CENWP-OD 08 March 2018

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 08 March 2018 FPOM meeting.

The meeting was held in the Columbia Room, CRITFC office, Portland, OR. In attendance:

Last	**First**	**Agency**
Anderson	Robert	NOAA
Bayley	Kristen	NWP-FFU
Benner	Dave	FPC
Bettin	Scott	BPA
Conder	Trevor	NOAA
Creason	Anne	BPA
D'Alessandro	Dalin	PSU
Dennehy	Michelle	ODFW
Duffield	Debbie	PSU
Hargrave	Rick	NWP
Hatch	Doug	CRITFC
Iverson	Tom	YNF
Jefferies	Steven	WDFW
Kovalchuk	Erin	NWP
Lessard	Bob	CRITFC
Lorz	Tom	CRITFC
Morrill	Charlie	WDFW
Richards	Natalie	NWP
Rub	Michelle	NOAA
Sullivan	Leah	BPA
Thompson	Sara	CRITFC
Tidwell	Kyle	NWP-FFU
VanDyke	Erick	ODFW
Wertheimer	Robert	NWP-FFU
Wright	Bryan	ODFW

On the phone: Bettin, Dennehy and Richards.

Objective: Review past data and discuss plans for 2018. Address changes to the current program that may be needed.

1. **Final Decisions made at this meeting.**
   1.1. Sea lions will be hazed off Tower Island during the day.
   1.2. Next meeting will be in May at BON.
2. **Observation Program (USACE)**
   2.1. Presentation from FFU on 2017 Draft Pinniped Report – Wertheimer gave an overview of the changes to the pinniped program over the years for the FFU. Monitoring has increased to fall, winter and spring. The final report has been posted to the website.

2.2. Update on changes that have been made to observation period and effort – There has been a change in 2016 to the random sampling design to help improve efficiency and save on labor hours. The number of lamprey, sturgeon and salmonids are estimates; the number of pinnipeds are actual counts. Using camera traps, the team has been able to identify more animals.

2.3. Steller sea lion abundance and predation has increased outside of the spring season – January 1-May 31 is the focal sampling period based on the letter of authorization for removal of individual California Sea Lions (CSL). Historically, this had been when the CSLs were present. The Steller Sea lions (SSL) show up earlier than the CSLs and prompted a change in the monitoring time period. The CSLs had record predation rates in 2015 &2016. Since 2008, predation by SSLs have increased and 2017, predation by SSL was higher than CSL. In 2017, the two species combined took 4.9% of the total salmonid run. White sturgeon killed by sea lions have decreased since 2011 but the number of lamprey has increased probably due to the increase in run size. CSL abundance numbers is tracking the same pattern as the last 10 years; however, over the last three years, SSL has increased in numbers and greatly increased the date range of abundance at the dam. SSL are now present all year round versus just three months. Even during December and November when fish numbers have decreased, there are high counts of SSL. The winter steelhead are impacted greatly during this timeframe. The study area is confined to the tailrace of BON. Next year, impacts to summer and winter steelhead will be separated in the FFU report.

2.4. Difficulty in identifying individual Steller sea lions – This past year, the states were able to brand 12 additional SSL for a total of 51 branded. Historically, observers used natural markers on the animal to identify specific animals. The management plan for CSL relies on the brands to identify individuals and branding SSL would be very helpful. Due to their large size, it is very difficult to tag them. Morrill suggested using injectable tags from a distance. Ballard Locks had trouble with dart tags staying on. Other marine mammals that are tagged from a distance have short lived tagged. There are a limited number of techniques that work for sea lion tagging and most require handling of the animal. The branded SSL were handled when they were still the size of a CSL. Squeeze cages are built for larger CSL and they would have to build more to handle the SSL. The other issue is that when branding an SSL, the states are required to use gas anesthesia; it is not a requirement for CSL. The anesthesia triples the amount of time necessary to brand an animal. In the four traps that are used at BON, SSL can cause major problems for CSL in the same trap due to their size. Jefferies would prefer a separate SSL station in the fall or winter when there are no CSL around. The protocols have been approved by an IACUC Committee.

2.5. Observations of Tower Island hazing – Hazers are dam based and push the animals away from the face of the dam mostly and then the boat based CRITFC hazers can push them out of the tailrace. This year, FFU is studying the effects of the hazing on the SSL behavior.

3. Observations of Chum Salmon predation in 2017 (WDFW)

3.1. Update from WDFW on observations of Steller predation on chum salmon – SSL have been observed during chum surveys from WDFW. The data is not in form to share but is noted on their inspections. Tidwell noted the occurrence and residency periods of SSLs during the fall seem to correspond to the Chum salmon breeding season below BON.

4. Pinniped Abundance and predation in lower Columbia (NOAA)

4.1. Michelle Rub results from past research – This data is from Spring Chinook that were PIT tagged in the estuary. They started the study in 2010 and have returned annually; 2013 was not complete year. The unexplained mortality in the data is considered pinniped predation. The unexplained mortality had stayed steady for the first several years but dramatically increased in 2013-2015. Radio telemetry tags was used to see exactly where the mortality occurring. In 2016, thirty known CSL were tagged and 50% of the animals stayed in the estuary but 13% went as far as RM28, 10% RM40 and 7% (2 animals) went to BON tail race. Even though the majority of

CSL stayed in the estuary, 48% of the mortalities occurred in the tailrace of BON. In 2017 (higher flow year), more CSL stayed in the estuary and the mortality just below the dam was less (25%). This data is based on CJS model estimates and is slightly higher than the COE results although this study area was larger. All fish had PIT tags and 1/3 had radio tags as well. Rub said that the river conditions had a major effect on the results. The smelt run had an effect on CSL numbers as well. Shad may have been hypothesized to have a buffering effect for salmon. FFU has documented shad predation at BON. Diet composition is done by scat and by euthanized animals. The high flows influenced fish movement. In 2017, fish were taking twice as long to get through the same stretch below BON as 2016. The travel times were based on RT data and are only for 2016 and 2017. The predation rate in the 2km downstream of BON is several times higher than the rest of the river. There is very little predation in the middle stretch of river. The high mortality in the estuary might be due to the number of sea lions in narrow stretches of the river and fish tend to mill about there. There are internal NOAA reports on the early work. The 2010-2015 results and monitoring will be published soon. The study used only upriver bound fish. There was a small group of fish that went up the Willamette that were not included in this work because of the complex issue of where the fish end up. These fish were all assumed to want to pass BON.

5. Status of the MMPA section 120 LOA (NOAA)

5.1. Update from NOAA on LOA resulting from Task Force recommendations – The Pinniped Task Force reconvened to review the results from the previous five years and see if the problem had been eliminated. Clearly, the problem has not. One recommendation was to change the criteria to facilitate getting an animal on the removal list faster. The task force asked the FFU to analyze the effect of changing the number of days the animal had to be present and found it would have no effect. They (FFU) are now analyzing to see if changing the criteria from a specific animal being present for 5 days and documented salmonid predation to either 5 days present or documented salmonid predation. The results are not in yet. To have SSL on the removal list, there are two options – 1) to add SSL to the current CSL letter of authorization or 2) write an entirely new letter for SSL only. For the CSL LOA, there have been three rounds of litigation. The eastern stock of the SSL were recently delisted from the ESA, however they were only very recently down-listed to a "non-depleted stock." These two actions make permanent removal a potential action the States could request. However, eastern stock SSL were declared no longer depleted.

5.2. Update on proposed legislation – There are two bills moving forward; one is for the House (HR 2083) and the other is for the Senate (1702). NOAA has received a request for authorization for removing animals at Willamette Falls but this is independent of the sea lions at BON. Lorz asked if starting a new letter would take about the same amount of time as modifying the existing letter. The time would be similar but it depends on if the program for CSL would be the same as for the SSL. WDFW suggests the litigation is difficult either way but it could stop the CSL removal program if it was added to the same letter. Wertheimer asked if states and tribes should be planning to execute the programs for this new legislation because it will be difficult to execute these programs without the infrastructure behind them. The mechanisms to execute the programs are still being looked into. WDFW consulted animal trainers to help with more effective hazing. The trainers said that hazing off the dam was effective but chasing them down river wasn't helpful since the animals would no longer know what the deterring behavior was. The trainers recommended not allowing the animals to haul out on the dam. Jefferies suggested hazing the SSL off Tower Island. The counter argument has been that they will then just go somewhere else or they go back to feeding in the water. Tower Island is next to the old Navigation Lock.

6. Branding Tagging and Removal (ODFW & WDFW)

6.1. General plan for 2018 – The states are preparing to start trapping in April. When they start trapping, there are already a few animals on the list. At the end of last year, they had some time to brand a dozen SSL.

6.2. SSL branding in 2018 – The gassing requirement for SSL will not change this year. The time constraint interferes with the ability to capture and brand CSL. FFU has been monitoring the SSL even though there is no management plan in place. The original brands on SSL were to see basic behavior. As funding and time moved on, the states stuck to branding the CSL and only branded the SSL when there was an opportunity. Documentation of predation estimates is still valuable without the brands to have the necessary data to create a management plan. WDFW has a larger squeeze trap that they used in Canada but suggests branding the young animals. The states have resource limitations because they are committed to both Willamette and BON with four staff members and a veterinary team. Out of the first five animals relocated to the Oregon coast from Willamette, four have returned.

6.3. Adjustments to current program needed to better facilitate handling of SSL- The traps for BON are the property of ODFW/WDFW. Traps at Willamette are different and paid for by NOAA. Changes in the program need to be made but the states are maxed out on resources. Conder suggested hazing the SSL off Tower Island since the authority is in place and FFU has the ability to monitor and to see if it works. The COE has authorization under the CSL management plan to conduct the monitoring. Bringing in additional funding sources is hard to find.

7. **Hazing (USDA & CRITFC)**

7.1. Dam-based hazing schedule – USDA will provide dam based hazing March 1- May 31. The hazing schedule has changed to increase hours to the crepuscular hours. On Tower Island, the hazing only occurs before the trapping occurs. Most hazing is for animals in the water.

7.2. Brief update from CRITFC on boat-based hazing – CRITFC is doing more than just hazing – abundance estimate including area outside of the tail race, modeling of functional response, modeling population specific impacts, anthropology study, Pinniped Fishery Interaction Task Force, litigation support and legislation support. For population estimates, they divide the river into four zones. Two boats make independent observations about 25 mins apart. The hazers use cracker shells and seal bombs with limited success. 80% of their time is in the BRZ working with USDA. This is not a long term solution although it works for a particular individual. They haze about thirty days a year. CRITFC is exploring accelerometers for predation estimates. However, the data files are huge with six-twelve readings a second. They are working on developing real time information. Hazers are required to stay 300' from the fish ladder while using seal bombs and 200' from any concrete. Once the fish numbers are above 1000 a day, they stop using seal bombs in the BRZ.

7.3. Planned frequency of boat-based hazing in 2018

7.4. Hazing evaluation and new methods

8. Roundtable discussion on the future of the current program

8.1. Is the current program sufficient in funding and latitude to adapt to changing conditions- Conder wants to stop SSL from hauling out on Tower Island. USDA can haze them but the issue is that ODFW uses Tower Island as a trapping site. Trapping occurs in the middle of the night and might not be affected by the daytime hazing. Having more SSL in the traps would be a problem. The trapping team is going to install something similar to a SLED in a trap to keep the SSL out. For fall and winter work, the FFU would need authorization. Some hazing has led to conditioning. Wertheimer suggests that hazing off Tower Island may increase their consumption rate. Conder doesn't think they will feed more and thinks dissuasion is necessary to stop them from having a haul out spot. The priority for the FFU is still the CSL plan because there is no

SSL plan in place. If ODFW/WDFW are unable to catch any CSL after two weeks of daytime hazing off Tower Island then they will ask to stop the daytime hazing. Van Dyke doesn't agree with putting the SSL back in the water where the prey is. The idea is to reduce the amount of success that the sea lions have even if it is not the most effective. Permeant removal is the only way the animal doesn't feed anymore. The population is still growing so removing some has not affected the population. Expanding the hazing season would require additional funding.
Pinniped Task Group concurs with hazing SSLs from Tower Island during the day and will review the success at the next meeting.

8.2. Future steps to reduce predation

8.3. Next meeting to further discuss and address issues in two months. Next meeting will be at BON in May.

8.4. Juvenile predation by harbor seals – Work has been done at Puget Sound studying harbor seals. There has been anecdotal evidence of PIT tags in stomach contents of harbor seals.