



FISH PASSAGE CENTER

1827 NE 44th Ave., Suite 240, Portland, OR 97213

Phone: (503) 230-4099 Fax: (503) 230-7559

<http://www.fpc.org/>

e-mail us at fpcstaff@fpc.org

MEMORANDUM

TO: FPAC

Michele DeHart

FROM: Michele DeHart

DATE: June 2, 2008

RE: Fish Condition Sampling at SMP Sites: Current practices and plans for the interim and 2009 sampling seasons.

Prior to the start of the 2007 sampling season, the FPAC requested that the FPC begin reporting condition data collected at SMP sites. After review and discussion of present sampling and reporting procedures the FPC has developed an interim process for 2008 and is developing a standardized process for all of the sites for the future. The purpose of this memorandum is to advise FPAC and the remote site project leaders of our progress to date and to request a written response from the remote site project leaders regarding their implementation of the interim procedure.

The fish condition data collection has been under the control of the USACE, whose contracts with SMP crews had called for sampling fish injuries. At the start of the 2008 season the FPC set out to develop a standardized method for reporting injuries and disease data collected at various sites. Crews were surveyed and asked to attend a meeting at FPC to assist in developing a standardized reporting method. It was clear that each site collected different data and initially the FPC tried to accommodate this by gathering the diverse data and summarizing it under two broad categories; injury and disease. However, as the season got underway it became clear that this was only a temporary solution and that some level of standardization was necessary. Two problems arose with this approach to data reporting. First, some sites were tallying total injuries and as a result some fish with multiple types of injuries could be counted twice. Second, various types of maladies were being reported as disease, injury or descaling at various sites. Without a common standard it was difficult to compare reports from the sites.

The USACE recently reviewed condition sampling at the Walla Walla District sites and concluded that standardization was warranted (see attached memo from Dave Hurson,

USACE). With the cooperation of the COE and FPAC the FPC is developing a standardized method for collection and reporting of condition data for full implementation in 2009. The goal is to report data on fish condition that is comparable from site to site. However, it is still possible that crews at each site may want to collect other data than what FPC requests; FPC will not discourage that practice as long as the standardized reporting is not affected.

Prior to full implementation in 2009, some changes to current SMP fish condition reporting practices are warranted in order to achieve some level of standardization. Herein, we describe how fish condition data are currently being collected, what changes would need to be made in the interim, and what the ultimate goal is for full implementation in 2009.

Current Practices and Changes for the Interim:

The FPC has developed a sampling and reporting system for the interim period that is designed to minimize disruption of current sampling and recording procedures and minimize additional effort by the sampling site personnel. Table 1 provides information on how data are currently being collected and reported by the various SMP sites. Table 1 also lists how these current procedures will need to change in the interim in order to obtain a greater level of standardization. For your reference, a copy of the standardized spreadsheet is also attached.

Future Implementation (2009 Sampling Season)

Prior to the 2009 sampling season, the FPC will develop a touch screen data entry program that will generate a "Fish Condition" batch file that will be sent to the FPC daily for import into the FPC database for posting onto the web. LGR and MCN currently have touch screens that will need to be reprogrammed when the new data entry program is completed. LGS, LMN, JDA, and BON do not have touch screens and will each need to have one installed and programmed when new data entry program is completed. When the time comes, the FPC will assist the sites with installation and programming of the touch screens. Also, prior to implementation in 2009, the FPC will analyze fish condition data from 2008 and advise FPAC on future condition sampling protocol (i.e., sample sizes) and frequency.

Table 1. Plan of action for standardization of fish condition data collection at SMP sites in the interim (Summer 2008).

Project	Current Fish Condition Procedure	Interim Procedure
Lower Granite and McNary	<ul style="list-style-type: none"> • Currently sending fish condition data for individual fish via Excel Spreadsheet (Cumulative Data). • FPC runs macros and SQL storage procedures that import condition data from LGR and MCN Excel File into LGR and MCN specific SQL tables in FPC Database. 	<ul style="list-style-type: none"> • FPC will develop a standardized Master Fish Condition Table on the FPC database. • FPC will develop a macro allowing sites to push a single button that will take LGR and MCN data from daily Excel file (in its current form) and populate the Standardized Spreadsheet. • Standardized Spreadsheet will be sent to FPC for import into Master Fish Condition Table on FPC database.
Little Goose and Lower Monumental	<ul style="list-style-type: none"> • Currently not providing individual fish condition data. 	<ul style="list-style-type: none"> • FPC will develop a standardized Fish Condition Data Hand Log for this site that allows for recording of individual fish condition data. • FPC will develop a standardized Fish Condition Data Entry Program that will populate the Standardized Spreadsheet. • Standardized Spreadsheet will be sent to FPC for import into Master Fish Condition Table on FPC Database
John Day and Bonneville	<ul style="list-style-type: none"> • Currently sending fish condition data for individual fish via Excel Spreadsheet (Daily Data). • FPC runs macros and SQL storage procedures that import condition data from daily JDA and BON Excel File into JDA and BON specific SQL tables in FPC Database. 	<ul style="list-style-type: none"> • FPC will develop a standardized Master Fish Condition Table on the FPC database. • FPC will develop a macro allowing sites to push a single button that will take JDA and BON data from daily Excel file (in its current form) and populate the Standardized Spreadsheet. • Standardized Spreadsheet will be sent to FPC for import into Master Fish Condition Table on the FPC database.

TO: Fish Passage Center

FROM: Dave Hurson and John Bailey, Walla Walla District, Corps of Engineers

SUBJECT: Review of Smolt Monitoring Program/Transport Program Fish Injury Protocols.

1. Background. The Corps contracts with PSMFC to provide biological assistance for the Juvenile Fish Transportation Program at each of the Walla Walla District transport facilities; Lower Granite, Little Goose, Lower Monumental, and McNary dams. The contract requires PSMFC to provide a biologist (transport biologist) 8 hours per day seven days per week (56 hours per week) from late March through early October or November, depending on the project. One of the contract requirements is for the transport biologists to assist biologists from the Smolt Monitoring Program (SMP biologist) in sampling fish. PSMFC subcontracts this work to WDFW for work at Lower Granite, Lower Monumental, and McNary dams and ODFW for work at Little Goose Dam. At Lower Granite and McNary dams, there are 3 state biologists working at each dam so there is always a transport biologist working alongside a SMP program biologist when the sample is done. At Little Goose and Lower Monumental dams, there are only 2 biologists working at each dam, so about 4 days per week the only biologist on duty is the transport biologist. The remaining 3 days per week, there are 2 biologists there. This staffing level though is sufficient to meet the sampling and other requirements for both programs.

2. Common Practices. Fish at each project are sampled using similar methods. All fish are anesthetized in preanesthetic chambers in the sample holding tanks. Fish are then passed via gravity flow into handling troughs in the sample rooms where they are identified by species, clipped versus unclipped, and evaluated for descaling. All projects do what we call full sample descaling examinations using the standard criteria: a fish is descaled if it has 20% or greater descaling on one side of the fish. This descaling data is reported by both the SMP and Transport Program as descaling in daily data submissions. This descaling rate is what is primarily used by the Corps for managing facility operations for debris and other requirements.

3. From this point on, what the state biologists do in terms of evaluating fish for further maladies varies considerably from dam to dam. For instance ODFW at Little Goose examines all fish

for maladies if numbers are not too great. State biologists at the other three dams examine only a subsample of fish for maladies, like 50 to 100 of each predominant species. McNary and Lower Monumental ignore all descaling that is less than the standard criteria, while Little Goose classifies less than 20% descaling as body injuries, and Lower Granite has five subcategories for various descaling levels for the subsample. Outside of descaling conditions, projects appear to be either "lumpers" or "splitters" when dealing with other maladies with the number of different categories/conditions ranging from 19 at Lower Monumental to 30 at Lower Granite. Protocols appear to have partly evolved based on what dam some person(s) in the past worked at and then adopted those protocols to the next dam they worked at. In most cases, these persons are not involved in the programs anymore but protocols have carried on. In some cases biologist at a project just started recording data on what they have observed over time.

4. There is some commonality to the types of injuries and other maladies that are recorded, and here is sort of a combined/lumped list by category so everyone can see what is recorded. Some of the projects keep track by right side versus left side, but we don't think that really matters.

Head injuries:

- Eye
- Pop eye
- Operculum damage
- Other head injuries

Body injuries:

- Body injuries - including lacerations, abrasions, punctures, and bruises
- Fin damage (other than apparent hatchery eroded fins)

Predation marks:

- Bird bites
- Fish bites
- Lamprey marks

Diseases:

- Fungus
- Columnaris
- BKD
- Parasites
- Fin hemorrhaging
- Deformity

5. Recommendations. Descaling data should continue to be gathered using the standard descaling criteria and full sample descaling evaluations. Other non-standard descaling data can be kept on the subsample examined fish, but it should be clearly labeled as other descaling data and not injuries or combined with the standard descaling data. Other maladies examined should somewhat conform to the list above, unless there are some specific reasons to add more items or break down the categories further. Again, these other maladies are not really used for the Juvenile Fish Transportation Program, but may be of interest to the Salmon Managers and the SMP.

