SHA policy in 1999, its first and only grouping of SHAs nationwide occurred in 2016, in northern California's Dry Creek (a Russian River tributary) watershed. While also concerning coho salmon; the rationale, context and scope of those SHAs are very different from the Shasta River proposal.

There is no question the Shasta needs attention—the river is in the midst of an ecological crisis. Widespread use of unlined earthen ditches, wasteful flood irrigation practices, excessive diversion, expanding pumping of groundwater and warm polluted tailwater returns are destroying the Shasta River and its dependent anadromous fish populations. The river's coho population is now on the brink of extinction. The conditions making the river impossible for coho are also affecting the more robust Fall Chinook which are also riding a long downward slope, with their numbers falling from 82,000 in 1931 to 4,168 in 2020. The diminished Fall Chinook spawning returns in the Shasta River have contributed considerably to the near-demise of both tribal subsistence and ocean commercial fisheries.

Promoted as a coho salmon recovery project, the extended planning and negotiation process for the Shasta River SHA has, after almost ten years, resulted in a flawed plan that neither addresses nor reverses the critical ongoing decline of endangered coho and other salmon species. It will in fact do more harm than good--avoiding the real issues while promoting the illusion of progress and letting agricultural water diverters off the hook--all as the ESA crisis continues to worsen in the Shasta River and nationwide.

At best, the Shasta River SHA will waste public money – bestowing large subsidies on a select group of wealthy property owners in exchange for minimal improvements in their irrigation practices.

Worse, the Shasta River SHA appears out of compliance with the ESA and the National Environmental Protection Act (NEPA) in several important ways: 1) By falsely claiming a “net conservation benefit” based on an unacceptable baseline, the SHA will in fact block meaningful recovery of coho salmon in the Shasta watershed; 2) The SHA tolerates and ignores current illegal practices conducted by program participants, in violation of SHA policies; 3) The Shasta River SHA, which has been plagued by a non-transparent and inadequate public review process, is highly controversial. A full Environmental Impact Statement was needed in order to better assess the project. Details are provided below.

**Of greatest concern, from a wider public policy perspective, is the dangerous potential that the Shasta River SHA becomes a model for other river basins--a roadmap facilitating equally egregious abuses of the ESA in other streams and for other species. Wealthy and influential agricultural interests, as well as agency officials reluctant to confront those interests, will find this SHA model a very appealing way to create the illusion of progress, through the creative smokescreen of SHA implementation, while facilitating an evasion of real protections for public trust resources. The Shasta SHA cannot go unchallenged because its foundational assumptions--measurable benefit in terms of improved water quality, quantity and population of endangered coho salmon--remain unproven and, in fact, are not even a required part of the plan.**

## BACKGROUND

The Shasta River is recognized by the Pacific Fishery Management Council as "the most important tributary of the Klamath River," with annual juvenile production estimates greater than the entire production of Chinook fry from Iron Gate Hatchery. This recognition is based primarily on its potential to produce aquatic organisms which serve as a food source for huge numbers of juvenile Fall Chinook salmon, the current foundation of tribal and ocean fishing. Coho would also benefit from the river's unparalleled aquatic productivity, but they are barely able to hang on, despite abundant food, in the face of severely degraded water conditions in summer. Unlike Chinook salmon, coho salmon typically need to rear in their natal stream for 18 months. Surface diversions and groundwater pumping eliminate much of the over-summer rearing habitat and reduce juvenile coho survival.

Water quality problems result from two interrelated activities. First, the diversion of water for summer irrigation now often leaves the river with 10% or less than its natural flow and, at times, less than that. Agricultural diversions result in summer flow of less than 10 cfs in a river estimated to have a natural summer base flow of over 250 cfs.<sup>2</sup> Almost all of this summer flow originates from springs on the lands owned by the Safe Harbor participants and almost all of these springs are diverted for irrigation, leaving almost no reliable cold water for the coho salmon dependent on it.

Secondly, since in California water for irrigation diverted from streams is free, there is no incentive for efficient use. Irrigation methods resemble techniques employed in ancient Egypt. For example, unlevelled fields require excess water to wet high spots and they lack "border checks" to keep water distribution under tight control. Most importantly, no enforced standard for inches of water diverted per acre per season encourages "wasteful and unreasonable use of water."<sup>3</sup> These outdated and unregulated irrigation practices result in huge amounts of irrigation tailwater--water that has run across fields and flows back to the river. This tailwater is hot, full of suspended manure, and bacteria-laden--creating conditions lethal for fish and potentially pathogenic to humans.

The severe dewatering of the Shasta's natural flows, coupled with tailwater returns, has perpetuated the decades long Federal Clean Water Act designation of "impaired" for the Shasta River--mandating regulatory standards for temperature and dissolved oxygen.

Despite considerable effort between 1991 and 2010 to lessen ranching impacts, there remains a complete lack of balance in the distribution of Shasta River water between beneficial uses. Under the current adjudication (1932), the estimated summer flow of over 250 cfs is at times completely consumed by

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<sup>2</sup> Many sources including Bennet, B. California Department of Water Resources, presented at the Lower Klamath Basin Science Conference, June, 2004.

<sup>3</sup> "...the waste or unreasonable use or unreasonable method of use of water be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare...such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water.." California Constitution, Article 10 Water, SEC. 2. Adopted 1928.

agricultural users, with less than 5 cfs reaching the river's mouth. There is no dedicated instream flow preserving water for fish or downstream beneficial uses.

Beginning about 2010, the lack of progress in the critical cold water source area of the river raised the specter of ESA enforcement. Water diverters were committed to the status quo and sought to dodge scrutiny of ranching practices and fend off, or at least delay, any possible enforcement. This aligned with NOAA Fisheries' interest in trying to find any possible non-enforcement approach to address the dire Shasta situation. The available choice was the SHA mechanism. The result was seven years (2013-2019) of negotiations and dodging during which the diverters did their best to avoid any real commitments to serious reform. Concurrently, NOAA tried to craft a program that would have some positive impact while avoiding direct confrontation with powerful ranching interests over their destructive irrigation practices.

The result was the Shasta River SHA as now finalized--weak, ineffectual, expensive, and potentially an obstacle to the urgent need for real reform to Shasta River irrigation practices. If implemented it will protect the very parties responsible for degrading the best water in the river and put them beyond the reach of most legal remedies for many years.

As this process has unfolded, the coho salmon population, completely dependent on cold water during late spring and through the entire summer, (water controlled by the SHA water diverters), has plummeted. Barely genetically viable at the start of the process, they are now far too few to survive without supplementation.<sup>4</sup>

Despite it all, the springs continue to flow, fed by glaciers on Mount Shasta, and salmon continue to return. But species that require extended freshwater rearing, or have an over summer residency--such as coho, steelhead, and Pacific lamprey--are all doing poorly and are in severe decline.

## **NOAA FISHERIES' FLAWED SHASTA RIVER SHA:**

NOAA's approach was flawed from the start in two fundamental ways:

First, the agency positioned itself to negotiate from a position of weakness, created by internal decisions to avoid any enforcement in the Shasta River basin.

Second, NOAA failed to consider or determine the overall amount of water needed for either coho salmon survival or recovery. The North Coast Regional Water Quality Control Board (NCRWQCB) modeled a need for an additional 45 cubic feet per second (cfs) of cold water in the river to meet TMDL<sup>5</sup> standards aimed at the survival needs of coho. This cold water can only come from a reduction in

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<sup>4</sup> See dispensation discussion in NOAA's *Final Recovery Plan for Southern Oregon/Northern California coast Evolutionary Significant Unit, 2014*. See also use of Shasta River coho highlighted as least likely to survive due to low numbers on page 2-19.

<sup>5</sup> In the early 1990's, the NCRWQCB in two separate actions found the Shasta River to be impaired under the federal Clean water act for both temperature and dissolved oxygen, leading to the creation of a modeled "Total Maximum Daily Load" (TMDL) determination, the attainment of which would be protective of coho salmon. It was adopted in 2007 with a 40-year attainment requirement.

irrigation diversions of groundwater-fed springs. Yet the SHA agreement, with the acquiescence of NOAA, contains no cold water flow standard similar to those in California Water Board's TMDL action plan.

NOAA, seemingly unable or unwilling to support real change or to confront powerful ranching interests vested in the status quo, instead took a "hat in hand" approach--asserting that any incremental improvements, no matter how small, met the "net conservation benefit" requirement of the Safe Harbor legislation, regardless of where the approved program leaves coho in terms of overall survivability. The danger is that this leads to "giving away the store" - letting the diverters completely off the hook for further substantive habitat improvements in exchange for minor theoretical improvements with no guaranteed outcomes. Ultimately the Shasta River SHA will give water diverters nearly insurmountable cover for continuing to engage in business as usual, and ESA-listed coho will slide into local extinction.

In setting up this mechanism, NOAA avoided any substantive curtailments in net water usage by these large, wasteful water users in favor of (relatively minor) habitat restoration measures--all funded by taxpayers rather than the water diverters themselves.

During a public comment period in late 2019, a coalition of tribal entities as well as other concerned entities contributed very detailed comments as to whether the Shasta SHA would benefit the river's fish. While NOAA claims to have responded to these comments, incorporated suggestions and adjusted the program accordingly, a close reading of the documents reveals that most of the changes NOAA made were relatively minor. The fundamental concerns over the program's overall structure, and the danger that it will do more harm than good, have in no way been alleviated.

## MAJOR ISSUES OF CONCERN

**The Shasta River SHA plan fails to identify factors limiting the survival of coho** salmon on each of the 14 properties. Such an assessment is where any legitimate plan should have started. The plan lacks objective standards to measure improvement of critical factors such as seasonal water temperature and increased rearing habitat.

According to substantial documentation in submitted comments on the draft plan, **at least three of the properties included in the SHA are illegally diverting water in excess of their documented riparian rights**. Instead of investigating this, NOAA included these properties in the SHA, claiming that, if the State wasn't enforcing the law, they were going to ignore the issue.<sup>6</sup> NOAA also justified its actions by claiming the portion of the properties possibly abusing their riparian water rights was relatively small.<sup>7</sup> We maintain that NOAA shall not issue any SHA to entities which are in violation of any applicable local, state, or federal law.<sup>8</sup>

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<sup>6</sup> NOAA's response to comments in the EA reads: "Whether or not a diversion complies with California state law is beyond the scope of NMFS's authority. The Permittees state that they are in compliance with all requirements imposed by the SWRCB on their water use and will continue to comply with all use limitations imposed by the SWRCB and the Shasta Valley Watermaster District". NOAA chose to rely on self-serving and/or poorly informed statements of project proponents over the detailed information based on government documents provided by the commenters.

<sup>7</sup> See for example, NOAA's response to comment 231 on Page 101 of the EA, "The issue raised here relates to less than 10% of the property irrigated by this diversion."

<sup>8</sup> Endangered Species Act of 1973, as amended through the 108th congress, Section 10(a) Permits, p. 28: *"The secretary may permit ...any taking...if the taking is incidental to, and not the purpose of, the carrying out of any otherwise lawful activity."*

The Shasta SHA ratifies **wasteful diversions of water** for both summer irrigation (equivalent of up to 16 feet of water poured onto some acres according to NOAA documents in a single summer) and winter stock water (enough for over 220,000 cattle in a county where there are less than 75,000 cattle, sheep *and* poultry reported in the entire 6,000+ sq mile area, according to the County's 2019 Agriculture Report). It is these excessive and non-beneficial diversions that are responsible for the lack of access to spawning areas, tailwater induced lethal water temperatures and livestock destruction of stream bank/bed habitat that have extirpated Shasta River endangered Coho.

**The Shasta River SHA will impede meaningful recovery of coho salmon in the Shasta watershed--** These SHAs are, in effect, a water allocation settlement with selected water users in the Shasta River watershed. While the individual SHAs for each diverter claim a net conservation benefit by using the (sometimes unlawful) status quo as a baseline, they in fact will impede NOAA (and CDFW after CDFW endorses it, as seems likely) from enacting any additional protections for coho, even if there is no increase in coho numbers or any other actual benefit to coho from the enacted SHA measures.<sup>9</sup>

NOAA's Biological Opinion<sup>10</sup> concludes, without any track record of results, that the SHAs "do not appreciably reduce the likelihood of survival and recovery of ESA-listed species or destroy or adversely modify designated critical habitat." In reality, the SHAs guarantee that recovery cannot occur<sup>11</sup> in the event their assumptions are not borne out.

**Only instream flow contributions above the minimum amount required to sustain coho should factor into NOAA's determination of Net Conservation Benefit.** Conversely, instream flows required by law should not be counted by NOAA as a contribution that warrants taxpayer money or legal protection for water users.

According to Cal Trout's comments, some of the proposed instream flow contributions described in the SHAs are legal obligations because applicants' diversions are governed by CDFW code section 5937's mandate that diverters maintain fish below impoundments in good condition. NOAA Fisheries is in effect double dipping by claiming a net benefit from something already required outside the SHA. Beyond those existing relatively minimal flow requirements, unknown changes may also be needed once California completes its instream flow study for the Shasta River pursuant to the California Water Action Plan<sup>12</sup>. Studies required by the CWAP are linked to the public trust doctrine and CDFW 5937. In that regard, NOAA's EA offensively states, "... *the recommended flows are not designed to meet the needs of riparian vegetation, geomorphic processes, or river wide productivity.*" (or, as one might paraphrase it, "the needs of coho salmon").

**NOAA must use biological outcomes (i.e., coho adult to smolt ratio) to measure success.** Purported habitat improvement is not a substitute metric for actual fish response.

<sup>9</sup> See earlier discussion of NCRWQCB's TMDL foundational approach showing a need for an additional 45 cfs of cold water to achieve target water temperatures protective of coho salmon.

<sup>10</sup> <https://repository.library.noaa.gov/view/noaa/27571>

<sup>11</sup> Achieving "net conservation benefit" does not absolve NOAA of its obligation to pursue recovery. Alternatively, achieving "net conservation benefit" does not allow NOAA to enter water allocation agreements that preclude recovery. NOAA dismissed numerous arguments from public commenters that the SHAs must move listed species toward recovery, rather than merely slowing extinction.

<sup>12</sup> Anticipated to be released in 2022.

**NOAA failed to assess reasonable alternatives to the water diverters' proposed projects:** "During the TAC [Technical Advisory Committee] review and discussions, a range of different environmental alternatives were suggested, including alternative flow scenarios. *These alternative flow scenarios were found by the applicants to be unacceptable due to the impacts they would have on agricultural needs. Therefore, these alternatives are not considered in detail in this EA.*" (Emphasis our own).

**The Shasta River SHA will be inappropriately expensive for the public.** Taxpayer money will pay for property owners' movement a few small steps away from wasteful or otherwise illegal use of water. As an example, NOAA recently sent a letter of endorsement to the California Wildlife Conservation Board supporting \$3.3 million for a single project benefitting the three ranches reportedly exceeding their riparian rights as described above; NOAA knew full well that there was a legal problem but failed to disclose it.<sup>13</sup> WCB staff recommended approval of that project, in large part as a result of NOAA's perceived credibility as committed to protecting coho salmon.

**The SHA Policy adopted by NMFS<sup>14</sup> recommends against a SHA when, "[A] species is so depleted or its habitat so degraded that considerable improvement over baseline conditions is necessary to result in a net conservation benefit."** The current dire situation with coho salmon in the Shasta River suggests the SHA violates this NMFS policy recommendation.

**NOAA's decision to dispense with a full Environmental Impact Statement, in favor of a less rigorous Environmental Assessment, was inappropriate.** The FONSI notes that using an EA rather than an EIS is inappropriate if "the project's impacts on the human environment is likely to be highly controversial." On Page 6 of the FONSI, item 4, NOAA claims that they considered all of the tribal and public comments, that "some" changes were made based on those comments and that, "further controversy is not likely." This ignores that the comments of multiple entities were extremely critical, detailed, well researched and documented. Many fundamentally questioned whether the SHA was an appropriate mechanism for the Shasta River. These weren't just simple brief comments disputing small details of the proposed SHA, they were critical of the SHA's central assumptions. From our reading of the EA, and feedback from other commenters, it appears many of these comments have been insufficiently addressed. This Safe Harbor approach started controversial and continues to be controversial.

**The process of incorporating public comments, approving the finalized SHA documents and providing public notice has been flawed and non-transparent.** A public comment period following NOAA's release of the draft SHA on October 15, 2019, generated intense interest from potentially affected stakeholders. Tribal entities, fishing associations, salmon advocacy groups and other commenters submitted detailed comments, raising fundamental concerns about the proposed program (a few of which are detailed above).

The FONSI and EA were signed in mid-November, 2020. According to NOAA staff, the SHA/ESPs were issued on February 11, 2021 (and effective February 27, 2021). However, the FONSI and EA were not posted on NOAA's website until March 1, 2021. NOAA claims to have addressed all the comments and incorporated many of them into an improved program document. Yet, commenters have had no

<sup>13</sup> A link to the April 1, 2020 WCB agenda is posted below. See agenda item 13, pages 28-30. There is also a link to the YouTube presentation for this covid-mandated zoom meeting. Relevant section begins about 30 minutes in. <https://wcb.ca.gov/Meetings>

<sup>14</sup> Announcement of Final Safe Harbor Policy, 64. Fed. Reg. 32717, 32722 (June 17, 1999).

opportunity to assess whether in fact this is the case and did not learn of the project's initiation until well after it had begun. NOAA is providing no further opportunity for public comment or stakeholder involvement. Established procedures for publicizing a program's approval, including notification to commenters and timely publication in the Federal Register, do not appear to have been followed.

## CONCLUSION

The Shasta SHA calls for a large yet unknown number of dollars<sup>15</sup> in public subsidies in exchange for mostly-modest changes in irrigation practices that will do little to address the river's ecological crisis and will in fact impair future efforts in that regard.

While the concept of a Safe Harbor Agreements may well have validity in some circumstances, this SHA inadequately addresses the Shasta River coho crisis resulting from the participants' practices.

Unfortunately, after seven years of investment in the process, NOAA settled for expediency--ignoring or discounting critical input from the tribes and other stakeholders and foregoing meaningful concession from influential water diverter interests. The result is a face-saving flawed project whose coho recovery benefit is theoretical and may well impede it. Given what NOAA was up against, it is understandable that things have not gone well for the fish.

**Should the Shasta SHA proceed unchallenged, it will serve as precedent, a legal endorsement of what an agency can get away with in terms of unproven claims, inadequate measures, and blocked future progress.** The world is hungry for stories of cooperative solutions to environmental problems. Government agencies are desperate to show they make a difference yet are reluctant to confront the powerful interests at the root of the problem. On the Shasta River this resulted in an SHA in which the bar is so low in terms of expectations and measurable results that, with a few exceptions, the river and the fish would be better off without any agreement.

**It cannot be left unchallenged.**

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Despite requests in comments, no estimated budgets were provided in public documents.



**Abbreviations**

<b>CDFW</b>	<b>California Department of Fish and Wildlife</b>
<b>CWAP</b>	<b>California Water Action Plan</b>
<b>FONSI</b>	<b>Finding of No Significant Negative Impact</b>
<b>EA</b>	<b>Environmental Assessment</b>
<b>ESA</b>	<b>Endangered Species Act</b>
<b>ESP</b>	<b>Enhanced Survival Permit</b>
<b>NCRWQCB</b>	<b>North Coast Regional Water Quality Control Board</b>
<b>NEPA</b>	<b>National Environmental Protection Act</b>
<b>NMFS</b>	<b>National Marine Fisheries Service (aka NOAA Fisheries)</b>
<b>NOAA</b>	<b>National Oceanic and Atmospheric Association</b>
<b>SHA</b>	<b>Safe Harbor Act</b>
<b>SWCB</b>	<b>State Water Resources Control Board</b>
<b>TAC</b>	<b>Technical Advisory Committee</b>
<b>TMDL</b>	<b>Total Maximum Daily Load</b>
<b>WCB</b>	<b>Wildlife Conservation Board</b>