



GOVERNMENT

October 15, 2014

OFFICES

Attention: OWEB Staff and Board Members

Linda Burnett

2371

Oregon Watershed Enhancement Board

77 Summer Street NE

NE STEPHENS

Salem, OR 97301

STREET

The Cow Creek Band of Umpqua Tribe of Indians (hereafter referred to as the Tribe) has developed a proposed priority for the OWEB Focused Investment program. Please see the attached documents which include:

SUITE 100

ROSEBURG

- Proposed priority response questions and answers
- A map of the proposed priority area
- A description of the Tribe's 6 year plan for lamprey research and restoration
- A description of the Tribe's lamprey program
- A description of the Tribe's future lamprey work

OREGON

97470

(541) 672-9405

FAX NUMBER

We appreciate your time and effort at moving the focused investment process forward, and taking into consideration our priority proposal.

(541) 673-0432

Sincerely,

Kelly Coates

Water and Environmental Resources Program Manager

Cow Creek Umpqua Tribe

Proposed Priority Response Questions for OWEB Board

1. Proposed Priority Description

a) What is the native fish or wildlife habitat to be conserved or other natural resource issue to be addressed?

The Native fish habitat to be conserved are river and stream corridors (freshwater) in the Umpqua and Rogue River Basins. Specifically we would like to focus on lamprey conservation (all species) but more specifically the Pacific lamprey (*Entosphenus tridentatus*) and Western brook lamprey (*Lampetra richardsonii*). While our priority proposal is lamprey focused, there will be many benefits to other native species through our lamprey conservation efforts.

b) What are the specific expected ecological outcome(s) to be achieved after this priority is addressed?

The specific expected ecological outcomes of this priority include;

- Upstream and downstream passage improvements for lamprey and other native species
- Stream and floodplain restoration and reconnection including off channel and side channel habitats and culvert replacements and increased spawning and rearing habitats for native fish.
- Water quality improvements including temperature, dissolved oxygen, nutrients and turbidity.

c) What is the defined geographic location within which this proposed priority can be successfully addressed?

The defined geographic area this priority will be addressed at is southwestern Oregon, specifically the Rogue and Umpqua River Basins which encompass the Cow Creek Band of Umpqua Tribe's Ancestral Territory (see attached map).

2. Significance to the State

a) Why is this proposed priority of ecological significance to the state, even though it may not be present everywhere in the state?

The proposed priority is of significant ecological importance to the state. Both Pacific and Western Brook lamprey are considered to be at risk species by the Oregon Department of Fish and Wildlife and were petitioned for listing under the Endangered Species Act in 2003. Lampreys of all species are an important part of the ecology of the rivers in the state of Oregon and are present in most of the river basins in the state. Lampreys are stream cleaners and ecosystem engineers. Juvenile lamprey provide a food source for native salmonids and adult lamprey provide a food source for seals, sea lions and marine birds that live in the estuary. Pacific lamprey also contribute significant amounts of biomass to the stream, as well as marine derived nutrients that form the basis of riverine food webs and enhance stream productivity. Because of the specific habitat

requirements lamprey need (and because they cannot jump over barriers and through fish ladders, like a salmonid) any stream restoration, floodplain reconnection and barrier removal work that benefits lamprey will also benefit native salmonids (see table below for information on culturally important native species and their status that would benefit from this priority).

Since 1965, adult Pacific lamprey have been counted at Winchester Dam on the North Umpqua River. Over time their numbers have decreased from over 46,000 in 1965 to a low of 15 in 1997 (please see attached document for a table of Winchester Dam counts).

Species	ESA Designation	State Status	Interim Assessment
Pacific lamprey (<i>Entosphenus tridentatus</i>)	Petitioned for listing (2003)	Sensitive vulnerable	At risk
Western Brook lamprey (<i>Lampetra richardsonii</i>)	Petitioned for listing (2003)	Sensitive vulnerable	At risk
Oregon Coastal Coho Salmon (<i>Oncorhynchus kisutch</i>)	Threatened (2004)	Sensitive vulnerable	Not at Risk
Spring Chinook (<i>Oncorhynchus Tshawytscha</i>)	Not Warranted 1998	Sensitive vulnerable (Rogue) and sensitive critical (Umpqua)	At Risk/Potentially at risk
Fall Chinook Coastal Oregon (<i>Oncorhynchus Tshawytscha</i>)	None	Not listed	Not at Risk
Chum salmon (<i>Oncorhynchus keta</i>)	None	Sensitive critical	At risk
Winter Steelhead (<i>Oncorhynchus mykiss</i>)	Candidate 1998	Sensitive Vulnerable	Potentially at Risk
Coastal Cutthroat Trout (<i>Oncorhynchus clarki clarki</i>)	None	Not listed	Not at Risk
Sources: Oregon Native Fish Status Report http://www.dfw.state.or.us/fish/ONFSR/report.asp http://www.dfw.state.or.us/fish/CRP/conservation_recovery_plans.asp			

b) Are there any social and/or economic considerations that the Board should understand regarding this proposed priority?

Social considerations:

Pacific lamprey, salmon, trout and other native fish are a culturally significant first food sources for Oregon Tribes. Traditionally the Cow Creek Tribe harvested lamprey as a food source. The Tribe also has legends about lamprey, which indicate its spiritual and cultural significance. Cow Creek tribal elders remember when lamprey were abundant in the Rogue and Umpqua basins. Today, in order to teach Tribal youth about the importance of lamprey we hold an annual lamprey youth education day in the spring. For many Tribal youth, this is the first time they have ever seen an adult lamprey.

Economic considerations:

In addition in 2005 there were on average 65 stream restoration projects per 1,000km of river in the state of Oregon and the total cost was \$2,479, 021 (Bernhardt et al, 2005). That is a significant amount of money dedicated to restoration. With less funding available for stream restoration and more competition between organizations for limited resources it is imperative that future funds allocated for stream restoration generate the most restoration for the cost.

c) In addition to its significance to the state, identify how the proposed priority fits within regional & ecological priorities.

The proposed priority is in fact not only a local and state priority, but also a regional issue. Other plans that support the need for lamprey research and conservation include;

- The U.S. Fish and Wildlife Service's Lamprey Conservation initiative, which includes the states of Alaska, Washington, Idaho, Oregon and California and was signed by the state of Oregon.
(<http://www.fws.gov/pacific/Fisheries/sphabcon/Lamprey/index.cfm>)
- The Oregon Plan for Salmon and Watersheds
- The Oregon Native Fish Status Report
- The Oregon Department of Environmental Quality Basin TMDL's

3. Limiting Factors

a) What ecological limiting factors exist that relate to the proposed priority identified? *Limiting factors* are the physical, biological, or chemical conditions and associated ecological processes and interactions (e.g., population size, habitat connectivity, water quality, water quantity, etc.) experienced by the habitat that may influence viable population parameters (i.e. abundance, productivity, spatial structure, and diversity).

Limiting factors for the priority include:

- Lack of information about basic distribution (lamprey specific)
- Lack of information on population structure (Western brook lamprey)
- Lack of information on ocean phase of life history (Pacific lamprey)
- Lack of side channel and off channel habitat for rearing (lamprey, salmonids and other native fish)

- Water quality issues including temperature, dissolved oxygen, and nutrients and summer low flows (lamprey, salmonids and other native fish)
- Non-native species predation on native fish (lamprey, salmonids and other native fish)

b) Reference any framework(s) that exist (Recovery Plans, Implementation plans, etc.).

- The U.S. Fish and Wildlife Service's Lamprey Conservation initiative, which includes the states of Alaska, Washington, Idaho, Oregon and California and was signed by the state of Oregon.
(<http://www.fws.gov/pacific/Fisheries/sphabcon/Lamprey/index.cfm>)
- The Cow Creek Tribe is also participating in the U.S. Fish and Wildlife Service's Pacific Lamprey Conservation Team
- The Cow Creek Tribe is Currently working on an Umpqua Basin lamprey Conservation Plan

4. Threats and Benefits

a) What overall threats exist to the proposed priority identified? *Threats* are the human actions (e.g., fishing, development, road building, etc.) or natural (e.g., flood, drought, volcano, tsunami, etc.) events that *cause or contribute-to* limiting factors. Threats may be associated with one or more specific life cycle stages and may occur in the past, present, or future.

Threats to the proposed priority include:

- Upstream and downstream passage impediments including tide gates, fish ladders, dams, culverts (lamprey, salmonids and other native fish, all life stages)
- Non-native species predation (lamprey, salmonids and other native fish, mostly predation at the juvenile or out-migrant stage).
- Lack of education on threats to native species, including why lamprey are important ecologically and why we should conserve them (lamprey).
- Climate change and how that will affect timing of migration and spawning (juvenile, out-migrant, adult lamprey, salmonids, other native species).
- Loss of freshwater spawning and rearing habitat

b) What will happen if the threats aren't addressed?

If the threats are not addressed, there is a possibility that Lamprey and other native fish species populations may decline in abundance, or disappear altogether from our river systems. All fish species are connected via trophic cascades and riverine food webs. If even one species is lost, it could have rippling direct and indirect effects to other native species.

A social and cultural outcome if threats to Pacific lamprey are not addressed will be that the Tribe may never realize the goal of once again being able to harvest lamprey from their Ancestral Territory. This will affect the Tribal connection to lamprey, and the loss of a traditional first food source.

c) Describe the economic, social, iconic and cultural benefits of addressing the outcome and impacts of not addressing it.

The economic benefit of addressing this priority includes:

- Efficient and results oriented species conservation and restoration, including spending restoration dollars to maximize benefits to all native species.
- Preserving the heritage of sport fishing and the economic value it provides to southwest Oregon counties and the state of Oregon in general

The Social, cultural and iconic benefits include:

- Preserving culturally important Tribal first food sources
- Preserving the iconic status of salmonids and lamprey as not only culturally important species, but species that are significant to the state of Oregon, and the general overall health of aquatic ecosystems.

d) Briefly summarize how much has been done already, how much is remaining.

To date the Cow Creek Tribe has accomplished the following:

1. Formed an Umpqua Basin Interagency Lamprey Workgroup
2. Mapped lamprey distribution in the Umpqua Basin and created a database of lamprey information for the Umpqua.
3. Implemented a research project in 2013 to examine smallmouth bass predation on lamprey
4. Performed targeted lamprey presence/absence surveys in the Umpqua Basin
5. Facilitated multiple lamprey identification and education classes
6. Monitored projects that affect lamprey (i.e. dam dewatering)
7. Conducted outreach to other Tribes (lamprey harvest methods, basket making, research)
8. Developing an Umpqua Basin Lamprey Conservation Plan

We would like to continue work on lamprey including:

1. Fund a Southwest Oregon Manager to convene a multi-agency south coast workgroup and coordinate Rogue and Umpqua Basin conservation efforts.
2. Hire a Rogue Basin lamprey coordinator to convene a multi-agency Rogue Basin workgroup
3. Work on mapping distribution, habitat, spawning, barriers, and restoration opportunities in the Rogue and Southern Oregon Coast/Southwest Oregon (expand upon previous mapping efforts in the Umpqua).
4. Fund a Tribal fisheries field crew to perform targeted lamprey surveys in the Umpqua and Rogue Basins
5. Fund outreach and education about the ecological and cultural importance of lamprey at the local and regional levels
6. Implement a research project on the ocean-phase of lamprey life history

Please see attached 5 year plan for lamprey research for more detail

e) What is your best estimate of cost to address the priority, and as a result, how economically feasible do you believe it is to address this priority over time?

The best estimate of cost to address this priority is \$1,375, 000 over 5 years. (Please see attached 5 year concept for budget details). We believe this is an extremely economically feasible priority to be addressed with a FIP strategy. This effort could also dovetail with what other groups in the Umpqua and Rogue Basins are doing for freshwater habitat and salmonid restoration. The Tribe attends Rogue Basin partnership meetings and is supportive of their efforts to restore native fish in the Rogue Basin. The Tribe is also a member of the Partnership for Umpqua Rivers and partners and supports their native fish restoration efforts in the Umpqua basin. Our intent and hope is that our priority proposal will help bridge the gap between these other efforts and be of additive value for the good work the watershed councils in both the Rogue and Umpqua are engaged in.

5. Opportunities

a) Ecological:

1. What are the measures of ecological success? What's the likelihood of ecological success in the short (6-year), medium and long-term (define the term lengths)?

Measurable objectives for restoration and research include the number of passage improvement projects implemented, the number of miles of reconnected floodplain and instream restoration projects implemented, the number of culverts retrofitted to pass lamprey, the miles of stream improved for water quality, the creation of a regional (Rogue and Umpqua basin) lamprey database, the number of new water diversions screened with newly developed lamprey criteria, research and produce a peer reviewed paper on non-native species effects on lamprey and other native fish, the completion of one PhD or Master's degree project evaluating the out-migrant phase of pacific lamprey life history (please see attached 6 year plan for more details). We will form new partnerships through the strategic planning and restoration implementation process. We will also monitor instream restoration projects for effectiveness, and meeting the goals and objectives of our plan.

All of these objectives are attainable in in 6 year timeframe. Over the span of 10-20 years we hope to expand on our work and include more research into the population structures of lamprey and trophic cascades. For on the ground restoration, we will continue to improve the freshwater habitat for all native fish species.

2. What types of voluntary conservation actions could be undertaken to address the proposed priority?

Voluntary conservation actions that could be taken to address the priority include:

- Screening of irrigation and diversion ditches
- Taking lamprey and other native species into consideration when planning restoration and passage improvement projects including implementation of proposed lamprey best management practices during instream projects.
- Most of the voluntary actions that could be taken for lamprey need further

development including what screening criteria works best for lamprey, and what culvert criteria is best for lamprey.

3. Should the proposed priority be divided into geographic areas that are appropriate for partners to address?

Yes. Based on our previous work with lamprey at the basin scale, we feel it is appropriate to divide this priority into a geographic area that encompasses the Rogue and Umpqua basins. The work could be further divided into the Umpqua Basin and Rogue Basin, given the efforts by the watershed councils in the Rogue Basin and the Rogue Basin partnership, as well as the efforts of the Partnership for the Umpqua Rivers and the regional agency work being done in each of the basins. It is important to keep in mind that Pacific lamprey do not home to their natal streams like salmon do, therefore while we will work at a basin scale, the impacts and effects of our work will be far broader.

b) Social:

1. Do partnerships exist to address the proposed priority? If so, briefly describe. If not, note why this proposed priority is important enough that partnerships may form to address it.

The Umpqua Basin currently has an Umpqua Interagency Lamprey Workgroup that was formed by the Cow Creek Tribe in 2012. This workgroup includes the Umpqua National Forest, the Roseburg BLM, a representative from the Medford BLM Grants pass field office, the Oregon Department of Fish and Wildlife Roseburg office, the U.S. Fish and Wildlife Service, the U.S. Geological Survey and The Partnership For Umpqua Rivers. We have also met with representatives from NOAA-NMFS and PacifiCorp regarding our lamprey work. We are currently developing partnerships in the Rogue Basin and have contacted many of the agencies and watershed councils regarding our lamprey and other native fish restoration work. We feel that this priority is important enough that our partnerships in the Umpqua will continue and new partnerships in the Rogue will be formed.

2. What social opportunities exist to address the proposed priority? Is there momentum built?

Social and cultural opportunities including Tribal involvement are built into the priority. There is momentum built as the Cow Creek Tribe has been working on lamprey conservation as well as salmonid restoration for many years. Any data that we gather from the research proposed will benefit other Tribes, agencies, and NGO's in the state of Oregon working on salmonid and lamprey conservation. We already work with many agencies and Tribes throughout the state and have committed to sharing any new scientific lamprey data with interested parties.

3. Describe educational benefits, if any.

There will be education benefits including a funded PhD or Master's thesis on the out-migrant phase of lamprey life history. In addition some funding of the priority will go toward public education including lamprey identification classes, public seminars and Tribal cultural education.

4. Summarize the social, community, political, regulatory or other factors that will help lead to the success of this proposed priority.

There is social, community, political and regulatory support for this project. We have support from partner organizations to continue our lamprey work and we have Tribal support as well. In addition, the state of Oregon has committed to lamprey and salmonid recovery through numerous plans and initiatives. And the recovery of the ESA listed coastal Coho salmon will help drive instream restoration through regulatory actions.

5. What can be leveraged to address the proposed priority (funding, acreage impacts, other resources)?

Leveraged resources include work that the Cow Creek Tribe has already done and In-kind staff and partner time on the project. Additional grant funding will be applied for through multiple sources. These sources could include, the U.S. Fish and Wildlife Service's Tribal Wildlife Grant, the Administration for Native Americans Environmental Regulatory Enhancement grant, The PacifiCorp North Umpqua Hydromitigation Fund, The Bureau of Indian Affairs Climate Change Grant, Title II RAC funding, the Oregon Governor's Fund, and other sources as they come available.

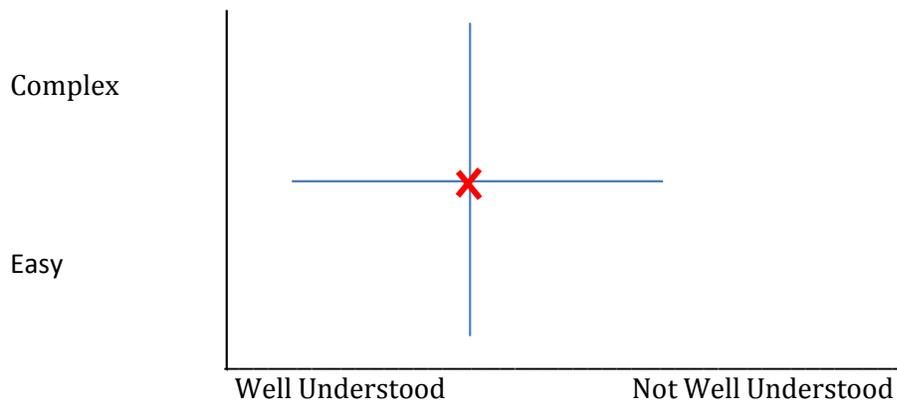
a) Economic Benefits

1. Describe the economic benefits of addressing the ecological proposed priority, including ecosystem services

In order to stretch restoration dollars to their maximum potential, it is necessary to implement project that benefit the maximum number of species. Our proposed priority aims to do just that. As an example, if money is allocated to culvert replacement or fish ladder re-design, those projects should include lamprey specific criteria in order to pass all native species. Since lamprey criteria were not included in many of the fish ladder updates of recent years, agencies are now in the process of retrofitting structures with lamprey friendly ramps, or designs that could have been incorporated initially and saved thousands of dollars in additional work.

The fishing industry is a large economic driver in the state of Oregon. Not only is commercial fishing in the ocean an important part of the state's economy, but also local economies including freshwater fishing guides. In the Rogue and Umpqua basins, which encompass some of Oregon's most economically challenged counties, sport fishing is an important component of the local economy. Not only does sport fishing include supporting fishing guides, but it also brings in money to local hotels, restaurants and other businesses. By addressing this priority it will economically benefit the economies of depressed southern Oregon communities.

6. FOR ALL SUBMISSIONS: Assess the proposed priority by locating the proposed priority in one of the quadrants below. Describe why the proposed priority falls in this quadrant. There is no wrong answer to this question and there may be multiple answers.



The proposed priority is very complex. Some components are well understood, for example that restoration and floodplain reconnection will benefit native fish production. Other aspects are not as well understood, for example, the basic distribution of lamprey, what the ocean phase of their life history is like, what screening and culvert criteria should be implemented for lamprey.

7. Is there other information the Board should know regarding this priority?

Yes, please see attached for the following:

- A map of the proposed geographic area
- The Cow Creek Tribe's lamprey 5 year Concept
- A description of the Tribe's lamprey program
- A description of future goals for the lamprey work and a table of Winchester Dam lamprey counts

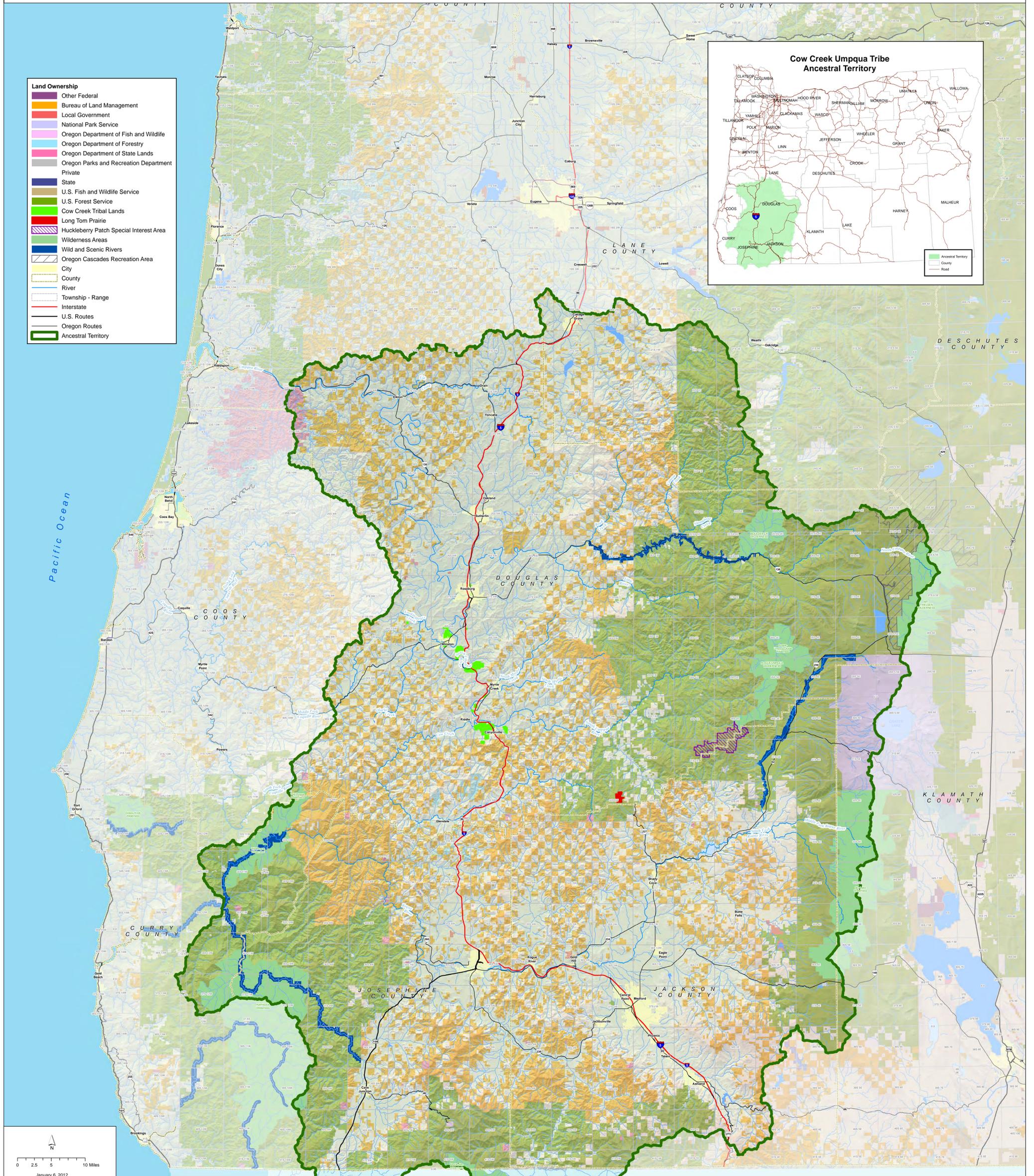
8. In lieu of attaching letters of support for this proposal, please submit a list of other supporting individuals or organizations.

- The Cow Creek Band of the Umpqua Tribe
- Other partners to be named later

*Note that we plan to work with Rogue and Umpqua Basin watershed councils to maximize strategic planning for restoration in both basins.



Ancestral Territory Cow Creek Umpqua Tribe



OWEB Long Term Investment Strategy

Cow Creek Umpqua Tribe

6 year Concept for Southern Oregon Research, Restoration and Education Work

Scope: This project would focus on the Umpqua and Rogue basins, but research products, education models, trainings etc. could be of region wide benefit.

Research: lamprey distribution surveys, development of passage criteria for culvert replacements, screening criteria for water diversions, develop salvage operation guidance, species identification workshops and research to better understand the lamprey macrophthalmia life stage, non-native species effects on lamprey

A thorough multi-year research project documenting the out-migration of Pacific lamprey in the Rogue and Umpqua Basins is necessary to determine timing and habitat use of Pacific lamprey during the macrophthalmia life stage. This could be implemented in year 2, wrapping up in year 6. This could be in the form of a Master’s thesis or PhD Dissertation.

Restoration: Development of a prioritization plan for restoration activities that focus on water quality improvement, and passage improvement. The Tribe has already started developing this plan through the Umpqua Basin Interagency Lamprey Workgroup.

Education: identification workshops and education and outreach activities should be implemented throughout southern Oregon.

Costs: General research, restoration and education costs estimated at \$175,000 to 200,000 per year and cover work in both the Umpqua and Rogue basins.

For the macrophthalmia phased research project discussed above, costs are estimated at \$75,000 per year (\$300,000 total).

Below, an annual approach is discussed in brief:

Year	Restoration Goal	Measurable Objective	Other Plans that support the need	Research Goal	Measurable Objective	Other Plans that support the need
Year 1	Development of a strategic prioritization planning document for lamprey and other native fish restoration activities in the Umpqua and Rogue Basins	Planning document produced that would have the following elements: determine limiting factors, high priority areas,	USFWS lamprey conservation initiative	Partner with a university to develop a Master’s or PhD project to study the macrophthalmia phase of pacific lamprey	A thesis document, and possibly a peer reviewed journal article describing the out migration of pacific lamprey in the rogue and Umpqua Basins	USFWS lamprey conservation initiative

	We will partner with watershed councils in the Umpqua and Rogue Basins to develop this plan. The Tribe is aware that Rogue and Umpqua Basin watershed councils have strategic planning efforts underway and we hope that this process would dovetail and be of added value to their efforts	schedule and plan of operations				
Year 2	Passage Improvements (passage known to entirely block lamprey passage)	Number of improved passage projects	USFWS lamprey conservation initiative	Adult and juvenile surveys, Lamprey identification classes (2), Lamprey outreach and education events including presentations or field visits (2)	data put into regional distribution database that is shared with all Tribes, Federal and state agencies	USFWS Lamprey Conservation Initiative, Ongoing work of Cow Creek Tribe-database already developed
Year 3	Stream and floodplain restoration	Number of miles of reconnected floodplain and instream restoration projects	USFWS Lamprey Conservation Initiative, Oregon Plan for Salmon and Watersheds	Develop passage criteria for culverts, Lamprey identification classes (2), Lamprey outreach and education events including presentations or field visits (2)	Overlay lamprey passage criteria on existing culvert databases (UBFAT, other)	USFWS Lamprey Conservation Initiative
Year 4	Culvert retrofitting based on previous year's research	Number of culverts retrofitted for lamprey passage	USFWS Lamprey Conservation Initiative, Oregon Plan for Salmon and Watersheds	Develop Screening criteria for water diversions, Lamprey identification classes (2), Lamprey outreach and education events including presentations or field visits (2)	Screening criteria implemented on water diversions (number of water diversions screened with new criteria)	USFWS Lamprey Conservation Initiative
Year 5	Water Quality improvement	Miles of stream improved for temperature nutrients etc.	USFWS Lamprey Conservation Initiative, ODEQ	Research non-native species effects on lamprey, Lamprey identification	Apply research to non-native fish management	USFWS Lamprey Conservation Initiative

			TMDL's	classes (2), Lamprey outreach and education events including presentations or field visits (2)		
Year 6	Comprehensive Review of year's 1-5 progress. Revisit restoration and research needs as necessary					

The Cow Creek Umpqua Tribe's Lamprey Program: Update November 2013

In the spring of 2012 the Cow Creek Tribe was awarded a USFWS Tribal Wildlife Grant to implement a lamprey conservation program in the Umpqua Basin. To date we have accomplished the following:



1. Formed an Umpqua Basin Interagency Lamprey Workgroup
2. Mapped lamprey distribution in the Umpqua Basin and created a database of lamprey information for the Umpqua.
3. Implemented a research project in 2013 to examine smallmouth bass predation on lamprey
4. Performed targeted lamprey presence/absence surveys in the Umpqua Basin
5. Facilitated multiple lamprey identification and education classes
6. Monitored projects that affect lamprey (i.e. dam dewatering)
7. Conducted outreach to other Tribes (lamprey harvest methods, basket making, research)
8. Developing an Umpqua Basin Lamprey Conservation Plan

Currently, we are in the process of scaling our work up to a regional level. The Tribe's Fish Biologist is now the lead contact for the U.S. Fish and Wildlife Service's Pacific Lamprey Conservation Initiative action planning process for the Oregon South Coast. We have applied for a second Tribal Wildlife Grant to expand our lamprey conservation program to the entire Ancestral territory of the Cow Creek Tribe, which includes the Rogue River Basin. The goals for that proposal are:

- Fund a Southwest Oregon Manager to convene a multi-agency south coast workgroup and coordinate Rogue and Umpqua Basin conservation efforts.
- Hire a Rogue Basin lamprey coordinator to convene a multi-agency Rogue Basin workgroup
- Work on mapping distribution, habitat, spawning, barriers, and restoration opportunities in the Rogue and Southern Oregon Coast/Southwest Oregon (expand upon previous mapping efforts in the Umpqua).
- Fund a Tribal fisheries field crew to perform targeted lamprey surveys in the Umpqua and Rogue Basins
- Fund outreach and education about the ecological and cultural importance of lamprey at the local and regional levels

Pacific lamprey do not home to their natal stream, therefore it is imperative to scale up lamprey conservation work to a regional level. The Cow Creek Tribe is currently partnering with the USGS, The Coquille Indian Tribe, the Confederated Tribes of Siletz Indians, and the Confederated Tribes of the Coos Lower Umpqua and Siuslaw Indians to scale up lamprey research to the entire Western Oregon coast. Tribes have been the drivers of lamprey conservation in the Pacific Northwest, and the Cow Creek Tribe intends to remain a leader in conservation of lamprey in southwest Oregon.



Pacific lamprey, North Umpqua River, photo by K. Coates

For questions about the Cow Creek Umpqua Tribe's Fisheries Program please contact Fisheries Biologist, Kelly Coates:

kcoates@cowcreek.com



Cow Creek Umpqua Tribe Lamprey Conservation and Research

Due to the declining numbers of adult Pacific Lamprey counts at Winchester Dam on the North Umpqua River and the overall range-wide decline of the species, the Cow Creek Umpqua Tribe's Fisheries Program is focusing on research and conservation of Pacific lamprey throughout the Cow Creek Ancestral Territory. As a result of its cultural and ecological importance, our work focuses on re-establishing the traditional Native American connection to lamprey, as well as the scientific research needed to fully understand how to help restore the population. To further our work, we use a collaborative partnership approach that includes the formation of an Umpqua Basin Interagency Lamprey Work Group, offering educational workshops to the public, as well as exchanging information with other Tribes, agencies, and NGOs throughout the Pacific Northwest. The Cow Creek Tribe's current projects include mapping lamprey distribution in the Umpqua Basin, coordinating a basin-wide presence-absence survey for lamprey, researching smallmouth bass predation on lamprey and mapping lamprey habitat. Our hope is that the research and work we accomplish in the Umpqua Basin could be scaled up to a larger landscape level and used to help inform additional research. Because Pacific Lamprey do not home to their natal stream, lamprey restoration and conservation should be implemented at a range-wide scale, and accomplished through collaborative efforts.

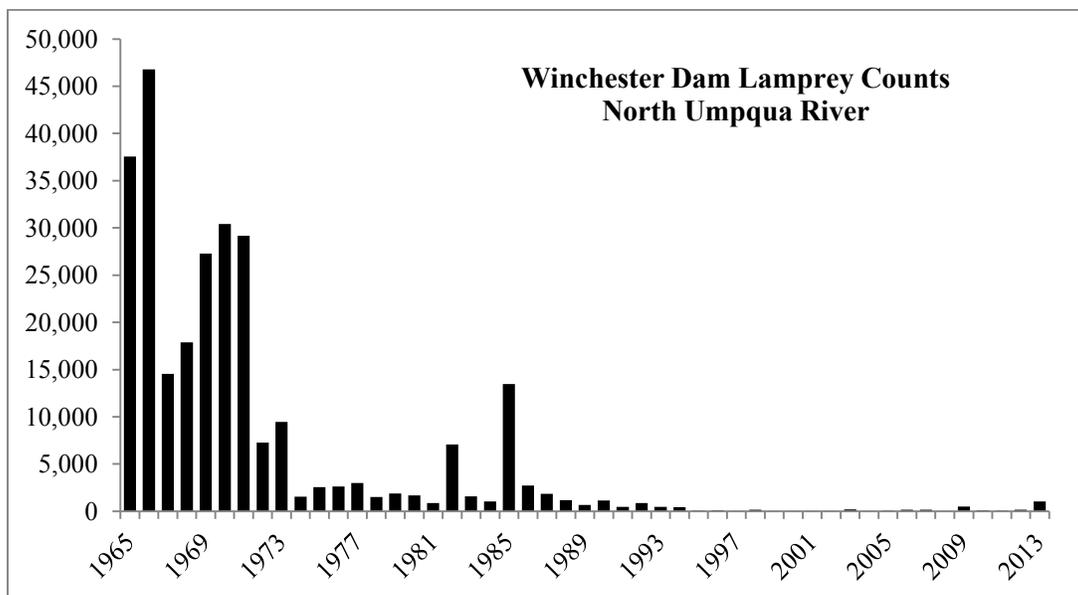


Figure1. Lamprey Counts at Winchester Dam. Data source Oregon Department of Fish and Wildlife