
Appendix B Corps of Engineers Juvenile Fish Transportation Plan¹

1. INTRODUCTION

The Juvenile Fish Transportation Plan (JFTP) describes operations and establishes criteria for the collection and transportation of juvenile salmon and steelhead from Lower Granite, Little Goose, Lower Monumental, and McNary dams (collector dams) to release areas below Bonneville Dam. This work plan supplements normal operating criteria for the collector dams presented in the Fish Passage Plan (FPP), Sections 5, 7, 8, and 9, available online at: <http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/2012/>.

The JFTP is implemented by the Corps of Engineers' Walla Walla District (CENWW) under an Endangered Species Act (ESA) Section 10 (a)(1)(A) incidental take permit issued by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries, formerly referred to as NMFS).

On-site biological assistance is provided by fishery agencies through a contract with the Pacific States Marine Fisheries Commission (PSMFSC) and sub-contracts with Washington Department of Fish & Wildlife (WDFW) and Oregon Department of Fish & Wildlife (ODFW). On-site biological assistance is provided by WDFW at Lower Granite, Lower Monumental, and McNary dams and by ODFW at Little Goose Dam.

The transport program will be coordinated with other fishery monitoring, research, and management activities by CENWW. Coordination will be achieved with the fishery agencies and tribes through the appropriate regional forums, such as the Fish Passage Operations and Maintenance (FPOM) Coordination Team and the Technical Management Team (TMT), and with other agencies as required.

2. OBJECTIVE

The objective of CENWW and the transportation program is to transport juvenile fish when the best scientific information indicates doing so will increase adult return rates. This can be achieved by:

2.1. Providing safe and efficient collection and barge or truck transport of juvenile salmon and steelhead from collector dams to release areas below Bonneville Dam;

2.2. Identifying and recommending programs or facility changes that would benefit fish collection and transportation or bypass operations;

2.3. Assuring that collection, transport, and release site facilities are ready for operation prior to the beginning of transport operations;

¹ If any provisions herein conflict with the Corps' annual Fish Operations Plan (Appendix E), the latter shall prevail.

- 2.4. Assuring that collection, transport, and release site facilities are properly maintained throughout the transport season;
- 2.5. Establishing operating criteria for facilities, barges, and trucks including fish holding and transport densities, sampling rates, and facility operations and maintenance;
- 2.6. Coordinating changes needed to accommodate fluctuations in the outmigration with projects, NOAA Fisheries, PSMFC, FPOM, and TMT personnel;
- 2.7. Coordinating transport evaluation and other research with the transportation program;
- 2.8. Providing the training of new personnel associated with collection and transport facilities and equipment;
- 2.9. Providing all parties involved a list of emergency points of contact and appropriate telephone numbers so that any emergency can be coordinated and corrected efficiently;
- 2.10. Preparing an annual report detailing transportation activities and results for the previous year, and identifying maintenance, replacement, or modifications needed for the next transport season.

3. **PROGRAM DURATION**

3.1. Starting Operations: Consistent with the Fish Operations Plan (FOP), which is included with the Fish Passage Plan as Appendix E, and guidance provided by TMT, the juvenile fish transportation program allows for a variable start date, based on expected river flow. During years when the spring seasonal average river flows in the Snake River are expected to equal or exceed 65 kcfs, transport operations will begin between April 21 and May 1 at Lower Granite as determined by TMT. In these years, transportation will begin at Little Goose and Lower Monumental dams in a staggered fashion, with the start dates being determined at TMT. Prior to the start of transportation at a given collector project all collected fish will be bypassed directly to the river unless needed for a regionally approved study. In years when the spring seasonal average river flows are expected to be below 65 kcfs, transport operations will start on April 3 at Lower Granite, Little Goose, and Lower Monumental dams. McNary Dam will begin sampling for PIT tags, monitoring facility operations, and the Smolt Monitoring Program (SMP) on April 17. Transport operations at McNary Dam will not begin until conditions specified under paragraph 4.b. (2) in coordination and discussions with TMT are met.

3.2. Summer Transport Operations: At McNary Dam, summer operations will begin when in-river migration conditions are no longer spring-like (see 4.b.(2) below). At Lower Granite, Little Goose, and Lower Monumental dams, summer operations will begin in coordination and discussions with TMT. Fish collected during summer operations will be held in shaded raceways or holding tanks. Sampling may convert to 100% when fish numbers at Snake River projects are below 500 fish per day (per PSMFC sampling guidelines) and smaller pickup mounted transport tanks may be used. Steelhead, which state biologists determine are in poor condition or are reverting to the parr stage, may be bypassed to the river.

3.3. Ending Operations: Transport operations are anticipated to continue through approximately September 30 at Lower Monumental and McNary dams and through October 31 at Lower Granite and Little Goose dams. However, the presence of factors such as excess shad, algae, bryozoans that can clog screens and flumes may result in discontinuing transport operations at McNary before September 30.

3.4. Emergency Notification Criteria: Project Biologists will report to the CENWW Transportation Coordinator when high water temperatures or other factors increase collection mortality to 6 percent of daily collection for 3 consecutive days: if daily collection mortality exceeds 10,000 fish, and provide early notice if mortality rates are increasing at such a rate that these numbers are likely to be met. The Transportation Coordinator will evaluate the situation and shall notify NOAA Fisheries and may arrange a conference call, if needed, with TMT to discuss options to provide adequate fish protection measures. In the event of a fish loss exceeding conditions set forth in the ESA Section 10 Permit for the transportation program, the Corps shall notify NOAA Fisheries and reopen consultation as needed. If icing conditions threaten facility integrity or present unsafe conditions on the transport route, transport operations may be terminated early by the project's Operations Manager. Emergency termination or modification of the transportation program will be coordinated by the CENWW Transportation Coordinator with NOAA Fisheries and TMT.

4. OPERATING CRITERIA

4.1. Early Season, Non-Transport Operations: Prior to initiation of transport in flow years when fish are not being transported from the Snake River projects, fish collection facilities will be operated in the following manner:

4.1.1. Lower Granite: Juvenile fish will be bypassed via normal separator operations and routed to the mid-river release outfall. All juvenile fish collected will be interrogated for PIT tags and normal 24-hour sampling for the SMP shall take place.

4.1.2. Little Goose: Juvenile fish will be bypassed and routed to the mid-river release outfall and full flow PIT tag detection system. Limited sampling may take place daily from April 1 to monitor fish condition, ensure sampling systems are operating correctly prior to when transport begins, and to train personnel on facility operations and sampling protocol. Prior to initiating transportation, full 24 hour samples may be taken to determine species composition to help inform a decision to initiate transportation at this project.

4.1.3. Lower Monumental: Juvenile fish will be bypassed and routed to the primary bypass outfall and full flow PIT tag detection system. Limited sampling may take place daily from April 1 to monitor fish condition, ensure sampling systems are operating correctly prior to when transport begins, and to train personnel on facility operations and sampling protocol. Prior to initiating transportation, full 24 hour samples may be taken to determine species composition to help inform a decision to initiate transportation at this project.

4.2. Collection and Transportation: Juvenile fish shall be transported in accordance with the ESA Section 10 permit, the Updated Proposed Action prepared under ESA Section 7 consultation with NOAA Fisheries, and transportation program criteria. During transport

operations, collected juvenile fish will be bypassed back to the river if the number of collected fish exceeds or is expected to exceed the facility and barge holding capacities. Holding for transportation will resume when adequate capacities are available to hold and transport fish according to transportation program criteria. Maximum holding time and loading criteria will not be exceeded without CENWW review and approval. Marked or PIT tagged fish will be released to the river if they are part of an approved research study or smolt monitoring program travel time evaluation. Specifics of the transportation program may be altered during the transportation season based on recommendations from the TMT.

4.2.1. Lower Granite, Little Goose, and Lower Monumental: All juvenile fish collected, with the exception of those marked for in-river studies, shall be transported once transport operations begin (paragraph 3.a.). The default dates for fish collection and barging operations to begin are April 6 during low flow years (first barge departs April 8) and on April 21 in higher flow years (first barge departs April 22 or 23), continuing through approximately August 15 of each year.

4.2.2. McNary: Fish collected during the spring shall be bypassed back to the river either through the main bypass pipe and full flow PIT tag detection system or through the transportation facilities in order to collect fish for research, fish condition information, and to obtain PIT tag data. The preferred operation when not collecting spring fish for research is full flow bypass to the river. Full flow bypass may be alternated with every other day bypass through the transportation facilities to allow sampling of fish under the SMP. Transportation operations at McNary Dam will be adjusted if the projected seasonal average flows at McNary Dam are greater than 125 kcfs, juvenile fish will be bypassed to the river at McNary Dam from April 10 through July 14. The Corps will adaptively manage starting July 15 through July 30. (2008 Biological Opinion Table – RPA 30, Table 4). The term “adaptive” in this table refers to a transition between (Spill and Bypass) and (Spill and Transport). The decision for each option would be made based on RM&E and in-season data in coordination and discussions with TMT. Transportation operations may be adjusted for research purposes, due to conditions at the collection facilities, or as a result of the adaptive management process (to better match juvenile outmigration timing and/or to achieve or maintain performance standards). If new information indicates that modifying or eliminating transportation operations at McNary Dam is warranted, adaptive management will be used to make appropriate adjustments. In August (spill and transport) and September (transport and no voluntary spill), transportation operations will occur. Transportation of juvenile fish from McNary will be via barges through August 16. After August 16, trucks will be used for transporting juvenile fish from McNary on an every-other-day basis through September 30, 2009. When transport operations begin, fish will be collected and held for transportation with all fish collected being transported, with the exception of those marked for in-river studies. During the spring, juvenile fish may be periodically sampled for the SMP and for monitoring facility operations.

4.3. Peak Migration Periods: For the purpose of transport operations, the peak migration period is defined as beginning when total collection at an individual project reaches 20,000 fish per day (actual peak days may range from 250,000 to 1,000,000 fish per day). Fish will be transported by truck from April 3 through April 6 during low runoff years when early collected fish are transported. Peak migration generally occurs between April 15 and June 10 at Lower Granite,

Little Goose, Lower Monumental, and McNary dams. At McNary Dam, a summer peak of subyearling chinook salmon also occurs from late June through mid-August with a smaller peak occurring during this time period at Snake River projects.

4.4. Collection Facility Operations:

4.4.1. Once transport operations begin, collection facilities will be staffed 24 hours per day until transport operations cease.

4.4.2. Flows and fish passage at juvenile fish separators will be monitored at least every 15 minutes throughout separator operations.

4.4.3. When collection systems are not providing safe fish passage or meeting operating criteria, project operations managers and biologists will make operational changes that are in the best interests of the fish, then notify CENWW as soon as possible. The CENWW Transportation Coordinator will coordinate changes with NOAA Fisheries and TMT.

4.4.4. Fish collection numbers at Lower Granite, Little Goose, and Lower Monumental dams may exceed facility and barge capacities for short periods of time. This is most likely to happen during low flow years when the project is not spilling. During low flow years when there is no spill, CENWW will coordinate with RCC at the beginning of the transport season for permission to spill if a facility appears to be exceeding its carrying capacity. During low flow years, if it appears that holding capacity may be exceeded on a given day, the project biologist shall immediately inform CENWW. The project biologist will report the hourly fish collection numbers, barge arrival time or holding capabilities, along with facility descaling and mortality information. The CENWW Transportation Coordinator shall promptly coordinate this information with RCC and NOAA Fisheries. Spill through the RSW/spillway at the affected project may be requested if it appears that holding capacity will be exceeded or fish condition information indicates that spill passage is a better passage route than bypassing through the facility. If it is determined that the best course of action is to spill, spill operations shall begin prior to the facility reaching its holding capacity (around when the eighth of 10 raceways is filled). Spill may continue until holding capacity becomes available or fish condition improves.

4.4.5. To avoid attracting predatory birds, mortalities should be returned to the river at night if deemed necessary by the project biologist.

4.4.6. At Little Goose, Lower Monumental, and McNary dams, lamprey-friendly tailscreens will be installed for the entire fish collection season. Fishery staff at these projects have never observed salmon fry being impinged on these screens. At Lower Granite Dam, lamprey-friendly tailscreens will be installed as needed at the discretion of Project Biologists based on the presence of lamprey in the raceways, while considering the risk of impingement of salmon fry on the lamprey friendly tailscreens. Project biologists will switch back to salmon-criteria screens at the first sign of impingement of salmon fry on the lamprey-friendly tailscreens or when there are fry observed in the sample. The salmon-criteria screens will be left in place until salmon fry are no longer present in the sample.

4.4.1. Juvenile lamprey are sometimes found in dewatered raceways after truck/barge loading operations. If debris is not a problem, lamprey should be promptly and safely flushed or otherwise returned to the river. If debris is a problem, and when practicable, lamprey should be removed by hand and put in a container with water and later returned to the river.

4.5. Sampling Procedures:

4.5.1. When sampling is being conducted, it will normally be accomplished in accordance with smolt monitoring program sampling guidelines recommended by the PSMFC. Sampling guidelines may occasionally be altered if transportation program or fish research activities require it. Normal alterations of sampling guidelines are to adjust the number of fish sampled to meet approved research needs, to minimize the handling of fish during warm water temperature periods, or to meet deadlines for loading fish transport vehicles.

4.5.2. Fish that are sampled will be counted by electronic counting tunnels and the counts verified and adjusted by hand counts. All fish number estimates, raceway, truck, and barge loading densities and rates will be based on a sample of fish collected. Samples will be taken hourly 24 hours per day. Sample rates will be coordinated with SMP personnel and set by project biologists.

4.5.3. Species composition and weight samples will be taken to determine loading densities for raceways, barges, and trucks. Project personnel will keep a running total of hourly estimates of fish numbers, raceway totals, and direct loading totals for barges based on these estimates. Daily samples for monitoring descaling will include a minimum of 100 fish of the dominant group(s) for which descaling information is recorded. During periods of low fish passage, descaling will be monitored daily for facility operations. Full sample descaling may be conducted instead of 100 fish subsamples as long as it does not impact other facility operations. During extended transport operations (after August 15 at Snake River projects), samples may be evaluated every other day to minimize handling stress and to allow all collected fish to be held in the sample holding tanks.

4.5.4. Where SMP activities are conducted at collector dams, project biologists may utilize daily total information gathered by those personnel.

4.6. Loading Criteria:

4.6.1. Raceways: Maximum raceway holding capacity will be 0.5 lbs. of fish per gallon of water. Inflow to raceways is approximately 1,200 gallons per minute (gpm) at Lower Granite and Little Goose dams, and 2,400 gpm at Lower Monumental and McNary dams. Individual raceway volume is approximately 12,000 gallons of water at Lower Granite and Little Goose, and 24,000 gallons at Lower Monumental and McNary. The 0.5 pounds per gallon criterion is not to be exceeded without CENWW review and approval. Such decisions will be coordinated with NOAA Fisheries and TMT and a joint decision whether to exceed criteria or bypass fish to the river will be made based on:

- species composition;
- total anticipated collection during the critical holding period;
- in-river fish passage conditions; and

- fish condition.
- Project biologists will provide information to the CENWW Transportation Coordinator upon which to base these decisions.

4.6.2. Distribution Among Raceways: Collected fish should be spread among raceways to minimize crowding and stress, and to reduce the risk of disease transmission. Additional groups should be added to each raceway at the discretion of the project biologist until holding capacity is reached. Whenever possible, small fish will be held in raceways separate from large fish.

4.6.3. Holding Time: Maximum holding time in raceways will be 2 days. An exception to this criterion is instances when additional holding time is needed to collect sufficient fish for tagging to conduct research studies.

4.6.4. Truck and Barge Capacities: Loading criteria are 5 pounds of fish per gpm inflow for barges and 0.5 pounds of fish per gallon of water for trucks. Capacities per transport vehicle are shown in Table B-1.

Table B- 1. Juvenile Fish Transportation Program Transport Vehicle Capacity.

Transport Vehicle	Capacity (gal)	Inflow(gpm)	Fish Capacity (lbs)
Barge 2127 - "SOCKEYE"	85,000	4,600	23,000
Barge 2817 - "BLUEBACK"	85,000	4,600	23,000
Barge 4382 - "STEELHEAD"	100,000	10,000	50,000
Barge 4394 - "COHO"	100,000	10,000	50,000
Barge 8105 - "CHINOOK"	150,000	15,000	75,000
Barge 8106 - "KING SALMON"	150,000	15,000	75,000
Barge 8107	150,000	15,000	75,000
Barge 8108	150,000	15,000	75,000
Truck	3,500	n/a	1,750
Truck - Midi-tank	300	n/a	150
Truck - Mini-tank	150	n/a	75

4.7. Summer Transport Operations:

4.7.1. During the summer, all fish collected at the projects will be routed to the raceways with the most effective shading for holding. Sampling efforts should be minimized, if possible, to limit handling stress on fish. Facility samples may be processed every other day if possible.

4.7.2. At Snake River projects, all collected fish may be routed to the sample tanks when fish numbers drop to an acceptable handling level. At that time all fish collected will be handled

as part of the daily sample per smolt monitoring program sampling guidelines. To minimize handling stress, facility samples may be processed every other day. When large trucks are used, fish may be loaded from either the raceways or labs. When mini or midi-tankers are used, Corps and agency project biologists will select the best method of transferring fish from the lab to the tankers.

4.8. During summer months from June 15–August 31 at McNary Dam water temperatures will be measured along the face of the powerhouse, in B-slot gatewells, and within the collection channel on a daily basis. These temperature measurements will be used for management of project operations per criteria contained in the Fish Passage Plan. During warm water periods, collected fish may be transported by truck or barge on a daily basis to minimize stress and mortality from warm water conditions. Other special operations may be required at McNary Dam during summer months to minimize impacts of project operations on juvenile fish collection during warm water temperature periods (see **Fish Passage Plan, section 4.1., Turbine Unit Loading**).

4.8.1. During the summer trucking season, if fish collection numbers begin increasing to where it appears the project will have difficulty transporting the fish with available equipment, the project shall notify the CENWW Transportation Coordinator immediately. The Transportation Coordinator will arrange for an additional transport vehicle if possible or prioritize transport/bypass operations between the projects.

4.8.2. When water temperatures are above 68⁰F, all personnel handling fish shall take extra care to minimize stress and other impacts on fish.

4.8.3. If a temperature gradient between the forebay and the gatewells or the gatewells and the collection channel is observed in real time or predicted from temperature modeling at McNary exceeds 6⁰F; collection mortality increases to 6 percent of daily collection for any 3 days in a rolling 5 day period; or the mortality is increasing at such a rate that these mortality numbers are likely to be met, the project will immediately alter turbine operations to reduce mortality and temperature where possible.

4.8.4. If turbine operations are already optimized for temperature and collection mortality increases to 6 percent of daily collection for any 3 days in a rolling 5 day period, or if daily collection mortality exceeds 10,000 fish, then additional spill may be provided so long as the spill levels do not exceed the gas cap. Transportation will be shifted to everyday, if possible, to reduce holding of fish in raceways. If everyday transport is not possible, redirect fish to the outfall instead of the raceways. Emergency operations will be implemented by RCC and coordinated with an emergency conference call with TMT.

4.9. Facility and Equipment Logbooks and Records: To document collection and transportation activities, the following items will be logged at each dam by either project personnel or state biologists:

4.10. Juvenile Fish Facilities: Records will be maintained recording fish counts by hour, by day, and by species, numbers and species of fish trucked or barged, number and species of fish sampled, descaling rates, and mortality rates. Records will be transmitted daily to CENWW for

consolidation and transmittal to CENWD. Facility personnel will follow standard operating procedures (SOP's), and will note in facility logbooks accomplishment of SOP's at various stations at the collection facilities. General observations of fish condition and juvenile fish passage will be documented in facility logbooks by state biologists.

4.11. Truck and Barge Logbooks: Each truck and barge shall have a logbook for recording fish loading rates, fish condition, estimated mortalities, area of release, equipment malfunctions, and accomplishment of scheduled work under the SOPs. When consecutive loading of trucks or barges occurs at downstream projects, truck drivers or barge riders will record numbers and condition of fish loaded. Towboat captains will keep logbooks on towboat activities. Barge riders will be authorized as inspectors by the Contracting Officer's Representative to initial entries noting towboat passage, loading, or fish release activities, and comments on barging operations. State biologists will report truck and barge mortality information in their weekly reports.

4.12. Weekly Reports: State biologists shall prepare weekly reports documenting daily and weekly collection and transportation numbers, sampling information, facility and sampling mortality, descaling rates, and adult fallbacks. The weekly reports will be used by CENWW for any weekly reports required in the ESA Section 10 permit issued by NOAA Fisheries. State biologists shall distribute the weekly reports to other regionally interested parties as directed by the CENWW Transportation Coordinator.

5. TRANSPORT OPERATIONS

5.1. Truck Operations: Eight 3,500-gallon fish transport trailers and four tractors, three 300-gallon midi-tanks, and three 150-gallon mini-tanks are available for hauling fish. One midi-tank and one mini-tank will be provided at each Snake River collector project. Mini- and midi-tanks are small units that can be mounted onto pickup trucks. Normally during the early spring trucking, transport trucks/trailers will be distributed two at Lower Granite Dam, one at Little Goose Dam, one at Lower Monumental Dam. During late summer trucking, one truck/trailer will be stationed at each dam. Spare trailers will be kept at McNary Dam. Trucks may be redistributed to meet transport demands and when smaller transport vehicles begin operating in late summer.

5.1.1. Truck Release Sites: The normal early spring release site for trucked fish will be a truck pad behind the Bonneville Dam Smolt Monitoring Facility (SMF). Fish released from the truck pad pass through the SMF outfall into the Columbia River. From August 15 through the end of the transport season, trucks, midi-tanks and mini-tanks will also release fish into the Bonneville SMF outfall flume. Dalton Point will be utilized as an alternate release site in the case of an emergency or if unsafe conditions exist at the Bonneville facility.

5.1.2. Operation of Truck Life Support Systems: Truck drivers will be trained by project biologists and maintenance personnel on the operation of truck life support systems, the requirements of fish to be met, and signs of stress for which to watch. Routine checks will be made on support systems and fish condition at check points identified by project biologists. Life support system data and information on fish condition will be entered into the truck

driver's logbook at each check point and at the release point. The truck driver's logbook will be reviewed by the project biologist upon the truck driver's return after each trip.

5.1.3. Truck Loading Schedules: If required to maintain transport schedules at the Snake River projects, transport trucks, midi-tanks, and mini-tanks leaving Lower Granite may take on additional fish at Little Goose Dam, or trucks leaving Little Goose may take on additional fish at Lower Monumental Dam. Loading schedules will be coordinated so that fish will be kept separated by size as much as possible.

5.2. Barge Operations: Eight fish barges and four towboats will be available for use.

5.2.1. Barge Scheduling: Barges with 75,000 pound capacity will operate from Lower Granite Dam. It takes approximately 79 hours to make a trip from Lower Granite Dam to the release area near the Skamania light buoy below Bonneville Dam and return. One barge will leave Lower Granite Dam every-other-day beginning on about the second day after the initiation of collection. The FOP (Appendix E) specifies the date collection will start for transportation in coordination and discussion with TMT. When fish numbers increase, barging operations will switch to one barge leaving Lower Granite daily. When fish numbers decline in late spring, operations will change back to every-other-day barging from Lower Granite Dam, with barging operations continuing through August 15. During spring operations, barges will take on additional fish at Little Goose, and Lower Monumental dams as barge capacity allows. The two medium and two small barges may also be used from Lower Granite Dam for additional barging capacity or they will be used for direct loading of fish at Little Goose Dam. When daily collection exceeds barge capacity, juvenile fish may be spilled per 4.d.(4) above or will be bypassed to the river until collection numbers drop to where juvenile fish can be barged within barge carrying capacity criteria. During the summer, barges traveling from the Snake River projects may stop at McNary Dam to load fish collected there. Barging from McNary Dam may continue after Snake River barging ceases, past August 15, on an every-other-day basis if fish numbers warrant it. Summer barge operations at McNary after August 15 will continue while collection exceeds 3,500 pounds of fish per day (the capacity of two trucks) or trends indicate numbers will exceed the 3,500 pound trigger number.

5.2.2. Barge Loading: Whenever possible, small and large fish will be loaded in separate compartments in barges.

5.2.3. Barge Riders: Project barge riders will accompany each barge trip, supervising all loading and release operations, and barge operations en-route. Barge riders will be trained on barge operation, maintenance, and emergency procedures by project biologists and maintenance personnel. Barge riders will also be cross-trained in facility operations, and may rotate with facility operators as decided by project management. Barge riders shall be responsible for monitoring fish condition, barge equipment operations, and water quality (temperature and dissolved oxygen levels) at regular intervals during downriver trips. Barge riders shall maintain logbooks and forms recording loading activities and times, loading densities by barge compartment, information on equipment operations, and release locations. Standard operational procedure forms shall be filled out during routine monitoring of equipment operation and shall include fish mortality and water quality data. At each

subsequent dam where fish are loaded onto the barge, the barge rider shall make appropriate notations in the logbook and/or appropriate form. The barge rider shall also serve as an inspector for the towboat contract, and record information required by the Contracting Officer's Representative, and shall initial the towboat captain's logbook confirming operational information and lockage times. Any unresolved differences between barge riders and towboat crews shall be reported immediately to the Contracting Officer's Representative.

5.2.4. Barge Release Area: The barge schedule is based on releasing fish between river miles 138 and 141 with arrival at that point pre-determined to occur during nighttime hours to minimize predation impacts. As a reference point, Bonneville Dam is at RM 146. Barge travel time is affected by weather and river flows. Each towboat will be assigned a designated river mile for fish releases to ensure fish are not released in the same area on consecutive trips. Lower Granite project biologists will furnish maps of the release site and clearly designate the assigned river mile for fish release on each trip. As warranted, barge riders may randomly select a barge release site between river miles 138 and 141 to further decrease the ability of predators to prey on fish released from the barge. The alternate release site should be coordinated with the Lower Granite project biologist, if possible.

5.2.5. Barge Lockage Priority: During the fish barging season, April 8 to August 18, fish barges as Government vessels should be provided priority lockage over commercial and recreational traffic when locking through navigation locks, per 33 CFR 207.718(f). However, safety will not be compromised during lockages.

6. EMERGENCY PROCEDURES

6.1. Emergency procedures will be followed at any time an emergency occurs, 24 hours per day, 7 days per week during the transport season. Emergencies will be reported to the CENWW Transportation Coordinator as soon as possible.

6.2. In the event of an emergency (equipment failure at a facility or on a truck or barge, emergency lock outage, chemical spill in the river, etc.), facility workers, truck drivers, and barge riders will be expected to take immediate appropriate actions to protect fish. If time allows, the worker, driver, or rider should consult with his/her supervisor by phone or radio to jointly make emergency decisions. If time does not allow consultation, the worker, driver, or rider must take appropriate action on his/her own initiative, then report to his/her supervisor as soon as possible after the action has been completed.

6.3. A complete listing of persons to be notified in case of emergencies and their business and home telephone numbers will be provided to each person involved in the transport program. Facility operators, truck drivers, and barge riders will be trained on emergency notification procedures by project biologists and CENWW. For the purpose of reporting an emergency, the person involved will immediately notify his/her supervisor, or the next person up the line until the emergency has been properly reported and corrective action has been initiated. In addition to telephone reporting, barge riders will report emergencies by the towboat radio to the nearest Corps dam. The operator on duty will relay the message to the person or persons identified by the barge rider.

7. FISHERY AGENCY ROLES

- 7.1.** The fishery agencies provide biological assistance at transportation dams. CENWW contracts for state fish biologists to work at each collector facility.
- 7.2.** Contracts specify that state agency personnel at collector dams accomplish specific tasks for the Corps, including:
- 7.3.** Reviewing or conducting handling, inspection, and recording of data from fish sampled at the collection facility;
- 7.4.** Evaluating and recording fish condition, and recommending operational changes or inspection of facilities if fish condition indicates a problem;
- 7.5.** Providing hand counts of sampled fish, assisting the project biologist in adjusting electronic fish counts, checking hourly and daily fish counts for accuracy, and coordinating facility counts with counts of PSMFC Smolt Monitoring Program personnel where appropriate;
- 7.6.** Conducting quality control inspections of collection facilities and transport equipment including visits to other collection facilities when work schedules can be so arranged;
- 7.7.** Monitoring the effects of smolt monitoring and research projects on fish condition and transportation activities and reporting impacts, including numbers of fish handled for research purposes and the disposition of those fish, to the project biologist;
- 7.8.** Participating in gateway dipping as required to monitor fish condition;
- 7.9.** Preparing weekly reports summarizing fish numbers and transport activities, and;
- 7.10.** Preparing accurate text and tabular data in the correct format for project annual reports.

8. DISSEMINATION OF INFORMATION

8.1. Daily Reports: Project biologists or agency biologists at each collector dam will be responsible for entering all pertinent information into the computer database and for transmitting daily reports to CENWW. Weekday information will be transmitted by 1500 hours on the day collected. Weekend information will be transmitted to CENWW by 1200 hours on the following Monday.

8.2. Weekly Reports: Agency biologists will provide weekly reports detailing fish collection and transportation numbers, descaling estimates, and facility and transportation mortality estimates. The reports will also contain a narrative on project activities and compliance with operating criteria. If research or smolt monitoring activities are occurring at the project, the weekly reports will include information on the number of fish sampled and sacrificed also. Agency biologists shall provide the reports to interested parties within the region.

9. REQUIREMENTS FOR FISHERY AGENCY ACTIVITIES AND RESEARCH

9.1. Coordination: Agencies and tribes expecting to work at Corps dams will provide early coordination including work proposals, evidence of approval by CBFWA, copies of ESA permits, and project needs and requirements through written correspondence to the Chief, Operations Division, of CENWW, and shall not start work until written approval has been received. The Corps also expects the PSMFC to coordinate Smolt Monitoring Program sampling guidelines with the Corps on annually.

9.2. Protocol: To maintain good working relationships and safe working conditions, fishery agencies, tribes, and research organizations will be required to follow courtesy, security, and safety protocols as follows:

9.3. Have agency picture identification and present it to project security on arrival;

9.4. Check in with the Operations Manager upon first arrival at the project to receive information on who will be the project point of contact, and what courtesy and safety requirements must be followed;

9.5. Notify the point of contact whenever arriving or departing from the project so they will know where personnel will be working and when they will be on the project;

9.6. Adhere to project clearance, safety, security, and work procedures, including preparing an Activity Hazard Analysis as specified in the Corps Safety Manual, 385-1-1.;

9.7. Notify the Operations Manager or his/her representative of unscheduled or non-routine work and activities, and;

9.8. Notify the point of contact of expected guests or changes in personnel and assure that these individuals are aware of safety and work procedures.