



FISH PASSAGE CENTER

847 NE 19th Avenue, #250, Portland, OR 97232

Phone: (503) 833-3900 Fax: (503) 232-1259

www.fpc.org/

e-mail us at fpcstaff@fpc.org

MEMORANDUM

TO: Tom Lorz (CRITFC, FPOM Condition Monitoring Task Group co-chair)
Trevor Conder (NOAA, FPOM Condition Monitoring Task Group co-chair)

FROM: Michele DeHart

DATE: July 2, 2015

SUBJECT: Review of draft proposal *Minimum Juvenile Salmon Condition Monitoring*

We appreciate the opportunity to provide comments on the draft proposal entitled *Minimum Juvenile Salmon Condition Monitoring* that was circulated to the Fish Condition Monitoring Task Group during the June 11, 2015, Fish Passage Operations and Maintenance (FPOM) meeting. The proposal indicates that this minimum sampling for condition monitoring would apply to all FCRPS projects with an operating juvenile bypass system (JBS) that are not part of more intensive monitoring efforts such as the Smolt Monitoring Program (SMP) or juvenile transportation monitoring. The proposal goes on to outline what the monitoring protocol would look like for these types of sites (steps 1-5). Below is a brief synopsis of our comments, followed by more specific review of each of the five steps outlined in the proposal.

- The steps outlined by the proposal seem to be tailored to the specific limitations that exist in the collection facilities at Ice Harbor Dam. We recommend that the minimum condition monitoring protocol should reflect what information the fisheries managers need for management/operational decisions, recognizing that these needs may not be met at all projects due to project-specific limitations. We recommend that minimum condition sampling be considered in a site-specific context and that the present condition monitoring protocol be utilized as the standard to the degree possible at all sites, with consideration of site-specific characteristics.

- The proposed minimum sampling of twice per week is not sufficient, particularly since this recommendation seems to be based on one project (IHR) where condition data are scarce to begin with. A more prudent approach would be to collect data more frequently for the first year (or few years) and then use these data to evaluate whether a reduced sampling frequency is warranted. Furthermore, when recommending frequency of sampling, the managers should consider how long they are willing to go without any data to inform operations.
- If the agreed upon minimum condition monitoring occurs less frequently than every day, there should be a provision in the protocol that calls for increased frequency if/when issues such as elevated descaling, injuries, and/or mortality arise. This would enable the COE and fisheries managers to assess the effectiveness of changes in operations intended to remedy such events.
- We disagree that 24-hour sampling is not necessary for condition monitoring. Again, this seems to be based on the specific limitations at IHR where a 24-hour sample is not possible due to limitations in holding. As written, this statement could limit the ability to conduct a 24-hour condition sample at some other facility where holding is possible.
- Where possible, the FPC would recommend a 24-hour condition sample, as this would incorporate fluctuations in operations throughout the day and account for differences in diel passage behavior among species. A limited duration sample would be limited to informing only a small portion of the operations and, potentially, a small subset of the species that are passing (depending on when the sample is taken).
- Monitoring for fish condition should follow the current fish condition monitoring protocol that is being implemented at SMP sites. This protocol was developed collaboratively with input from the COE (Walla Walla and Portland districts), state and tribal fisheries managers, NOAA, and the FPC. The FPC is more than willing to provide the condition monitoring data entry program to ensure this protocol is followed.
- We agree that the condition data from non-SMP should be made available to the managers and are more than willing to host these data in our current fish condition database. Use of the FPC data entry program to collect these data would facilitate this objective.

As mentioned above, the steps outlined in the draft proposal would apply to all FCRPS projects with an operating JBS that are not part of more intensive monitoring efforts such as the SMP or juvenile transportation monitoring. Currently, there is only one FCRPS project that fits these criteria, Ice Harbor Dam (IHR). Hence, the steps outlined in the proposal seem to be tailored to IHR, which has its own specific limitations when it comes to sampling juvenile salmonids. Instead of focusing on the specific limitations of one project, the minimum condition monitoring should focus on the information that fisheries managers would need in order to make management decisions, recognizing that these needs may not be met at all projects due to project-specific limitations.

Step 1 – Sample a target of 100 fish of the predominate species (however, all fish in the sample would be examined). The sample rate should never exceed 10% during periods of low passage.

The target sample size of 100 fish of the predominate species, while still examining all other fish in the sample, is similar to what is currently being done at the FCRPS projects that are part of the SMP. However, it is unclear as to why the proposal calls for a maximum sample rate of 10% during periods of low passage. Perhaps this is another example of the specific limitations at IHR. Instead of focusing on a maximum or minimum sample rate, the protocol should state that the sample rate should be set to accomplish the target sample size over the intended amount of time of the sample (see comments on Step 3 below for more detail). Project-specific limitations may exist that limit sample rates, but these specific limits should not be the focus of a protocol that may be applied across sites.

Step 2 – Sample no less than twice per week, with no more than three days between sample days. Increased frequency may be necessary at some dams (to be worked out by an FPOM task group) and during periods when injuries are being noted or suspected (e.g., high debris periods).

The proposed minimum sampling of twice per week is not sufficient, particularly since this recommendation seems to be based on one project (IHR) where existing condition data are scarce. Without frequent samples, it is difficult to know what data might be missed under a reduced sampling frequency. In a memo to the Fish Passage Advisory Committee (FPAC), the FPC outlined the impacts of infrequent sampling on managers' ability to adequately monitor the condition of juveniles passing through the FCRPS (FPC memo dated May 19, 2014). In this memo, the FPC highlighted that issues with injuries, descaling, and/or mortality are often sudden in their occurrence. Therefore, when sampling occurs less frequently than every day, these episodes may be missed until the next sample is taken, which could be up to four days under this proposal. The best insurance policy to assure that no events are being missed would be to sample daily. Anything less than daily sampling comes with a risk of missing an event. When considering a minimum frequency of sampling, the managers will have to determine the risk they are willing to accept if condition monitoring is not conducted daily.

Step 3 – Sampling should only be conducted during relatively high daily passage periods (typically after dusk). Long term holding and 24 hour sampling is not typically necessary for condition sampling and should be avoided to the extent possible.

Again, the limitation in sampling duration in this proposal seems to be specific to project limitations at IHR, where fish cannot be held for extended periods of time. Since this minimum condition monitoring protocol is intended to apply to all FCRPS sites that are not part of more intensive monitoring, these project-specific limitations should not be the standard. Instead, the duration of the sample should be set based on what information the fisheries managers need in order to make management/operational decisions, recognizing that project-specific limitations may exist that prohibit the desired minimum duration at some sites. In the May 19, 2014, memo, the FPC highlighted many issues that may exist when samples are limited to some period less than 24 hours. These issues are summarized below.

A partial sample is only representative of what passed through the bypass during the limited period of the sample and, thus, the project operations for that limited period. In addition, passage of salmonids is often diurnal, with generally larger proportions passing during early evening and nighttime hours than during daytime hours. While the proposal does suggest that samples should occur around dusk, the only way to assure that the condition sample is representative for all species passing through the project would be to conduct a 24-hour sample. Finally, issues with injuries, descaling, and/or mortality are often episodic and sudden in their occurrence. A limited duration sample has a higher likelihood of missing episodes. Conversely, it is also possible that a limited duration sample may cause an overreaction to a perceived episode. The only way to assure that the condition sample is representative for all operations and all periods over the day would be to conduct a 24-hour sample. The FPC recommends that condition samples be collected over a 24-hour period.

Step 4 – Fish condition should include, at a minimum, mortality (fresh vs old), descaling (<20% and greater than 20%, as defined by SMP criteria), other injuries such as lacerations, bruises, eye damage (bloody eye, “pop-eye”, etc.) fin damage, etc. An effort should be made to determine if the injury is old or new to the extent possible. (GBT?).

In response to a request from FPAC, the FPC worked with the COE, state and tribal fisheries managers, and NOAA to develop a standardized condition monitoring protocol at FCRPS sites that are part of the SMP. This protocol was implemented in 2009 along with a standardized condition monitoring data entry program (FPC32.net). The FPC would recommend that all FCRPS bypass facilities follow this protocol, regardless of whether they are part of the SMP or not. The FPC is more than willing to provide the FPC32.net data entry program to all non-SMP sites to ensure this protocol is followed.

GBT monitoring is a condition of the state-issued total dissolved gas waivers that the Corps of Engineers obtains in order to conduct the voluntary spill program. Therefore, GBT monitoring must remain at all FCRPS sites where it currently exists (LGR, LGS, LMN, MCN, and BON), regardless of whether these sites are part of the SMP or not. We would not recommend adding GBT monitoring at any additional FCRPS sites with JBS systems.

Step 5 – Within the next twelve hours after sampling, report sample rate, number of fish examined by species, percent and number exhibiting each malady by species and total. Online reports should be posted to the FPOM webpage (if available) and the FPC. All reports should also be sent directly to NOAA Fisheries.

We agree that the condition data from non-SMP sites should be made available to the managers and are more than willing to host these data in our current fish condition database. These data can be provided via a link posted on the FPOM webpage. Use of the FPC32.net data entry program to collect these data would facilitate this objective.

DRAFT

June 11, 2015

FILE MEMORANDUM

FROM: Gary Fredricks and Trevor Conder, NOAA Fisheries

SUBJECT: Minimum Juvenile Salmon Condition Monitoring

2016 Fish Passage guidance for minimum condition sampling as required by the 2008 Biological Opinion, RPA 53:

To be implemented at each FCRPS project with an operating juvenile bypass system during the juvenile fish passage season when no other more intensive monitoring is occurring (e.g., SMP index monitoring and fish transport monitoring):

1. Sample a target of 100 fish of the predominate species (however, all fish in the sample would be examined). The sample rate should never exceed 10% during periods of low passage.
2. Sample no less than twice per week, with no more than three days between sample days. Increased frequency may be necessary at some dams (to be worked out by an FPOM task group) and during periods when injuries are being noted or suspected (e.g., high debris periods).
3. Sampling should only be conducted during relatively high daily passage periods (typically after dusk). Long term holding and 24 hour sampling is typically not necessary for condition sampling and should be avoided to the extent possible.
4. Fish condition should include, at a minimum, mortality (fresh vs old), descaling (<20% and greater than 20%, as defined by SMP criteria), other injuries such as lacerations, bruises, eye damage (bloody eye, "pop-eye", etc.), fin damage, etc. An effort should be made to determine if the injury is old or new to the extent possible. (GBT?)
5. Within the next twelve hours after sampling, report sample rate, number of fish examined by species, percent and number exhibiting each malady by species and total. Online reports should be posted to the FPOM webpage (if available) and the FPC. All reports should also be sent directly to NOAA Fisheries.