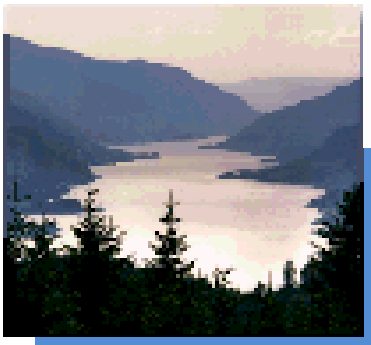

Northwest RiverPartners
For salmon, our economy and quality of life

Current Reflections

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What Would Hamlet Do in a Low-Water Year?

To barge or not to barge, that is the question. At least it is for young salmon and steelhead that will be heading downstream to the ocean this year through the federal hydro system. If you asked Judge Redden, based on his courtroom comments and letters, he appears to favor keeping the fish in-river and spilling water at the dams to move them downstream. However, a recent NOAA Science Center review of two decade's worth of data finds that transporting fish results in higher adult returns for most stocks versus letting them fend for themselves in the river.

Barging fish is one of many ways to move young fish through the hydro system. Spilling water (and fish) through the dams and increasing river flows can also be useful tools. Fish use a number of other passage routes, too. They can pass through turbines, the least desirable route; through specially constructed bypass systems; over "fish slides" (removable spillway weirs) installed at the dams; or through conventional spillway gates. Fortunately, in most cases between 76 and 99 percent of the fish take non-turbine routes.

To barge or not to barge is a particularly critical question this year. All signs suggest we are heading into a very low water year, which can be tough on fish. With the 2008 Biological Opinion still tied up in Judge Redden's courtroom – for at least another three months and well into spring hydro operations – the issue of how to best move fish downstream will be the subject of much debate.

Should the system be operated according to the 2008 Biological Opinion and best science, which calls for maximizing the transport of young fish in low-flow years? Or will there be another roll-over of court-ordered operations that calls for spill through the dams until late May, putting fish in harm's way and reducing numbers of returning adults in the future?

NOAA Science Center's recent review of fish transportation data from 1988 through 2008 indicates that, in most cases, fish riding in the barges had significantly higher rates of adult returns compared to fish kept in-river. Letting fish migrate in-river can work well early in the migration season, when river flows are higher and water is cooler. Barging fish later in the season and in low-water years however protects them from predators, high temperatures, and low flows.

Until the 2008 Biological Opinion, the region took a "spread-the-risk" approach in which fish transportation and in-river migration were used equally. That made sense when the data was too sparse to guide a decision. However, the latest review by the NOAA Science Center backs up the approach in the 2008 Biological Opinion.

As in 2001, a particularly bad water year, barging as many fish as possible could be a life-saver this year, with low-water conditions taking shape in the Columbia and Snake rivers. The runoff forecast for the Columbia at The Dalles is only 71 percent of average and things are worse in the Snake at 62 percent.

And, based on NOAA's analysis of "rolling over" river operations last year, there could be significant impacts on Chinook and steelhead survival if 2008 Biological Opinion operations are not implemented and spill is continued into May. NOAA's scientists found that if flows in the Snake averaged between 65-80 kcfs, survival would be 14 percent lower for Snake River steelhead and 3 percent lower for Chinook than if the Biological Opinion were followed.

At RiverPartners we don't know what Hamlet would do, but our vote is to follow the best science we have right now and move forward with the 2008 Biological Opinion hydro operations. The modeling and science behind the BiOp – the "best available science" the court keeps emphasizing – as well as more recent NOAA research, continues to bear this out. We shouldn't just be talking about the BiOp in a courtroom; we should be implementing it to help the fish!

Quick Links:
NOAA Transport Study Executive Summary *NOAA PowerPoint Analysis of Transport Study*

Terry Flores is Executive Director of Northwest River Partners, an alliance of farmers, utilities, ports and businesses that promote the economic and environmental benefits of the Columbia and Snake Rivers, and salmon recovery policies, based on sound science.

For more information, please visit www.nwriverpartners.org.