

Criteria to consider for providing spill or terminating spill at Lower Snake River below average runoff volume years.

There was a good deal of discussion in the Regional Forum Process (April 2, 2003 TMT meeting and April 3, 2003 IT meeting) regarding whether spill should be provided this year at the Lower Snake River projects. The discussion focused on Action 40 of NOAA Fisheries 2000 Biological Opinion of the FCRPS which reads:

The Corps shall continue to transport all non-research juvenile salmonids collected at the Snake river collector projects. The Corps and BPA shall continue to implement voluntary spill at all three Snake river collector projects when seasonal average flows are projected to meet or exceed 85 kcfs.

The narrative in the BiOp expanding on this action states: "If new information shows that survival through inriver migration, including returning fish to the river, is beneficial, these data will be reviewed and discussed during the annual planning process. In particular, BPA and the Corps, working with NMFS through the annual planning process, have to consider the scientific basis for the 85-kcfs voluntary spill trigger. Any resulting changes in the annual transport operations will be formalized through the consultation framework or a similar process."

The original basis for the less than 85 kcfs figure was that it represented the low end of the range of the sliding scale of the Snake River's seasonal flow objectives. It assumed a substantial benefit would be provided by transporting fish relative to leaving them inriver when flows were less than 85 kcfs. However, the uncertainty that 85 kcfs was the figure at which this "substantial" benefit would accrue is reflected in the narrative statement of the need, "to consider the scientific basis for the 85 trigger". The current information available from transportation research does not support or refute a definitive flow breakpoint.

Given existing information and a water year which was projected to be very close to the 85 kcfs seasonal average this year, NOAA Fisheries believes the following considerations should be weighed in deciding whether to provide spill or maximize fish collection and transportation.

1. The trend in the water supply forecast. Has it been steady, increasing, or decreasing? If the water supply demonstrates a decreasing trend across months and runoff forecasts are continually being adjusted downward, a decision to maximize transport would likely be favored.

Conversely, if the water supply forecasts are increasing through the season and forecasts are steady or increasing, a balance between transportation and inriver passage would be favored.

2. The trend in runoff. If the runoff came early in the season (March/early April) due to a rain on snow event, and the migration season would likely experience a trend of flows below 85 kcfs and decreasing through the migration season, a decision to maximize transport would be favored.
3. Environmental conditions. If river temperatures remain favorable for inriver passage, a balance between inriver and transportation would be favored. Laboratory information suggests that steelhead may revert to parr if they are exposed to water temperatures in excess 12.5C for about 20 days.
4. Fish condition. If fish arriving at the collector projects are showing signs of poor condition or a loss of condition factor at a rate disproportional to prior years, an emphasis on transportation should be considered.
5. Species composition. The mix of all species that would be affected by the decision should be considered. While some species and life stages may benefit from a maximum transportation decision at particular times in the season, that decision may have an adverse affect on other species.
6. Status of information. Studies are underway that should provide additional information on this issue. Transport study conditions in 2002 were very similar to flow conditions being experienced this year. Although this information will not be available this year, it will be used in decisions of this nature in future years.