

**Protocols for Juvenile Monitoring Facility Operations  
Bonneville Dam**

1. **General.** The following protocols will be implemented by agencies conducting research in the Bonneville Dam Powerhouse Two Juvenile Monitoring Facility (JMF). These protocols were coordinated with fish agencies and tribes through the Fish Passage Operation and Maintenance Coordination Team (FPOM). The purpose of these protocols is to provide precautionary measures to limit delayed mortality resulting from stress when handling fish.
  - 1.1. Sample rates should not exceed 25% unless collecting fish for research when temperatures are less than 70°F.
  - 1.2. Personnel conducting research or monitoring must be present at the facility to monitor the separator bars for debris and stranded fish.
  - 1.3. The Corps reserves the right to terminate trapping operations at any time.
  - 1.4. Project Biologists will use the Corps temperature probe reading as the official temperature. Temperatures are taken in the general holding tank and are both instantaneous readings and 0000 to 2400 daily averages.
  
2. **General requirements for JMF users.** All personnel conducting research or monitoring in the JMF will implement the following requirements.
  - 2.1 Users must have appropriate documentation for conducting research at the dam. (See *Guide for Researchers at Bonneville Dam*).
  - 2.2 Users must have valid state and federal permits that cover all listed species passing the project during the trapping period and users shall comply with all fish handling conditions in the permit. **Note: If permit conditions are more restrictive than the following protocols, users must follow permit conditions.**
  - 2.3 JMF personnel will be trained in the proper operation of the Juvenile Monitoring Facility to insure fish and personnel safety. Users may request training through the Project Biologists.
  - 2.4 Hard hats are to be worn outside at all times.
  - 2.5 Long pants or raingear are to be worn at all times. Shorts will not be permitted in the lab.
  - 2.6 Steel-toed shoes or rubber boots are to be worn at all times. No tennis shoes or sandals will be permitted.
  - 2.7 If users supply project biologists with a season schedule, it will not be necessary to notify project biologists upon arrival and departure.
  - 2.8 Users may coordinate with smolt monitoring personnel regarding sample rates.
  - 2.9 Users are permitted to routinely operate flushing valves, fish lifts, and release pipes/valves within the monitoring building.
  - 2.10 Any modifications to the building or equipment will first be approved by Bonneville Project through Project Fisheries.
  - 2.11 All anesthetic water is to empty into the sewage lift station after running through the activated charcoal filters.
  - 2.12 Project Biologists will operate the upper switchgate at the start and end of each season. Users may operate the upper switchgate as necessary when separator bar monitoring is not available.
  - 2.13 The lower switchgate is in automatic control. Users will monitor and report to Project biologists any problems with the lower switchgate.



**4.10.** If the SMP and Project Fisheries biologists suspect a bypass system problem during a high temp sampling period, additional sample collection may occur. FPOM will be notified ASAP and provided with updates as problem resolution attempts proceed.

**5. Operation in bypass mode, or when PDS monitors are not present.**

- 5.1. The upper switchgate will be in bypass mode.
- 5.2. The Emergency fish release valve will be open.
- 5.3. All rotating gates will be set to bypass.
- 5.4. The bypass flume gate will be raised.
- 5.5. Project Biologists will inspect the facility daily.

**6. System failures**

- 6.1. Any system failure or abnormality will be reported to a project biologist immediately. If a project biologist is unavailable, the control room will be contacted at ext. 2221 or 2222.
- 6.2. If a high or low water situation occurs in the PDS area-
  - 6.2.1. Contact the control room immediately.
  - 6.2.2. Switch the upper switchgate to bypass mode until the problem is corrected.
  - 6.2.3. Immediately open the emergency fish release valve
  - 6.2.4. Raise bypass flume gate. **DO NOT ADJUST ANY WEIRS.**
- 6.3. If a monitoring facility failure occurs,
  - 6.3.1. Open the emergency fish release valve.
  - 6.3.2. Switch the upper switchgate to bypass mode until the problem is corrected.
  - 6.3.3. Raise the bypass flume gate.
  - 6.3.4. Begin fish salvage operations.
- 6.4. If a lower switchgate failure occurs that results in releasing to the wrong high or low outfall and repairs can not be made within 24 hours, the special operation will be coordinated through FPOM.
- 6.5. If a problem with either the 2 way or 3 way rotating gates (e.g. stuck open or partially open) is discovered, the response protocol should be as follows:
  - 6.5.1. Switch the upper switchgate to bypass.
  - 6.5.2. Open the emergency fish release valve.
  - 6.5.3. Turn off the air to the rotating gate and manually rotate the half-round pipe section to the bypass position.
  - 6.5.4. Inspect the affected areas for stranded fish and return them to the flume. **Dead fish should be held in a bucket for processing by research personnel.**
  - 6.5.5. Contact the project biologist, or if that is not possible, the control room operator. Project personnel will request maintenance crews. Repairs should commence within 4 hours of discovering the problem.
  - 6.5.6. Once all fish safety issues have been addressed and repair requests made, the problem should be thoroughly documented in writing and that information e-mailed to Project biologists prior to sending to other interested parties.