

Lake Ozette Sockeye Salmon Steering Committee (LOSSC)
 March 15th, 2017
 Meeting Summary

Action items:

Task	Timeframe
All LOSSC members	
Notify Bonnie Shorin if someone in your organization can serve as a facilitator at a future meeting	By June meeting
Public outreach subcommittee	
Mock up language for a new LOSSC poster and circulate to LOSSC via Bonnie/Triangle	Discuss at subcommittee call week of June 5
Consider messaging to convince people to support a fish outside of their own watershed	Discuss at subcommittee call week of June 5
Bonnie Shorin, National Marine Fisheries Service (NMFS)	
Create a poster using existing brochure	For April 29 th Coastal Cleanup Day
Continue to work with John Wullschleger on the Predation Workshop Proceedings	Presentation at June meeting
Pat Crain, National Park Service (NPS)	
Work with the NPS representative on the Puget Sound Federal Task Force to seek financial support for Lake Ozette	
Ask Janet Coles if she can be a clearinghouse of Ozette invasive weeds data	
Continue to work with John Wullschleger on the Predation Workshop Proceedings	Presentation at June meeting
Katie Krueger	
Research alternative facilitation funding from granting organizations that support listed fish	Report at June meeting
Triangle Associates	
Reach out to presenters for agenda items at June meeting	
Connect Frank Hanson, Pat Crain and Joe Murray for the public talk about Lake Ozette sockeye	
Put together a list of what the facilitation team does and a draft proposal for archiving materials at Triangle	Report at June meeting
Batch meeting summaries and send to Clallam County and ozettesockeye.com	

Welcome, Introductions, and Old Business

The facilitator opened the Lake Ozette Sockeye Steering Committee (LOSSC) meeting with introductions and a review of the agenda and materials. There were no suggested changes to the draft agenda.

LOSSC reviewed and accepted the December 13, 2016 meeting summary. LOSSC determined that meeting summaries will now go to a Clallam County website, as well as the ozettesockeye.com website. In the future, Washington Coast Sustainable Salmon Partnership (WCSSP) will be able to host these summaries on their website, but it is currently under construction.

Review & Updates to Near-Term Priority List (NTPL)

Related Updates from LOSSC

Pat Crain, Olympic National Park (ONP) noted that Shannon Murphie has submitted a proposal to enumerate the otter population in the area.

(See Page 3 for NTPL updates.)

Updates from project leads on current projects

Related Task ID	Project Title	Notes
PRA-7	Data Collection (with ARIS)	<p>Tim Tynan is still looking for funding for ARIS. There may be an opportunity to come up with alternate funding beyond NMFS.</p> <p>ONP has reached out to Stephanie Martin (Makah) regarding the potential for the National Park Service to assist with ARIS data processing.</p> <p>Tim says that there is the potential to replace a weir with DIDSON, but that it is a complicated machine to get going and they are trying to line up people to do the data analysis.</p> <p>Tim will follow up with Mora Ranger Station staff.</p> <p>NMFS, ONP will work with Rich Osborne to find a central place to work on this topic.</p>
HRA-8	Noxious Weed Reduction – Ongoing basin-wide invasive weed assessment and mapping, and management and reduction strategy	There were no updates on the assessment.
HRA-8, PEA-4, 6, 11	Noxious Weed Reduction – Big River and Umbrella Creek Watershed Restoration Project	There were no updates on Big River and Umbrella Creek Watershed. Washington Coast Restoration Initiative (WCRI) did not include noxious weeds funding request for 2017. The next opportunity would be early Spring 2018 for funding in 2020-2021.
HRA-8, PEA-4, 6, 11	Noxious Weed Reduction – Exotic plants mapping	<p>ONP has a new botanist, Janet Coles, who has been working with all the tribes as opportunities allow on noxious weeds. Janet has also been working with Cathy Lucero upstream of park lands.</p> <p>Exotic Plants Mapping: Pat Crain talked to Janet Coles about a potential mapping project; she is interested in such a project but no action has yet been taken. Pat and Janet brainstormed what a noxious weed inventory of the Ozette basin would look like. It could be a citizen science project focused on easily identified species, including a training session. Katie Krueger (Quileute) noted that grantors want to see GIS and a protocol. Citizen science marmot monitoring is a potential model. The citizen scientists with the marmot project were often professional scientists who wanted to contribute while on their vacations in the park. Citizen science could be a good match for the Washington National Park Fund funding source.</p> <p>Rich Osborne noted that invasive maps can become dated quickly. A website or GIS clearinghouse that transcends jurisdictional limits would be most useful for eradication</p>

		<p>purposes. Janet Coles could administer such a clearinghouse rather than create one. The Washington Invasive Species Council (WISC) has an app and could be a resource. Justin Bush is the executive coordinator of the WISC.</p> <p>Katie noted that a common data dictionary is essential to creating a useful compendium so that the same caliber and quality of data is solicited.</p> <p>If mapping occurs within ONP, ONP needs to discuss this with property owners prior to making it a goal of LOSSC or the recovery effort, due to potential concerns landowners might have if they see volunteers mapping on the landscape.</p>
HRA-21	Noxious Weed Reduction - NPS Outlet Rehabilitation	The NPS team from another park will be here in summer 2017 and can help monitor the outlet.
PEA-6	Public Education and Outreach	<p>Bonnie Shorin (NMFS) responded to a request for NOAA to create a poster for a beach clean-up in late April. NOAA can create a laminated poster at no cost to the LOSSC. LOSSC determined to make a poster using the current brochure.</p> <p>It was suggested that the LOSSC and/or Public Outreach Subcommittee should consider language that makes a public outreach case, for future endeavors to raise awareness about the sockeye and recovery efforts.</p>
RME-17, 18	Egg Survival	<p>Pat Crain submitted a preproposal to do a small scale beach restoration to increase egg survival. The ranking of the preproposal will be released at the end of the month and if successful, he will respond to the full proposal which is anticipated to be released in July. A full proposal would include more information on how it benefits the park. Only 4 preproposals for Pacific West Region were put forward. Pat will use the habitat subcommittee as a resource to respond to comments from USGS is necessary.</p>
RME-8	Water Quality	<p>Ecology is going to conduct mercury sampling in the lake in Summer 2017. On behalf of LOSSC, Pat Crain asked Ecology to sample kokanee, to which they agreed. ONP and Ecology worked on a protocol permit to sample kokanee without harming sockeye. Ecology may sample largemouth bass and Olympic mud minnow as well. NMFS has communicated to Ecology their concern about Ecology's use of electrofishing for sampling such as this.</p> <p>Katie Krueger shared that mercury levels are rising in inland lakes, though researchers are reluctant to attribute it to airborne methylmercury from Asia. Pat Crain offered a number of reasons why Lake Ozette's mercury level is so high, such as the pH of the lake and wetland areas due to tannins. The pH means that mercury becomes biologically available. There may also be a link with the amount of sediment in the lake transported from uplands.</p>
HRA-14	Large woody debris (LWD)	Not a lot has been done with LWD. The Steering Committee has talked about the landowner concerns about potential threat to property. The June meeting is an opportunity to talk with landowners about recovery efforts and how placement of LWD does and does

		<p>not fit into the larger recovery strategy.</p> <p>Katie Krueger noted that the state statute for LWD placement liability does not include tribes.</p> <p>LOSSC members felt this was a good topic for summer agenda. LOSSC members suggested Merrill & Ring or the Lower Elwha Klallam Tribe to do presentations.</p> <p>Bonnie Shorin expressed a wish to communicate that LWD on the main stem does not equal inundation problems on the lake. Pat Crain added that there are no houses above the Hoko-Ozette Road in the floodplain.</p> <p>Pat and Mike Haggerty previously discussed LWD. Both feel the lower Ozette River is replete with wood. Both feel documentation of how much wood is there now would be helpful. ONP may be able to do an inventory this summer. ONP looked at aerial layers but wood cannot be seen due to shadows from trees.</p>
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Funding Sources and Strategies

LOSSC discussed potential new funding sources. This included the Fish Barrier Removal Board. LOSSC also discussed how grants have a greater chance of success if other watersheds are included. LOSSC noted the idea to find other river mouths when submitting for predation funding.

Public Outreach Planning

Hosted talk in Forks

Frank Hanson (North Pacific Coast Lead Entity) hosts a public talk series in Forks on Friday evenings. Frank needs about a week and a half notice to set up for and advertise an evening talk. Pat Crain is willing to be a guest speaker and can use a 30-minute existing presentation from a presentation to the American Fisheries Society. Joe Murray is also willing to speak but would like to be a co-speaker. LOSSC also discussed encouraging someone from Forest Practices at the state to speak to Road Maintenance and Abandonment Plans (RMAP) and what's next in Forest and Fish. Jessie Hanawalt and Theresa Powell can put LOSSC in touch with Forest Practices.

June meeting

The June meeting will take place in Sekiu on June 22, 28, or 29. LOSSC discussed notifying the community through the Lions Club and websites in addition to the regular newspaper advertisements. Topics will include:

- A review of the NTPL so that the public is aware of LOSSC's work.
- A predation workshop presentation by Pat and Bonnie.
- Citizen science: Recruitment for a Summer 2018 project. LOSSC discussed invasive plant removal at spawning beaches in ONP as a potential project. However, disposal and replacement is an issue. Pat, Janet and Cathy will discuss in advance of the June meeting.
- Citizen science: invasive species mapping.
- A chance to speak with the Clallam County Road Department on upcoming projects on the Hoko-Ozette road. Deb Kucipek will ask if the Road Department if anyone is available.
- A large woody debris presentation and Q&A.
- Note: Ozzy Minard is likely not ready for another presentation. Jenny Knoth can be a link to him in the future. He could be invited as an attendee, however.

Predation Workshop Proceedings Report

Pat Crain presented a rough proceedings of the LOS Predation Workshop. The breakout session summaries will need the most review from attendees. LOSSC members had several suggestions, including:

- Clarify that “decreasing predator abundance is likely less effective than increasing prey abundance” should specifically refer to otters.
- Clarify which contributions are from experts and which are from non-experts.

- Revise the introduction of the proceedings and the stated objective of the workshop to reflect the steering committee’s original intent.

Ed Bowen objected to the structure of the report. Pat Crain will follow up with Ed after the meeting.

LOSSC determined that the proceedings are not ready for an edit by the group at this time as more work is expected on the report by John Wullschleger, Bonnie Shorin, and Pat Crain.

LOSSC Capacity Funding

NOAA and WCSSP gave an update on funding for 2017-2018 LOSSC meeting facilitation. For the past many years, NOAA and WCSSP have split the cost of facilitation funding almost 50/50 and have both contracted with Triangle Associates. Going forward, NOAA cannot contract directly with Triangle but can request the funding to be available through a grant, which WCSSP can apply for and upon award contract with Triangle to pass on the funding. NOAA has filed a request for a grant for 2 years of 2 meetings per year. Based on the federal government’s continuing resolution and current budget proposals, the funding appears uncertain at this time. NOAA won’t know until after April if any budget is allocated for the next year of facilitation.

NOAA also requested funds for the Makah’s continued use of the ARIS.

WCSSP shared the results of their funding investigation. They found that the Salmon Recovery Funding Board (SRFB) has not specifically allocated funding for LOSSC facilitation except for the first year of the LOSSC. WCSSP can no longer fund facilitation out of their base contract, which was been shrinking over time. Projects proposed to the lead entity or region that benefit Lake Ozette sockeye will be prioritized. However, capacity funds from the state or federal government are not tied to the listed status of a species.

NOAA has also changed how they rank species for funding. Stable threatened species like the Lake Ozette sockeye salmon are ranked lower than endangered and significantly negative-trend threatened species. These rankings are now being used to steer recovery funding. Those rankings were not produced by NOAA staff in the northwest.

Alternative fund sources and facilitation ideas

LOSSC discussed alternative funding sources and structures, including:

- Encouraging the federal caucus to provide support for infrastructure at Lake Ozette.
- Seeking Puget Sound project funding from the EPA.
- Exploring nonprofits for funding.
- Group members serving as volunteer facilitators, or ONP interpretive staff facilitating once per quarter. It was noted that an independent facilitator allows for full participation from LOSSC members. If LOSSC members or someone in their organization could take on the facilitation/meeting organization role, they should let Bonnie know.
- Holding un-facilitated meetings. LOSSC determined to use the June meeting to set up the September meeting regardless of the funding situation at that time.
- Long term, looking at messaging to convince people to support fish outside of their own watersheds.

It was noted that the current cost of facilitation is \$22,000/year for four meetings. LOSSC asked Triangle to create a list of action items leading up to and following each quarterly meeting plus work in between meetings.

LOSSC discussed holding archives outside of WCSSP and North Pacific Coast Lead Entity (NPCLE) to increase archive stability regardless of uncertain funding.

If NOAA's Pacific Coastal Salmon Recovery Fund (PCSRF) account is zeroed out in the federal budget, many salmon organizations across WA will be at great risk.

Rich Osborne noted that several Regions have a nonprofit component. If funding goes away, it will be up to the private sector to fund whatever salmon recovery happens, and this will look different for different Regions.

Roundtable updates:

The Department of Natural Resources (DNR) Olympic Experimental State Forest workshop will take place April 20th, 8:30 AM-4:00 PM.

Tim Tynan announced that Derrick Poon at NMFS passed away. The Governor's Salmon Recovery Office Executive Coordinator, Brian Abbott, passed away in December 2016.

Pat Crain announced that the Pacific West Region Natural Resource Advisory Committee is coming to Forks for a week. They will go to the mouth of Quileute River and up the Hoh as a field trip. The Cultural Resources Advisory Committee is included. Nicole Rasmussen requested that they look at the Rialto spot where the road is eroding due to the river. Pat will show them culverts as a natural resources issue. Pat will provide Bonnie and Tim with the field trip information.

Katie Krueger is retiring from the Quileute Nation on April 28th. The new fish biologists are on the Quileute website, www.quileutenation.org/natural-resources.

The Quileute Nation has a year-long grant to do smolt trapping as a climate comparison. Katie will send the grant information to Pat.

Frank Hanson shared that this Friday's talk is about river chemistry from space. The PowerPoint will be posted to the website. LOSSC members can ask Frank to be added to the biannual newsletter.

The Salmon Recovery Conference is April 25th-27th in Wenatchee.

The State of Salmon report is out. The website has good information including ESRI StoryMaps: stateofsalmon.wa.gov

The meeting adjourned at 3:15 PM.

Attachment A: Transcript of Comments from AdobeConnect Session

Ed Bowen: Drop me a note when your phone system is up and I will dial in.

Evan Lewis: hi Ed, this is Rachel. I am getting it set up now.

Ed Bowen: This connect seems to have dropped on your end?

Ed Bowen: The phone connected and then you dropped off, I'm back as the only one in the phone listening to music.

Evan Lewis: Hi Ed, thanks for your patience!

Ed Bowen: both phone and connect are up and running

Ed Bowen: I did receive from Pat Crain this morning the draft predation report, so I have that.

Evan Lewis: great

Ed Bowen: Back up, I can hear Clare very clearly but it does seem that most other folks are a bit garbled, if there is something from them that is pointed my way and I don't respond please get my attention. I did hear Pat C when he asked his questio

Evan Lewis: Ok, great!

Evan Lewis: I will so that.

Evan Lewis: *do

Evan Lewis: At the break, I may be able to arrange things a little better

Ed Bowen: The meeting summary is good for me

Evan Lewis: Thank you.

Ed Bowen: Question, are we any closer to a solution for the wier replacement with Didson?

Evan Lewis: I'll raise a hand on your behalf.

Ed Bowen: Question; on weeds: What is the WCRI for this for 2017?

Evan Lewis: I've raised a hand for you.

Ed Bowen: Note to the discussion on GIS mapping: If within ONP, ONP needs to discuss this with property owners prior to making it a goal of LOSSC or the recovery effort.

Evan Lewis: OK. Would you like to make that point outloud, or have me include it in the notes, or both?

Ed Bowen: I can do it, just want to get the attention and then if my voice doesn't come through correctly.

Evan Lewis: great, perfect.

Ed Bowen: My note for the meeting summary, my comment didn't seem to get captured or agreed to by ONP Pat, so to be clear: Property owners are need to be made aware BEFORE entering in to a GIS data tool/data dictionary...Not what Pat said: Down the road.

Evan Lewis: I have captured that for the meeting summary.

Ed Bowen: I cannot understand Bonnie when she is speaking, so I cannot answer any question she may be presenting to the committee

Ed Bowen: I heard Clare, circulating 2 ideas, I can't see those on my end

Evan Lewis: Right. We/Bonnie will circulate them so that people can take time to make edits.

Ed Bowen: So, to be clear, she's circulating something? Can some one please mention/summarize what the topic of what's being circulated?

Evan Lewis: Hi Ed, we are passing around the Lake Ozette Sockeye Salmon brochure, as one potential poster idea, and a mock-up of a second poster idea

Ed Bowen: got it thanks

Evan Lewis: If you can't hear Rich, he is suggesting that the existing brochure be printed up as a poster in order to make the deadline of the coast clean up day.

Evan Lewis: and a new poster could be also created by consensus at whatever pace is needed

Evan Lewis: Claire is recapping the same point

Ed Bowen: I caught her recap. I approve the use of the current brochure, anything else needs to be vetted.

Evan Lewis: Thank you, captured.

Ed Bowen: Question for Egg Survival proposal, Umbrella Beach, has the landowners been contacted?
Question I would like to pose to Pat

Ed Bowen: Disregard my last Egg question, it missed the chance to pose it.

Evan Lewis: Sorry Ed, I missed that one. Would you like me to pose it to Pat at the break?

Ed Bowen: don't worry about it. But do want to provide update to the water quality status column.

Evan Lewis: ok, I'll raise a hand.

Ed Bowen: I suggested language for the status on LWD

Evan Lewis: Would you like to talk about that to the group?

Ed Bowen: Yes, I meant I "have" suggested language

Evan Lewis: I've raised a hand for you

Ed Bowen: There's someone in the group I think I heard "Nichole". Who is this person, who are they with? I can't hear her clearly but it sounds like she has a lot of local area experience, I didn't hear her during the introductions

Evan Lewis: Nicole Rasmussen, Quileute

Ed Bowen: I can't hear Rich, is the culvert assessment for county roads same as that for WRIA 19 by NOPLA?

Evan Lewis: I've raised a hand for you

Ed Bowen: Oh, thanks, I know Nicole....that makes sense.

Ed Bowen: Comment for Pat

Ed Bowen: Comment regarding Joe Murray speaking: RMPA, reaching 2016 threshold, and what's next in forest and fish

Evan Lewis: hand raised.

Ed Bowen: By chance, who is the lady speaking about the boy scout?

Evan Lewis: Jenny Knoth, Green Crow

Ed Bowen: Oh, she does not sound over the phone like in person.

Ed Bowen: In place of the boy scout, suggest Clallam Road Department...upcoming projects on the Hoko-Oz road

Ed Bowen: Raise your hand

Ed Bowen: Ask Clare do a go summary of what the committee is going forward with on the June meeting, please., when they get done, before they break for lunch.

Evan Lewis: Will do.

Ed Bowen: I'll stay on this connect, but getting off the phone during the break

Evan Lewis: OK, sounds great

Ed Bowen: Question: What is the purpose of this report, is it to report out from the workshop or is it to take a different approach in what NOAA and NPS may be wanting to consider predation

Evan Lewis: Ok, hand raised.

Ed Bowen: By the way, Clare is not as clear but still understandable, Katie is a lot better, Pat is ok. All sound like they are way in the background

Evan Lewis: Ok, noted.

Ed Bowen: Then the short amount of time given today is that I object to the structure of this report...this is not what I remember coming out of the workshop. My statement for the meeting minutes.

Evan Lewis: Ok, noted and will be included in the minutes

Ed Bowen: I need to make that statement to the group too

Evan Lewis: Ok, hand raised.

Evan Lewis: Ed, if you can write out your specific objective for me here, that would be very helpful.

Evan Lewis: No rush.

Ed Bowen: It will be April before I can get to that, a hopeful meeting with ONP will take place. I'm good to go.

Ed Bowen: Where/Who at the State made the decision to not fund the facilitation....

Evan Lewis: Hi Ed, speaking as myself, my understanding is that no one made a decision not to fund facilitation. WCSSP has been paying for facilitation out of their base funding and the overall funding going to WCSSP is much lower now than it used to be.

Ed Bowen: This is a question I want the speaker/committee to answer, I'll want to ask it.

Evan Lewis: Ok

Ed Bowen: Guess I'm never going to get my question in....

Evan Lewis: Hi Ed, sorry, you've been in the queue

Evan Lewis: Thank you for your patience, Ed.

Ed Bowen: Administration question: I propose we withdraw from the June meeting in the evening to address how the LOSSC is going to function without facilitation funding. Something I want to ask

Evan Lewis: Hand is raised

Ed Bowen: I need to comment

Ed Bowen: I need to comment on WCSSP and NPCLE

Evan Lewis: Ok, hand raised

Ed Bowen: I lost you on the phone

Ed Bowen: I did not hear a date or timeframe for a date in June, I would like to at least narrow that down to a 2 week period. Comment for the group

Ed Bowen: Oh, now I hear Clare talking about it...never mind.

Ed Bowen: I'm good for the 28th

Ed Bowen: Observation: Notice nobody seemed to be concerned how the group is going to get community members to this June meeting...advertising

Evan Lewis: THanks, Ed. I am signing off.

Lake Ozette Sockeye Steering Committee (LOSSC)

Meeting Summary DRAFT v.12-19-17

November 30, 2017 // 10:15 am – 3:15 pm

Sekiu Community Center (42 Rice Street, Sekiu)

Action Items

Who	What
Triangle	Send out June meeting summary and other materials to Deb/Mike/Pat to archive.
Shannon Murphie	Work with Frank Hanson to schedule a talk on otters and sockeye predation at the ONRC speaker series (or consider Merav Ben-David as speaker when she comes to Washington in 2018).
Shannon Murphie	Share video of otter getting out of hair snare with LOSSC.
Shannon Murphie	Update LOSSC at next meeting on both noxious weed and otter projects.
Shannon Murphie	Ask Janet Coles about the Park's perspective on planting willows.
Shannon Murphie	Partner with Reed Canary Grass and 3 Way Sage Mapping.
Pat Crain	For the USGS potential research project, consider switching out Olsen's beach with Allen's beach for installation of large woody debris. Research alternative options of using existing hazard logs from around the lake or rocks and other materials to support scouring. Consider before next meeting with Compliance.
Pat Crain	For sockeye mercury sampling, talk to Ecology's permit contact about December sampling and if that will include sampling sockeye.
Jess Helsley	When available, send out WCRI funding RFP. Any LOSSC member can submit a proposal for this funding source.
Bonnie Shorin	Revisit draft poster and potentially provide LOSSC a revised version.
ALL	Email Bonnie updates to include in brochure to bring to steering committee for approval.
Public Outreach Committee	Think about strategic messaging, who is the target audience, what is the "ask" of how they

	can help?
Pat Crain	Look into how sockeye can be featured on NPS Saturday Morning Science Instagram and twitter feed. Potentially upload a video? Public Outreach: Saturday Morning Science @olympicnationalpark #saturdaymorningscience
<ul style="list-style-type: none"> • Ed Bowen • Shannon Murphie • Angela McMurphy • Frank Hanson • Rich Osborne • Pat Crain • Joe Hinton 	Attend a follow-up workshop to discuss Andrea Woodward's presentation on the life cycle model; consider using ONRC as venue.
ALL	If available, send data sockeye fork length data to Keith for ARIS - histogram data in order to distinguish between Pike Minnow and Sockeye.
ALL	Pick a date for next meeting in first 2 weeks of May.
Triangle	Send out draft May LOSSC agenda from items identified at last meeting 4 weeks before the proposed date for input from LOSSC members.

Motions

The LOSSC approved a motion to accept the June 29, 2017 meeting summary with edits.

The LOSSC approved a motion to archive meeting proceedings and materials with the Olympic National Park in addition to Clallam County and the www.ozettesockeye.com.

The LOSSC approved suspending the Admin Team's items A, B, and D as described in the function and structure document and to eliminate an Admin Team call to determine spring meeting date and agenda. These details will be determined via email with the greater LOSSC team.

Welcome, Announcements, & Old Business

Claire Chase welcomed the group and led group introductions. Claire introduced her colleague, Erin Murray, who will assist in taking notes and facilitating meetings. After reviewing the agenda, commented LOSSC member asked that at future meetings, the roundtable updates move back to the beginning of agenda instead of the end. This member also requested for the next meeting, a two-week window be set aside in scheduling the meeting, to allow for better planning to attend LOSSC meeting.

The LOSSC approved a motion to accept the June 29, 2017 meeting summary.

Pat Crain suggested the Olympic National Park should also archive LOSSC past meeting materials and proceedings in addition to the Clallam County and NOAA. Triangle will send past meeting materials and materials from current November 2017 meeting to Deborah Kucipeck, Mike Haggerty, and Pat Crain for help in posting these archives to the appropriate webpages.

The LOSSC approved a motion to archive meeting proceedings and materials with the Olympic National Park in addition to Clallam County and on the ozettesockeye.com website.

Predation: Otter Research Project (Shannon Murphie – Makah)

Shannon Murphie presented updates on the Makah Tribe's Lake Ozette otter research project. This project aims to gather data about the Lake Ozette otter populations and diet. Parts of this project will be conducted in partnership with the Neah Bay High School and the University of Wyoming. The three primary objectives for this project are to:

1. Estimate otter size
2. Quantify otter diets
3. Identify critical time frames and areas of potential concern

Questions from the group included:

Q: Will this project collect the DNA of otters with scat?

A: Yes, we will identify individual otters (based on latrines they are using) and we can identify what they are preying on.

Q: Where are cameras going to be set? Are there predetermined locations? There have been problems with otters in the tanks at the hatchery.

A: We are open to suggestions of where to place cameras – we will have 50 to 60 cameras available to use. If there are suggestions of where we can set them up, we'd love to do it where possible (need to consider how to access cameras to replace batteries and make sure they stay put). Cameras will also be set where we will place a hair-snare. We estimate we will have 40-60 active latrines.

Q: Can you put snares and cameras near sockeye spawning and migration events?

A: Snares are placed in otter biology specific areas. We can look at peak spawning events to collect more scat.

Q: Will the snare entrap the animal?

A: No, the snare has a release. We will share a video showing an otter getting sort of stuck and then being able to release itself from the snare.

Q: How far will you survey for otters from the lake?

A: A kilometer, but would like to go all the way to the coast.

Q: What kind of cameras are these? Video or continual capture?

A: They cannot stream video to the internet.

Comments from the group included

- A LOSSC member asked that the project implementers work to keep high school volunteers away from private property
- If otters are going to the ocean to feed, the Marine Resources Committee could pick up otter research and extend down the coast or work with the Quileute

Potential public outreach opportunities to share this research:

- National Park social media outlets to share the research project with a broader audience
- Ozettesockeye.com webpage
- Presenting at the ONRC speaker series

Big River & Umbrella Creek Restoration Project (Shannon Murphie)

Shannon Murphie presented updates from the Big River & Umbrella Creek restoration project. The Umbrella creek inventory was completed in 2016. In 2017 they treated a total of 9.36 acres for noxious weeds and hand pulled ivy, but did not go into the national park. Replanting will begin in March 2018.

The LOSSC discussed funding for this project and Pat Crain made a suggestion to research utilizing the Olympic National Park nursery rules for utilizing park plantings. A LOSSC member mentioned that revegetating with willow was a problem in the past and that Makah should consult the Park about the Park's current status of using or not using willow.

Habitat Project Proposal(s) (Habitat Subcommittee)

The LOSSC reviewed the Habitat Subcommittee call summary from October 25, 2017. The Habitat Subcommittee discussed the potential option to use existing hazard logs as large woody debris (LWD) in order to address the current need to restore beach spawning habitat and utilizing existing hazards that is sensitive to land owner concerns. A member commented that the USGS proposal funding would cover this solution to create wood structures. Funding is contingent on the federal budget appropriations process; the project sponsor will meet with the Park's compliance staff the week of December 4, 2017 to begin process of obtaining approval to create 1 or more structures on Olsen's Beach to match with dissolved oxygen (DO) water monitoring. The project emphasizes studying dissolved oxygen at the spawning beach sites. A member suggested switching the focus from Olsen's beach to Allen's beach due to its proximity to Erikson's Bay and prevailing winds. Before this project moves forward, the Park will confirm that any wood structures do not end up somewhere else. A member suggested using large rocks instead of large woody debris to encourage scouring.

The subcommittee also provided updates on the plan to sample sockeye for mercury levels this past summer of 2017. The Department of Ecology did not sample sockeye in summer 2017 but it was noted that the Park issued Ecology another permit to return in December 2017 for more sockeye sampling. The Park will follow up with Ecology to confirm if they will in fact sample sockeye for mercury levels in December 2017. It was clarified that the broodstock sockeye have been sampled and showed low values for mercury and may not be transporting mercury from the ocean into Lake Ozette. In addition, sampling bivalves may not be an effective alternative to show mercury content because of minimal bioaccumulation. Pat also commented that a whole fish must be used for sampling which eliminates the possibility to sample predated sockeye.

Review & Updates to Near-Term Priority List

The LOSSC reviewed changes to projects on the Near-Term Priority List (NTPL). In addition to other updates covered throughout this meeting summary, there were specific updates to the following projects listed below. See the attached NTPL document for complete revisions and updates.

- Predation Reduction Efforts
 - eDNA may be able to estimate relative abundance and may be a potential tool in the future
- Ongoing Basin-Wide Invasive Weed Assessment and Mapping
 - Potential WCRI funding in 2018
- Big River and Umbrella Creek Watershed Restoration Project
 - Discuss planting plan with National Park to review recommendations for planting willow
- Reed Canary Grass and Three-way Sedge Mapping
 - Potential WCRI funding in 2018
 - Opportunity to partner with otter research project to identify sites
- NPS Lake Outlet Rehabilitation
 - Funding is available for 2 years beginning summer 2018
 - Delayed start for channel profile in 2018
- Egg Survival & Mercury Sampling
 - Pat Crain to meet with the Department of Ecology to discuss sockeye sampling in December

The LOSSC also added the following projects to the NTPL:

- Culvert Inventory
- Otter Research Project

Public Outreach Planning

The LOSSC reviewed the Public Outreach Subcommittee call summary from November 9, 2017 and potential 2018 community events. Additional events suggested included the Raindays cleanup. The LOSSC revisited utilizing the Olympic National Park's social media outlets to share Lake Ozette sockeye research including "Saturday Morning Science" on the Park's Instagram account. Content ideas included sharing ARIS footage of sockeye swimming through the weir, otters getting out of a hair snare, spawning sockeye and other existing media content. The LOSSC also discussed educational outreach through schools and developing a curriculum. ONRC use the current brochure regularly. Bonnie Shorin noted that she has done some preliminary work to create a large poster using the existing sockeye brochure, which could be used by LOSSC members in their various community outreach. Bonnie requested that LOSSC members send her updates to the brochure to compile and present for approval at the next LOSSC meeting.

Updates

Pat Crain provided an update on the Predation Workshop Proceedings Report and noted that he and John Wullschleger have committed to talking every two weeks beginning until the proceedings report is finished.

Andrea Woodward (USGS) gave a presentation on the Lake Ozette Sockeye Life Cycle Model and explained the model potential to simulate a conceptual model, compare relative importance of vital rates, provide a framework for incorporating new hypotheses, identify data gaps and information needs, motivate research,

and experiment with environmental and management scenarios. Andrea highlighted that this model is not ready for numbers to be taken empirically and much of the model is run off values of zero for mortality and do not correspond with reality.

Members of the LOSSC group expressed interest in joining Andrea for a follow-up workshop to discuss this model further; this may be hosted at the ONRC.

Bonnie Shorin gave an update on Forest Practices and Stream Typing and disclosed that here is some discussion about protocols for stream typing for elected fishing practices to determine upstream habitat. Not all protocols are favorable and NOAA is working with Washington State's Department of Natural Resources (DNR) about revising these protocols.

Keith Denton gave a presentation on enumerating Lake Ozette sockeye with ARIS sonar. Next steps for this project include reviewing digital video recording (DVR) data from the ARIS sonar system near the weir, push completed data sets through simulation model, and to write a report. He emphasized the need to collect fork length data of sockeye to help distinguish pike minnows from sockeye in the captured footage. He requested LOSSC members to forward fork length data if available.

LOSSC Administration and Operations Review

The LOSSC discussed the new meeting cadence due to funding shortages and brainstormed timing for the spring meeting. One member proposed moving bi-annual meetings to Spring and Fall dates rather than Summer and Winter to ensure safe driving to meetings with minimal daylight and weather advisories. The group agreed that the next meeting will fall in the first two weeks of May. The LOSSC agreed to suspend the Admin Team temporarily. This motion would allow the full Steering Committee determine the meeting date and the draft agenda. The draft agenda would be drafted from meeting topics identified at the previous meeting.

The LOSSC also considered the opportunity for hosting a summer public outreach meeting where the Park could be involved and use some interpretative staff to facilitate the meeting. Pat Crain noted an opportunity to receive Olympic National Park funding to host this summer meeting if an event directly supported visitor enjoyment of the park. A summer meeting could incorporate field tours of the lake outlet, the fish weir, or smolt trap. This agenda would be organized and preparation would kick off after the spring LOSSC meeting.

The LOSSC developed a draft agenda for the upcoming May meeting which includes:

- Roundtable at the beginning of the agenda
- Status updates from Shannon Murphie on otter research and noxious weeds
- Field tour ideas for summer meeting and determine a summer meeting date
- USGS project update
- Receive a WCRI RFP update and consider potential projects to propose for that funding source
- Brainstorm a citizen science project brainstorm

General Announcements & Reports from the Lake

Joe Hinton updated the LOSSC that spawning has started at the hatchery.

Ed Bowen updated the LOSSC that he has seen otter activity because of transiting silver salmon. He has also observed low duck populations, increased swan populations, and retention of loon populations around the lake.

Attendees (In alphabetical order by first name)

Andrea Woodward, USGS

Angela McMurphy, Makah

Annette Hoffman, WDFW

Bonnie Shorin, NOAA

Deborah Kucipeck, Clallam County

Ed Bowen, Ozette Citizen

Frank Hanson, North Pacific Coast Lead Entity

Jess Helsley, Coast Salmon Partnership

Jessie Hanawalt, DNR State Lands

Joe Hinton, Makah

Keith Denton, NOAA

Michael Rossotto, Quileute

Pat Crain, Olympic National Park

Rich Osborne, Coast Salmon Partnership

Shannon Murphie, Makah

Theresa Powell, WDFW

Claire Chase, Triangle Associates

Erin Murray, Triangle Associates

Flip Charts from Nov. 2017 Meeting

Public Info on Otter Research

- ONP's Twitter + Instagram accounts?
- NOAA's webpage
- OzetteSockeye.com
- Consider rocks and other materials
- Reach out to MRC ^{or QNR} for supporting the project to include marine movements

USGS project

- consider using hazard logs
- Consider Allen's Beach instead Olsen's Beach if using wood
- Consider rocks and other materials

Next Meeting

- citizen science project ideas

- Roundtable @ beginning?
 - Status updates from Shannon on other research / weeds
 - Field tour ideas for summer mtg and find summer mtg date
 - USGS project update
 - Agenda duplt: pilot project of suspending rules
- WCRI RFP

LOSSC Meetings

Used to be: March, June, Sept, Dec

↙ new idea:

1st half
May 2018

← Spring (Δ) - Science

Summer (ONP) - Outreach
etc.

Fall (Δ) - Science