

Protocols for Adult Fish Trapping Operations Ice Harbor Dam

1. **General.** Personnel conducting research at the adult fish trapping facility at Ice Harbor Dam will implement the following protocols. These protocols were coordinated with fisheries agencies and tribes through the Fish Passage Operations and Maintenance Coordination Team (FPOM).
2. **Administrative requirements.** All researchers and managers working at the facility will adhere to the following requirements.
 - a. The facility will not be operated unless there is an approved Corps-funded research project that requires its use, or the user has a letter from the Corps that permits use of the facility. Users not funded by the Corps should request permission to use the trap by sending a letter to: Chief, Operations Division, U.S. Army Corps of Engineers, 201 North Third Avenue, Walla Walla, WA 99362. Appropriate authorizations from the relevant federal and state fishery agencies, as indicated in paragraph b below, should be included with the letter. Upon approval of the user's request, the Corps will provide copies of the user's letter and authorizations to the Corps' project biologist at Ice Harbor Dam.
 - b. Users must have the proper federal authorization (e.g. ESA Section 10 permit) from the U.S. Fish and Wildlife Service and/or NOAA Fisheries if their activity may or will affect listed species, as well as any required state authorization from the Washington Department of Fish and Wildlife for listed or unlisted species. **Note: If federal or state fishery agency requirements are more restrictive than the following protocols, users must follow the fishery agency requirements.**
 - c. Hard hats will be worn if so required by the Corps' Operations Manager at Ice Harbor (509-543-3256).
 - d. Long pants are to be worn at all times.
 - e. Steel-toed shoes or steel-toed rubber boots are to be worn at all times.
 - f. Notification Required For Work During Regular Business Hours (Monday through Thursday, 0630 to 1700 hours). Users will notify the project biologist when they arrive on site and when they depart (509-543-3208). If users supply the project biologist with a season schedule, it will not be necessary to notify project biologist upon arrival and departure.
 - g. Notification Required For Work During All Other Hours (Monday through Thursday, 1700 to 0630 hours, or anytime from Friday through Sunday). If users are on site during times other than regular business hours, specific notification procedures must be worked out with the Operations Manager at Ice Harbor in advance. Users may be required to contact the control room (509-543-3231) upon arrival and departure.
 - h. Users must present a safety plan to the project biologist, who can provide guidance for developing the plan.

3. **Trapping protocols during the fish passage season (March 1 through December 15) when fish ladder water temperatures are less than 70°F.** Since the trap is operated manually, personnel conducting research are required to be present at the facility to divert desired fish.
 - a. The trap will be tested for proper operation before trapping begins. After each day's use the trap will be promptly removed from the water by suspending it in its guides, or by completely removing it from the fish ladder.
 - b. Trapping operations can take place between 0600 and 1200 hours, for up to 4 hours per day or until the designated number of desired fish are obtained, whichever occurs first. During the summer months, the period from 0600 to 1000 hours is preferred. The trap shall not be in the water for more than 4 hours.
 - c. Netting of fish is not recommended. If transfer of fish is necessary, fish should stay in water at all times through the use of a water-filled bag, sanctuary net, or other means. The device used should be large enough to safely handle the largest fish.
 - d. Non-target fish will be released to the ladder.
 - e. **Oxygen levels** in fish handling tanks will be maintained at saturation by replacing the water and providing aeration as necessary.
 - f. **Water temperatures** in fish handling tanks will be maintained within 2°F of the fish ladder water temperature but less than 70°F.
 - g. Personnel shall sample fish as quickly as possible. It should require no longer than 25 minutes to transition the fish from entry into the anesthetic tank to release back into the ladder or transportation tank.
 - h. Fish must be adequately recovered from anesthetization prior to the next step in the handling process, whether placed in the ladder or transported.

4. **Trapping protocols during the fish passage season (March 1 through December 15) when fish ladder water temperatures are 70°F to 72°F.** The trap may be operated when water temperatures are within the range of 70°F to 72°F, provided that researchers closely adhere to the restrictions below. **Trapping operations will not be allowed, and trapping must cease immediately, if fish ladder water temperatures exceed 72°F.** Due to the narrow temperature range involved, researchers must use reliable digital thermometers.
 - a. Researchers must notify the Corps project biologist in advance when trapping is to occur in this temperature range. The project biologist will occasionally monitor trapping operations.
 - b. The trap will be tested for proper operation before trapping begins. After each day's use the trap will be promptly removed from the water by suspending it in its guides, or by completely removing it from the fish ladder.
 - c. Trapping operations can take place between 0600 and 1200 hours, for up to 4 hours per day or until the designated number of desired fish are obtained, whichever occurs first. During the summer months, the period from 0600 to 1000 hours is preferred. The trap shall not be in the water for more than 4 hours.
 - d. Trapping operations may take place up to 4 days per week.

- e. Netting of fish is not recommended. If transfer of fish is necessary, fish should stay in water at all times through the use of a water-filled bag, sanctuary net, or other means. The device used should be large enough to safely handle the largest fish.
- f. Non-target fish will be released to ladder.
- g. **Oxygen levels** in fish handling tanks will be maintained at saturation by replacing the water and providing aeration as necessary.
- h. **Water temperature** in the anesthetic tank will be maintained 1-2°F lower than the ladder water temperature. If ice is used, the ice should be from river water or from an un-chlorinated water source. If practical, water temperature in the recovery tank should also be maintained 1-2°F lower than the ladder water temperature; otherwise flow-through water should be running continuously.
- i. Personnel shall sample fish as quickly as possible. It should require no longer than 25 minutes to transition the fish from entry into the anesthetic tank to release back into the ladder or transportation tank.
- j. Fish must be adequately recovered from anesthetization prior to the next step in the handling process, whether placed in the ladder or transported.

Protocols for Adult Fish Trapping Operations Lower Granite Dam

1. **General.** Personnel conducting research at the adult fish trapping facility at Lower Granite Dam will implement the following protocols. These protocols were coordinated with fisheries agencies and tribes through the Fish Passage Operations and Maintenance Coordination Team (FPOM).

2. **Administrative requirements.** NOAA Fisheries is the primary user of the facility and employs personnel that are permanently based there. These and all other researchers and managers working at the facility will adhere to the following requirements.
 - a. The facility will not be operated unless there is an approved Corps-funded research project that requires its use, or the user has a letter from the Corps that permits use of the facility. Users not funded by the Corps should request permission to use the trap by sending a letter to: Chief, Operations Division, U.S. Army Corps of Engineers, 201 North Third Avenue, Walla Walla, WA 99362. Appropriate authorizations from the relevant federal and state fishery agencies, as indicated in paragraph b below, should be included with the letter. Upon approval of the user's request, the Corps will provide copies of the user's letter and authorizations to the Corps' project biologist at Lower Granite Dam.
 - b. Users must have the proper federal authorization (e.g. ESA Section 10 permit) from the U.S. Fish and Wildlife Service and/or NOAA Fisheries if their activity may or will affect listed species, as well as any required state authorization from the Washington Department of Fish and Wildlife for listed or unlisted species. **Note: If federal or state fishery agency requirements are more restrictive than the following protocols, users must follow the fishery agency requirements.**
 - c. Hard hats will be worn if so required by the Corps' Operations Manager at Lower Granite (509-843-1493 x258).
 - d. Long pants are to be worn at all times.
 - e. Steel-toed shoes or steel-toed rubber boots are to be worn at all times.
 - f. Notification Required For Work During Regular Business Hours (Monday through Thursday, 0630 to 1700 hours). Users will notify the project biologist when they arrive on site and when they depart (509-843-1493 x263 or x264). If users supply the project biologist with a season schedule, it will not be necessary to notify project biologist upon arrival and departure.
 - g. Notification Required For Work During All Other Hours (Monday through Thursday, 1700 to 0630 hours, or anytime from Friday through Sunday). If users are on site during times other than regular business hours, specific notification procedures must be worked out with the Operations Manager at Lower Granite in advance. Users may be required to contact the control room (509-843-1493 x231) upon arrival and departure.

- h. Users must present a safety plan to the project biologist, who can provide guidance for developing the plan.
3. **Trapping protocols during the fish passage season (March 1 through December 15) when fish ladder water temperatures are less than 70°F.** During the years just prior to 2003 the trap was operated automatically, 24 hours per day, during much of the fish passage season. Personnel conducting research during this time were therefore not always required to be present at the facility to divert desired fish. Automatic operation and the temporary absence of on-site personnel can continue as required. However, PIT tag detectors were installed in the upper end of the fish ladder in early 2003. As a result, the new detectors will collect PIT tag data normally collected at the trap. It is therefore anticipated that trap operation will be minimized in future years.
- a. During lengthy periods of non-use (two days or more), the facility shall be dewatered or the water supply will be shut down. Since the facility obtains water from the fish ladder, this action will avoid out-of-criteria water flows in the ladder. If freezing weather may cause damage during such a non-use period, the facility will be dewatered.
 - b. There will be no time-of-day restrictions for trapping operations.
 - c. Adult fish generally do not need to be netted due to the layout of the facility. Netting of fish is not recommended. If transfer of fish is necessary, fish should stay in water at all times through the use of a water-filled bag, sanctuary net, or other means. The device used should be large enough to safely handle the largest fish.
 - d. Non-target fish will be released to the return pool.
 - e. There will be no more than 12 adult salmonids allowed in the anesthetic tank at any one time. This assumes that users can effectively track the length of time fish stay in the anesthetic tank.
 - f. There will be no more than 12 adult salmonids allowed in the recovery tank at any one time.
 - g. **Oxygen levels** in fish handling tanks will be maintained at saturation by replacing the water and providing aeration as necessary.
 - h. **Water temperatures** in fish handling tanks will be maintained within 2°F of the fish ladder water temperature but less than 70°F.
 - i. Personnel shall sample fish as quickly as possible. It should require no longer than 25 minutes to transition the fish from entry into the anesthetic tank to release back into the return ladder or transportation tank.
 - j. Fish must be adequately recovered from anesthetization prior to the next step in the handling process, whether placed in the return ladder or transported. In the case of the return ladder, full recovery is not desirable because fish may jump onto a grating.
 - k. Fish must be released or transported from the trap within four days.
 - l. Researchers and managers conducting studies or obtaining broodstock are responsible for ensuring the wellbeing of their fish at all times. Twenty-four hour monitoring by personnel on-site is advised but not required.

- 4. Trapping protocols during the fish passage season (March 1 through December 15) when fish ladder water temperatures are 70°F to 72°F.** The trap may be operated when water temperatures are within the range of 70°F to 72°F, provided that researchers closely adhere to the restrictions below. **Trapping operations will not be allowed, and trapping must cease immediately, if fish ladder water temperatures exceed 72°F.** Due to the narrow temperature range involved, researchers must use reliable digital thermometers.
- a. Researchers must notify the Corps project biologist in advance when trapping is to occur in this temperature range. The project biologist will occasionally monitor trapping operations.
 - b. During lengthy periods of non-use (two days or more), the facility shall be dewatered or the water supply will be shut down. Since the facility obtains water from the fish ladder, this action will avoid out-of-criteria water flows in the ladder.
 - c. Trapping operations can take place between 0600 and 1200 hours, for up to 4 hours per day or until the designated number of desired fish are obtained, whichever occurs first. During the summer months, the period from 0600 to 1000 hours is preferred.
 - d. Trapping operations may take place up to 4 days per week.
 - e. Adult fish generally do not need to be netted due to the layout of the facility. Netting of fish is not recommended. If transfer of fish is necessary, fish should stay in water at all times through the use of a water-filled bag, sanctuary net, or other means. The device used should be large enough to safely handle the largest fish.
 - f. Non-target fish will be released to the return pool.
 - g. There will be no more than 3 adult salmonids allowed in the anesthetic tank at any one time. This assumes that users can effectively track the length of time fish stay in the anesthetic tank.
 - h. There will be no more than 3 adult salmonids allowed in the recovery tank at any one time.
 - i. **Oxygen levels** in fish handling tanks will be maintained at saturation by replacing the water and providing aeration as necessary.
 - j. **Water temperature** in the anesthetic tank will be maintained 1-2°F lower than the ladder water temperature. If ice is used, the ice should be from river water or from an un-chlorinated water source. If practical, water temperature in the recovery tank should also be maintained 1-2°F lower than the ladder water temperature; otherwise flow-through water should be running continuously.
 - k. Personnel shall sample fish as quickly as possible. It should require no longer than 25 minutes to transition the fish from entry into the anesthetic tank to release back into the return ladder or transportation tank.
 - l. Fish must be adequately recovered from anesthetization prior to the next step in the handling process, whether placed in the return ladder or transported. In the case of the return ladder, full recovery is not desirable because fish may jump onto a grating.

- m.** Fish must be released or transported from the holding tanks as soon as possible, preferably by 1000 hours the following day but no later than 1700 hours the following day. This provision applies to all situations but mostly involves fish held for hatchery broodstock.
- n.** Researchers and managers conducting studies or obtaining broodstock are responsible for ensuring the wellbeing of their fish at all times. Twenty-four hour monitoring by personnel on-site is advised but not required.