

Responses to Representative Austerman's questions from 2/1/11 DCF overview in HFSH

Question 1: What's the story with Karluk sockeye escapements and goals?

1. The early run has been below the escapement goal the last three years (2008 thru 2010). The late run has exceeded the lower bound of the escapement goal in five of the last six years.
 - a. Note 1: The department is tracking some lake productivity indicators; we believe that the declines were likely caused (or aided) by overescapements seven to twelve years ago, and that we are seeing signs of recovery in the lake.
 - b. Note 2: The department is forecasting more fish in 2011 than in 2010, with a 90% chance that the early run will exceed the escapement goal. (Caveat: Forecasts on Karluk are especially challenging; there are relatively few sibling relationships, as well as uncertainties associated with run reconstructions.)
 - c. Note 3: Last year's late-run harvest estimate was 49,000 fish.

Question 2: Smolt monitoring is critical to escapement estimates; why isn't the department requesting funds to monitor smolts on "all" (or "every"?) system? Instead, budget requests in question don't appear to request any funding for smolts.

1. There are very good reasons to monitor smolts; at least three have immediate, direct applicability to management (see #2 below). However, smolt monitoring is not a silver bullet for escapement counting; if there is a silver bullet for escapement counts in the KMA, it is technology to count adults, such as a weir or sonar. In difficult fiscal climates, that's why the department tends to prioritize requests for weirs and/or sonar, at the expense of smolt monitoring. As an example, Westward Research requested a DIDSON (sonar) as its highest priority in the current CIP, with intent to use this for improved escapement monitoring. (Westward is the only DCF region without a DIDSON.)
2. That said, smolt monitoring has been done for decades because it:
 - a. Provides data to help develop quality escapement goals, which are the backbone of our management strategy.
 - b. In some cases, is the best tool we have for forecasting adult returns.
 - c. Allows us to partition mortality into freshwater and marine, thereby helping understand the reasons for a stock that is struggling.
 - d. We've aggressively sought funding to beef up smolt monitoring, and were just awarded project funding (AKSSF) to monitor Karluk sockeye smolts for the next three years.
3. In a perfect world, we probably wouldn't monitor smolts on every system; rather, we'd target particular species and systems, with an emphasis on doing a few of these "indicator stocks" very well.

4. Many of the datasets in Westward Region are so robust that a new smolt project likely wouldn't provide data improvement for existing goals.
5. A couple of more Westward Region escapement goal factoids:
 - In 2010, KMA salmon escapements were below the goals for four of the twenty-three stocks:
 - Karluk Chinook and early-run sockeye.
 - American and Olds river coho (DSF stocks that are not managed inseason).

Question 4: What is the status of processing samples for achieving completion of the genetic baseline?

Chinook salmon: We have just completed publication of an analysis of 170 populations from Russia to California (95 from Alaska). This represents more than 80% of our collections, but we have ongoing projects to sample Chinook in various regions (Copper River, Cook Inlet, Nushagak River, Yukon River, and Norton Sound). We have good representation of the major spawning groups, but more work is needed to improve our knowledge and estimates on a finer scale. This baseline is being used for bycatch studies by NOAA and in various Alaska fisheries (Yukon, SE Alaska, Kenai River).

Chum salmon: We have just completed publication of an analysis of populations from Russia to Washington. This baseline is undergoing a major analysis as part of WASSIP, but at the end (3 months from now), we will have 230 populations. We have good representation of the major spawning groups, but more work is needed to improve our estimates on a finer scale and to develop applications. This baseline is expected to be used for bycatch as well.

Sockeye salmon: We have completed analysis of 375 populations from Cape Suckling to Seward Peninsula for use in WASSIP. Another 100+ from Southeast Alaska and British Columbia are completed in the lab, but have not been incorporated. More work is needed to develop the baseline for use in Pacific Salmon Treaty fisheries, and the inclusion of 30 Russian populations will enable work in the Bering Sea and Gulf of Alaska.

Coho and pink salmon: Initial work on baselines has been started, but a lot more work is necessary before we can do much with these species. Funding is currently unavailable for this work, but we have begun to submit proposals for funding. Work on both these species, but especially pink salmon, will help in the fundamental analyses necessary for addressing aquaculture issues.