

Defending Reality

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Are we professional fisheries scientists collectively guilty of encouraging delusions about the possibilities for restoring wild salmon to the Pacific Northwest?

In my informal discussions with colleagues, most conclude that the likely scenario for wild salmon numbers (even assuming implementation of hotly debated "restoration" proposals) is a continuing long-term downward trajectory in California, Oregon, Washington, and Idaho. A key basis for this sobering conclusion is that the human population in the Pacific Northwest (including British Columbia) will almost certainly grow dramatically through this century—from the current 14 million to between 40 and 100 million (Lackey 2000). Predictions of population levels a century from now are contentious, but I have yet to find anyone who disputes the presumption that there will be many more people in the region by the end of this century. Whether the number will be 40, 60, 80, or 100 million is contested, but the population will be several times higher. A cursory examination of regional data depicting historic human population density/development and wild salmon distribution/abundance reveals a stark negative relationship (Hartman et al. 2000).

Speaking as a scientist and not as an advocate of any policy position or option, the assumed future level of the region's human population is simply a factor to be considered in evaluating the future of wild salmon. Given the predicted human population increase, the over-all, long-term, downward trend in wild salmon abundance is nearly certain unless there are spectacular changes in the life styles of the region's inhabitants. But, apart from equivocal polling data, opaque political rhetoric, and grand statements of intent, there is

little tangible evidence that most people are willing to make the substantial personal or societal changes needed to restore large runs of wild salmon. I contend that the future of wild salmon is not hopeless or fore-ordained, but society has collectively shown scant willingness to adopt the policy choices necessary to reverse the long-term downward trend in wild salmon.

Thus, after considering ecological and societal context, most colleagues conclude, usually "off the record," that by 2100 wild salmon in the Pacific Northwest will consist of mere remnants of pre-1850 runs. None of the species likely will become extinct by 2100, but many stocks or populations will have dis-

appeared, and those that remain will have small runs incapable of supporting appreciable fishing without technological interventions such as hatcheries or artificial spawning channels. To visualize the most likely future, we only need look at the remnant anadromous salmonid runs in the eastern United States, continental Europe, and the Asian Far East, especially China, Japan, and Korea. At one time each of these regions supported thriving populations of wild salmon. They no longer do, nor is there any likelihood they will in the foreseeable future.

As society's fisheries experts, should we perpetuate the delusion that the Pacific Northwest will (or could, absent pervasive life-style changes) support wild salmon in significant numbers, given the current trajectory of the region's human population growth coupled with most individuals' unwillingness to reduce substantially their consumption of resources and standard of living? It is not our role as scientists to assert that society should make the changes necessary to restore wild salmon, but our implicit public optimism about restoring wild salmon perpetuates an avoidance of reality. Intended or not, we end up misleading the public. Let me illustrate with a personal example.

Recently I completed a manuscript that assessed the future of Pacific Northwest wild salmon (Lackey 2000). Any assessment dealing with salmon always stimulates scientific and policy debate, but my primary conclusion was:

The near certain growth in the human population in the Pacific Northwest through this century, coupled with little indication that most people will accept the enormous life style changes necessary to perpetuate, much less restore, wild salmon, means that restoring "fishable" runs of wild salmon in California, Oregon, Washington, and Idaho is a policy objective that is not likely to be achieved.

Most of the several dozen fisheries scientists who reviewed the manuscript accepted the conclusion as realistic, even intuitively obvious, but the following were typical reactions to the overall message:

"The message is correct, but it is too pessimistic."

"You need to look for a way to tell the story more optimistically."

"Such a pessimistic message isn't fair to all those fisheries biologists in the trenches trying to do their best to save salmon."

These people were not challenging the human population trajectories presented in the manuscript. They accepted the population growth trajectory and the continuing unwillingness of

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most people to make the sacrifices necessary to reverse the downward trend in wild salmon. There is, of course, a possibility that society will collectively adopt "voluntary simplicity" as a dominant life style, but most readers did not expect such a change to transpire on a large scale. Even so, the message, they argued, would be better received if it was cast in more upbeat terms. How can assessing the future of wild salmon be acknowledged concurrently as accurate and too pessimistic? Should it not be a hallmark of fisheries science to provide realistic predictions of the future rather than either pessimistic or optimistic ones?

As expected, many reviewers offered the usual arguments about the relative importance of commercial, recreational, and Indian fishing, dams and their operation, agriculture, forestry, urbanization, roads and right-of-ways, pollution, changes in the climate of the ocean and atmosphere, competition and predation from exotic species, predation by marine mammals and birds, and various concerns about hatcheries and commercial aquaculture. However, the overall conclusion of nearly all reviewers did not differ greatly.

Most fascinating was the recurring suggestion, even a plea, to "lighten up" and be more optimistic and positive in assessing the future of wild salmon. I had written the article to be blunt, direct, and realistic, and I avoided both pessimism and optimism. How could reviewers conclude that the manuscript was realistic in content and conclusion, but at the same time encourage me to abandon realism and honesty in favor of optimism—a suggestion that would mislead all but the most astute readers?

Several reviewers suggested that if my objective in writing the article was to help save wild salmon (it was not), then the accurate, realistic message would leave proponents dejected. This common sentiment is captured by:

"You have to give those of us trying to restore wild salmon some hope of success."


Conversely, a few veterans of the salmon wars confessed their regret over the "optimistic" approach that they had taken during their careers in fisheries, and they endorsed the "tell it like it is" tactic. They felt that they had, especially early in their careers, given false hope about the effectiveness of fishways, hatcheries, and the ability of their agencies to manage mixed stock fishing. I was left with a feeling that many professional fisheries scientists have been, and still are, subtly pressured by employers, funding organizations, and colleagues to "spin" fisheries science and policy realism to accentuate optimism.

Other reviewers took professional refuge in the reality that senior management or policy bureaucrats define the policy, and thus research questions, often resulting in narrow, reductionist scientific information and assessments. Rarely are fisheries scientists empowered to provide "big pic-

ture" assessments of the future of salmon. Whether inadvertent or not, such information often misleads the public into endorsing false expectations of the likelihood of the recovery of wild salmon. For many of us, such implicit optimism is a healthy, rewarding way to go through life.

Is adopting unfounded "professional" optimism a harmless adaptive behavior of little import? After all, "think positive" slogans are a hallmark of many self-improvement programs. What is wrong is that optimism does not convey what is happening with wild salmon and it allows the public, elected officials, and fisheries managers to escape the torment of confronting triage.

Fisheries scientists should be realistic and avoid being either optimistic or pessimistic. This professional stance does not covertly argue in favor of an "imperative" to save wild salmon regardless of the cost of society, nor does it necessarily support a "defeatist" strategy. Such choices should be made by an informed public that is aware of the difficult tradeoffs. Restoring wild salmon is only one of many competing, important priorities and the public is entitled to be accurately informed about the long-term prospects of success.

It is easy to find comfort in debating the nuances of hatchery genetics, evolutionarily significant units, dam breaching, salmon barging, selective fishing regulations, predatory bird control, habitat restoration, atmospheric and oceanic climate, and unintentionally mislead the public about the realities of the situation with wild salmon. As discomfiting as it may be to disclose the future of wild salmon relative to society's apparent values and preferences, our most useful contribution as fisheries scientists is providing information and assessments that are policy-relevant but policy-neutral, understandable to the public and decision makers, and scrupulously realistic about the future. Otherwise, we simply squander our professional credibility to become acolytes of delusion. 

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