

Select Area Fisheries Enhancement (SAFE) Program

Mitigation Action Plan
Bonneville Power Administration
DOE/EA-2277

SUMMARY

This Mitigation Action Plan is for the Select Area Fisheries Enhancement (SAFE) Program and includes all of the integral elements and commitments made in the environmental assessment (EA) and the 2025 National Marine Fisheries Service (NMFS) Biological Opinion (WCRO-2025-00274) to mitigate potential adverse environmental impacts.

Bonneville and the fishery co-managers (Clatsop County Fisheries, Oregon Department of Fish and Wildlife, and Washington Department of Fish and Wildlife) are responsible for implementing the mitigation measures during SAFE Program operations. Relevant portions of this Mitigation Action Plan will be included in the implementation contracts, which will obligate the fishery co-managers to implement the mitigation measures that relate to their responsibilities.

If you have any general questions about the project, contact the Project Manager Tracey Hauser: toll-free telephone 800-622-4519 direct telephone 503-230-4519, or tlhauser@bpa.gov

If you have questions about the mitigation action plan, contact the Bonneville lead for the environmental review, Dan Gambetta: toll-free telephone 800-622-4519 direct telephone 503-230-3493, or e-mail dagambetta@bpa.gov.

This mitigation action plan may be amended if revisions are needed due to new information or if there are project adjustments.

MITIGATION MEASURES

The following mitigation measures would be implemented by the fishery co-managers during net pen operations at all SAFE sites.

1. **Feed Management** – Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of growth.
2. **Waste Handling** – Collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope and netting.
3. **Transport/Harvest Controls** – Minimize discharges (e.g., blood, viscera, carcasses) during fish transport and harvest; dispose offsite.
4. **Carcass Removal** – Remove mortalities promptly and dispose of them to prevent water quality impacts.
5. **Material Storage** – Store chemicals, feed, and equipment to prevent spills; maintain spill containment and cleanup supplies.
6. **Facility Maintenance** – Inspect regularly and repair as needed; keep all systems in working order.

7. **Recordkeeping** – Document feed amounts and estimates of the numbers and weights of aquatic animals to calculate feed conversion ratios, and must keep records of net changes, inspections, and repairs.
8. **Training** – Ensure staff are trained on Best Management Practices (BMPs) regarding spill response and pollution prevention.
9. **IHOT Guidelines** - Follow Integrated Hatchery Operations Team (IHOT), Pacific Northwest Fish Health Protection Committee (PNFHPC), and state or tribal guidelines for fish health inspections along with disinfection procedures are implemented during incubation that prevents pathogen transmission between stocks of fish on site.

The following mitigation measures would be implemented by the fishery co-managers during net pen operations to avoid adverse effects to water quality.

1. **Water Quality Sampling** – Collect upstream/downstream samples for turbidity, dissolved oxygen, and biochemical oxygen demand during rearing periods.
2. **Production Data** – Record monthly feed amounts, fish production (lbs), fish size (fish/lb), and total fish numbers.
3. **Reporting** – Submit discharge monitoring reports (DMRs) as required; immediately report violations.
4. **Solid Waste Control Plan** – Maintain a plan covering collection, storage, and disposal of feed waste, mortalities, and debris.
5. **O&M Manual** – Maintain and review annually to ensure compliance with permit requirements.
6. **Annual Summary** – Provide annual reports summarizing production, monitoring, and BMP implementation.

The following mitigation measures would be implemented by the fishery co-managers during net pen operations and are required by NMFS for ESA-listed species protection.

1. **Production Caps** – Do not exceed authorized smolt production levels per species, as authorized by the 2025 NMFS Biological Opinion.
2. **Juvenile Quality Standards** – Rear high-quality smolts; implement vaccination and health monitoring programs.
3. **Release Timing** – Schedule releases to promote rapid migration and reduce interaction with wild stocks.
4. **Disease Monitoring** – Conduct daily mortality checks, monthly health inspections, and disease diagnostics as needed.
5. **Stray Rate Management** – Monitor and manage hatchery-origin fish on natural spawning grounds; maintain Proportion of Hatchery-Origin Spawners (pHOS) at the lowest feasible levels.
6. **Habitat Protection** – Maintain adequate depth, flow, and containment to prevent escapement.
7. **Isolation from Native Populations** - Geographically isolate net pen sites from ESA-listed fish rearing habitat.