

## Appendix 5: Rapid Response Actions

### **Rapid Response Hydro Actions**

The 2008 BiOp provides a systematic approach to achieving dam passage performance standards at the mainstem dams, with accountability for specific survival results. Species response to spill, bypass and transport varies from dam to dam therefore the RPA is structured to apply the most effective operation at each dam factoring in species migration timing. To improve fish survival and meet BiOp performance standards and metrics (e.g. 96% dam survival for spring migrants, etc.), the RPA spill, bypass, and transport operations at mainstem Snake and Columbia River projects are adaptively managed annually based on results of biological studies. These results are discussed and operations modified in collaboration with sovereign representatives to ensure targets are being met based on the best available scientific information.

In 2009, spill and transport operations under the adaptive management provisions of the 2008 BiOp were modified to continue spill for two weeks in May at the Snake River collector projects as a result of an ISAB recommendation and agreement with RIOG. This was done for one year despite concern about adverse affects on Snake River steelhead. The adult return information will be reviewed in fall 2009 to determine future years' operation based on the best available science.

The RPA also requires the use of Configuration and Operational Plans (COPS) to describe existing dam configuration and operations, and identify additional dam improvements needed to achieve the performance standards. These plans are based on the best available scientific information in collaboration with sovereign representatives. Following installation and testing of planned fish passage features dam passage survival will be evaluated to determine if performance standards are being met. In the event performance standards are not being met, Phase II contingency actions will be discussed and implemented as long term contingency actions. Phase II measures may include, for example, additional surface passage and other juvenile passage improvements. In addition to the 2008 RPA provisions, the Fish Accords include "no backsliding" metrics for forebay delay and spill passage efficiency.

If a Significant Decline trigger is tripped, the Action Agencies and NOAA Fisheries, in collaboration with RIOG and appropriate technical groups (hydro coordination team), will review the current status of the biological research at the dams and discuss where additional project survival benefits could be gained in relation to the specific species in question. This will include assessing whether there are potential spill and/or transport operational adjustments that could be made to address the problem contributing to the decline or the condition affecting survival, in order to maximize additional survival benefits.

This discussion will inform the spill and transport operations the Action Agencies will implement. If triggered, this rapid response could call for short-term changes in spill operations that would exceed the dam passage performance standard, or transport changes. This rapid

response goes further than what is described as the current activity in that it would make changes intended to exceed the performance standard.

The planned testing of dam passage improvements currently anticipated in the 2008 BiOp will include assessment of the SPE and forebay delay to ensure “no-backsliding” occurs consistent with the Fish Accords. The assessment will also consider adult passage, water quality, and other potential environmental effects. This information will be useful in the event a rapid response is triggered to ensure an informed quick response operation will not degrade other environmental conditions. If the new operation has not been previously tested, the operation being implemented would likely require a test program to confirm the operation is producing the expected increased survival.

## **1. Predation Management Rapid Response Actions**

The 2008 RPA identified specific actions that will be undertaken with respect to avian, piscivorous fish, and sea lions to reduce the take on juvenile and adult listed salmon and steelhead. The following delineates the specific measures being taken and related Rapid response Actions.

### ***Sea Lions***

The 2008 RPA calls for the Corps to install and improve as needed Sea Lion Excluder Devices in the fishways at Bonneville annually. It also requires support for hazing actions by NOAA Fisheries, Tribes, and the States of Oregon, Washington, and Idaho. The 2008 BiOp assumed the continuing impact of pinnipeds at the Bonneville tailrace to be approximately 3% for spring Chinook and 7.6% for winter run steelhead. The removal action initiated in 2008 and 2009 should further reduce pinniped take on adult salmon and steelhead.

### ***Avian Predation***

The current RPA identifies both on the ground actions as well as RM&E to reduce the impact of avian predators on listed juvenile salmon and steelhead (RPA Actions 45, 46, 47, and 48). Several of the avian predation actions are underway. The 2008 RPA calls for reducing tern habitat in the estuary consistent with the EIS on Caspian Terns. The EIS considered creation of new habitat outside of the Columbia River which will allow for reduction in tern habitat in the estuary from 6 acres to 1.5 to 2.0 acres. The result of this action will likely reduce terns to approximately 2,500 to 3,125 breeding pairs.

The 2008 RPA requires additional actions on double-crested cormorants (RPA 46 and 47).

Cormorant numbers have been increasing in recent years with a corresponding significant take on juvenile salmon and steelhead. Information is currently being gathered to allow for the development of alternative actions to reduce cormorant predation both in the estuary and inland areas. With respect to cormorant take on listed salmon and steelhead, the 2008 BiOp analysis

was based on maintaining the current level of take. Further actions on cormorants will require coordination with partners and NEPA documentation which will identify future potential actions. Cormorant management issues must be coordinated with other partners to avoid causing resource conflicts elsewhere.

The 2008 RPA 48 requires the Corps to continue to implement and improve avian deterrent programs at all lower Snake and Columbia River dams. Gulls and other avian scavengers and predators feed in the near vicinity of spillways and juvenile bypass outlets to feed on moribund and passing juvenile salmon and steelhead as well as other fish species. Wire arrays are also in place at all dams to reduce avian predation in the immediate tailrace areas. They are effective in reducing avian activity where they are in place. Avian hazing at McNary and Lower Snake River dam currently occurs from 1 April through 1 July, up to eight hours per day at each dam. Activity is land based using pyrotechnics.

Rapid Response efforts will include increasing hazing at projects. These measures will use boats to carry out hazing efforts, increase the hours conducted per day, and the season will be extended through July. Additionally, increasing the coverage of wire arrays at dams will increase juvenile survival by limiting gull and tern access to juvenile salmonids that are rolled to the surface or disoriented below the dams. Lethal measures may also be employed if authorized under permit after all non-lethal measures have been exhausted.

### ***Pikeminnow Sport Reward Fishery***

BPA and the Corps of Engineers are committed to the ongoing implementation of the enhanced Northern Pikeminnow Management Program (NPMP), as articulated in RPA Action 43. This commitment includes a general increase in the reward structure of the sport-reward fishery and an evaluation of the effectiveness of focused removals (dam angling) at lower Columbia FCRPS projects. The Action Agencies will work with Pacific States Marine Fisheries Commission, Oregon Department of Fish and Wildlife, WDFW, and USDA (Animal Damage Control (Dam Angling)) to ensure full implementation of this program.

The current NPMP deploys USDA employees to conduct dam angling in forebay and tailrace areas at two FCRPS projects. Increasing the dam angling effort at more FCRPS projects as a Rapid Response Action will increase the overall catch to contribute to the program's exploitation rate and potentially improve within year dam passage survival of outmigration juvenile salmon. There is also a small increased benefit of removals at the dam relative to the general public fishery because pikeminnow removed from these areas tend to be larger and therefore able to consume more juvenile salmonids. The proposal would increase the dam angling program from one crew to three crews with the mobility and flexibility to fish all eight mainstem dams.

## **2. Rapid Response Harvest Actions**

### ***Terminal Fisheries***

Terminal fisheries generally refer to those that occur in areas above Lower Granite Dam on the Snake River and McNary Dam on the upper Columbia River. These are managed by the states and tribes and are outside of the scope of the current *United States v. Oregon* Agreement.

Terminal fisheries are generally directed at hatchery-origin fish, are often mark-selective and located in place and time to target hatchery fish, and are highly responsive, in terms of harvest limits to changes in abundance. There is, nonetheless, some incidental catch of natural-origin fish. The level of harvest that may occur when abundance is very low will be population specific depending on the location of remaining fisheries. Impacts in terminal fisheries will be on the order of 0% to 2%.

If a Significant Decline trigger is tripped, all terminal fisheries that affect the populations or species of concern would be reviewed to assess whether existing harvest management provisions provide protection appropriate for the circumstances. Changes to existing terminal fishery regulations can be targeted to the populations, MPGs, or species of concern. NOAA Fisheries can affect these changes through its ESA authority working with states and tribes.

### ***United States v Oregon Fisheries***

*United States v. Oregon* refers to a settlement agreement between five tribes, three states, and the federal government. The agreement establishes rules for managing harvest and hatchery production in the Columbia Basin in areas above Bonneville Dam. The agreement is a stipulated order and operates under the continuing jurisdiction of the federal court. The *United States v. Oregon* agreement and all its provisions is integral to the 2008 BiOp, and cannot be changed unilaterally in any detail without substantive consultation and agreement with the affected parties.

Fisheries under the jurisdiction of the *United States v. Oregon* Agreement generally occur in the mainstem Columbia River from the river mouth up to McNary Dam. Upper Columbia River spring Chinook and Snake River spring/summer Chinook are caught these in spring season fisheries. Under the current abundance based management framework, harvest rates vary between 5.5% and 17%. At the lowest level of abundance, fisheries are scaled back under the agreement to 5% to provide limited opportunity for tribal ceremonial and subsistence fisheries.

All Snake River fall Chinook harvest in the Columbia River occurs in fall season fisheries that are subject to the *United States v. Oregon* agreement with an abundance-based harvest rate schedule. Under the current schedule harvest rates on SR fall Chinook vary between 21.5% and 45%. At the lowest level of abundance on the sliding scale, fisheries for fall Chinook are allocated 1.5% to the non-Treaty fishery and 20% to the Treaty fishery.

Most of the harvest of upriver steelhead in the Columbia River occurs in fall season fisheries subject to the *United States v. Oregon* agreement (additional harvest occurs in terminal fisheries as discussed above). Under the agreement, non-Treaty fall season fisheries are subject to a 2% mortality limit for steelhead. Treaty Indian fisheries are subject to an abundance based harvest rate, which ranges from 13% to 20% for “B-run” steelhead a component of the Snake River steelhead DPS. Harvest rates on “A-run” steelhead that return to the Upper Columbia River DPS and parts of the Snake River are lower, generally less than 10%.

Harvest rates on Snake River sockeye are limited to 1% in non-Treaty fisheries and 5% to 7% in Treaty fisheries.

If a Significant Decline Trigger is tripped, NOAA Fisheries will invoke Section I.B.8 of the *United States v. Oregon* agreement that allows any party to seek modification of the agreement. NOAA Fisheries will use the procedural provisions to seek the consensus necessary to modify the agreement. Under the agreement if the performance measure of any indicator stock declines for three consecutive years, any party may request that an analysis of the decline be conducted. The analysis must be completed within one year. After review of the analysis, the parties may make recommendations to modify the agreement.

### ***Ocean Fisheries***

Of the seven species considered here Snake River fall Chinook is the only one caught in ocean fisheries (i.e. in Alaska, Canada, and off the Washington/Oregon coast). Ocean fisheries are subject to provisions of the Pacific Salmon Treaty (PST); fisheries off of Washington/Oregon are also subject to regulation through the PFMC and NOAA Fisheries. Roughly half of all harvest impacts to Snake River fall Chinook occur in ocean fisheries.

If the Significant Decline Trigger is tripped for Snake River fall Chinook, NOAA Fisheries will engage the U.S. v Oregon parties as described above, take action to reduce harvest in U.S. ocean fisheries, and seek to negotiate further reductions in Canadian fisheries through emergency provisions of the PST agreement.

### **3. Rapid Response Safety Net Hatchery Actions**

By December 2011, the Action Agencies and NOAA Fisheries in consultation with the RIOG will develop Rapid Response Contingency Plans for each species of the interior Columbia basin. These plans will include mitigation actions that will immediately enhance fish survival and for which the needed regulatory process is already largely in place. If triggered, actions will be implemented relatively quickly and provide immediate survival benefits. Most, if not all contingencies included in the Rapid Response Plans are intended to be temporary in nature.

The following are immediate actions that should be taken to prepare for using hatcheries as a safety net.

- Determine whether any additional safety net programs are needed. Because there are already numerous programs designed to conserve and propagate listed salmon species in the Columbia River Basin there may be at most a limited need for expansion of the existing programs. Hatchery propagation entails risks as well as benefits to listed species, so for species with numerous populations there are both genetic and ecological reasons to “spread the risk” by identifying some populations that would remain free of supplementation under all circumstances.
- NOAA Fisheries, the Action Agencies and the co-managers will develop a Plan of Action (POA) for using safety net hatcheries as part of the rapid response plan, to include the following:
  1. Identity of the species or population that has reached the “trigger” for use of a safety net program.
  2. Action, location, anticipated production needs and goals, monitoring plan, funding authority, cost estimate and risk assessment.
  3. Approval of the safety-net conservation action by NOAA, state and tribal authorities.
  4. Annual reporting requirements
  5. Adaptive management plan

If necessary, the Rapid Response Plan could call for either (1) the reactivation of closed hatchery facilities (central and/or satellite) as safety-net hatcheries and/or (2) retro-fit of existing safety-net hatcheries in order to supplement and/or enhance fish production capabilities.