

RC 008

Individual Comment on Proposal 209

Herring have been until now managed solely as a commercial species. The only consideration given to health of the stock is whether a spawning stock contains enough to harvest and, then, how many to harvest. This is all that ADF&G will take into account because commercially, any ecological impact of harvest or of management methods is irrelevant.

Consequently, herring management operates in a scientific vacuum: of the twenty or so spawning stocks in Southeast, why are all but one static at low biomass or declining? No one knows. Why is the Sitka stock increasing steadily? No one knows. I've heard from ADF&G personnel three theories, all mutually incompatible. Why should one stock grow while the others remain moribund? No one knows. What is the minimum size of a stock to permit harvest while still having it grow? No one knows. The technique of management in this case is trial and error, with error resulting in suppressed biomass. Can spawning stocks expand to populate adjoining areas? No one knows, because the moment a stock shows an increase it gets fished hard. Were there more and larger spawning stocks in the past historically or prehistorically? ADF&G will not consider this question because it has no application to the commercial take of herring.

Herring are far too valuable a forage fish to be treated as a casual target for opportunistic harvest. They serve as the basis for inshore salmon fisheries. They have as much as four times the trophic value that other forage species provide. There is no doubt whatsoever that they are, in the words of an ADF&G report on Prince William Sound stocks, the most important species of forage fish in Alaska. It is time that herring be removed from the commercial straitjacket and given management on ecological principles. One outstanding benefit might be the eventual proliferation and spread of spawning stocks beyond the pockets they are now permitted to occupy. Is this a realistic hope? We won't find out if the only approach to herring management is to harvest them commercially at the first chance.

To make possible a more comprehensive and scientifically respectable management regime, herring should be placed under 5 AAC 39.212 (f) as the tenth species of forage fish protected by default from exploitation. Well-conceived commercial fisheries could continue because the herring management plan, or the parts of it that are scientifically justifiable, would be included by reference under (d). Making this improvement to fisheries management would at a minimum bring Alaska into conformity with the rest of the world in recognizing the ecologically "critical role" played by herring. It would also avoid pointless confusion in dealing with federal agencies that actually do view herring as forage fish.

Placing herring under ecologically-driven management as a forage species will supply the versatility to adapt management to changes in temperature and ocean conditions and to changes in predator numbers and types. It will do this because assessing the size and trajectory of the stocks could be done in a more realistic analysis than whether a fishable biomass exists. ADF&G would be permitted finally to look ahead in time at the environmental influences that, as ADF&G

concedes, are the prime controllers of stock size. Ocean acidification, for instance, may function as a tipping point in quickly reducing herring stocks; it may induce a slow, prolonged decline; it may have no effect at all; or it may be a promoter of herring stocks. As usual, we don't know. More to the point, ADF&G is not allowed even to think about the question because under present rules it is bound to commercial concerns. Even more crucially, ADF&G is not allowed to introduce a factor into its models of abundance to represent change over time.

Numerous spawning stocks of herring in Southeast have been locked into a cycle of bare replacement for a long time and not fished. Some, like the Ka-shakes, have historic record and cultural importance that describe in detail the lost abundance. Why don't these stocks rebound? If they are left alone that is supposed to happen. Placing herring under ecological management rather than narrow commercial guidelines would at least allow ADF&G to consider methods of restoring the stocks without being compelled to harvest them as soon as numbers increase. Proper research into minimum sustainable spawning biomass requirements would receive the interest and possibly the funding it deserves. As a side effect, though it may take some time, increased commercial harvest opportunities should develop.

A 2014 paper in Nature analyses and dates fish bones in middens in Southeast left by indigenous peoples. Herring bones are by far the most common and are found in many locations nowhere near present spawning stocks. Does this mean herring occurred at all these sites simultaneously? Not necessarily. It does, however, indicate strongly that Southeast is far from its carrying capacity with respect to herring and that native accounts of herring abundance, ignored by ADF&G because they aren't represented by modern numbers, have validity. Without a restrictive commercial orientation, herring management might extend itself to restoring the full range of herring incidence, if not abundance, with attendant benefits for all the other fisheries that rely on forage fish.

A 2015 Pew Foundation report on forage fish worldwide concludes that as a rule of thumb, forage fish are more than twice as valuable in support of dependent, upper trophic level fisheries as they are in direct forage fish fisheries. Shifting management of herring from being a commercial target to being a foundational resource in its own right will accommodate both objectives.

I urge the Board of Fish to approve and put into effect Proposal 209.

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