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In the compelling new book, "Salmon 2100: The Future of Wild Pacific Salmon", Drs. Robert Lackey, Denise Lach, and Sally Duncan, editors, have gathered 33 policy analysts, salmon advocates and scientists to examine the problems, ask the tough questions, and propose solutions.

Is there still time? They think so. But what is the last, best chance for wild salmon along the Pacific coast?

## SALMON 2100:



### The Future of Wild Pacific Salmon

**Editors:**  
**Robert T. Lackey**  
**Denise H. Lach**  
**Sally L. Duncan**

*The Salmon 2100 authors were challenged with a single question: "What is it really going to take to have wild salmon populations in significant, sustainable numbers through 2100?" This anthology is the result.*

**W**ild Pacific salmon in North America have a 150-year history of succumbing to human encroachments on their domain. The causes of their dramatic decline are well studied, and well understood, including mining, farming, forestry, sport fishing, hydropower, and hatcheries, in no particular order. However, despite multi-billion dollar efforts over many decades, the trajectory of wild salmon survival appears to be continuing downward.

Each of the authors expresses deep concern about the future of wild salmon. But each also believes we still have options, if we act now, and act with conviction. Their policy prescriptions range from technological fixes to fundamental societal value shifts.

The transformative decisions are yet to be made, and the future for wild salmon remains a soulful question.

cover art by Andy Everson  
[www.andyeverson.com](http://www.andyeverson.com)

## Salmon 2100: *The Future of Wild Pacific Salmon*

Editors: Robert T. Lackey, Denise H. Lach, and Sally L. Duncan

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The impetus for the Salmon 2100 Project can be traced to a downtown hotel restaurant table in a west coast city several years ago. Around this table, a group of veteran fisheries scientists, policy analysts, and salmon bureaucrats mulled over a conference they had all attended that day.

The conference was not unusual. It was like so many others, and, for many of us, these professional meetings tend to blur together. Typically, in California, Oregon, Washington, Idaho, and southern British Columbia, a group of salmon experts would assemble to discuss policy and management options that might help restore wild salmon while minimizing the impacts on competing societal interests.

The atmosphere surrounding this conference, typical of nearly all salmon meetings, was a mixture of policy complexity and scientific uncertainty, overlaid with an informal, public veneer of optimism. As always, the unspoken premise was “if the experts could just solve the *scientific* challenges, or if we could just get sufficient money to do more of what we are *already* doing, salmon runs could and would be brought back to significant and sustainable levels.” Perhaps not back to mid-1800 levels, we would all surmise, but surely returned to a healthy state that would support fairly heavy fishing by commercial, recreational, and Indian interests.

In contrast to the public conference during the day, the tone around the table in the evening was decidedly different. Yes, everyone agreed, salmon recovery *was* technically complex and scientific uncertainties *do* abound, but the limitations to wild salmon recovery were not primarily scientific, even though most of the day’s discussion had focused on scientific topics. Instead, we recognized that *dramatic policy changes* must be implemented if the long-term downward trend in wild salmon abundance was to be reversed in California, Oregon, Washington, Idaho, and southern British Columbia (hereafter referred to as the Pacific Northwest and California). Amidst all the discussion of scientific and technical matters, such policy changes simply were not on the table.

And so once again, nothing presented or discussed had convinced these fisheries scientists and policy analysts that the rather grim trend would be reversed by relying on current policies. Yes, most scientists agreed that there would be decades of “good” ocean conditions where salmon runs would do *somewhat* better (as the early part of the 21<sup>st</sup> century has already demonstrated), but over the long-term, the trajectory was downward unless there were major policy changes.

Many of the people involved in the conference were the same ones sitting around the table, but the tenor of the two discussions was as different as night and day. It was almost as if two parallel worlds existed, one of a fairly positive, optimistic perspective about the future of wild salmon; the other a highly skeptical, pessimistic assessment of any of the recovery strategies under consideration.

Why the dichotomy? Is there some kind of “conspiracy of optimism” that has overtaken the scientific process? Are fisheries biologists, salmon policy analysts, and salmon advocates creating or contributing to it? If the technical experts are truly pessimistic, somehow that judgment is not being communicated and understood by decision-makers and others responsible for implementing salmon policy. Confusing the issue for this region, perhaps, is the fact that the majority of the salmon caught here are hatchery fish, thus rendering the wretched status of *wild* salmon essentially invisible.

Whatever the reason, there had been a dramatic difference between what the experts privately voiced in the evening and what the public and decision-makers had apparently understood from their earlier professional and public presentations.

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Given the dichotomy between public and private understanding, the overarching goal of the Salmon 2100 Project is to evaluate critically the potential policy options needed to protect and restore wild salmon runs from mid-British Columbia southward. Because the chasm between ecological reality and salmon recovery appears to be immense, both delusional optimism and baseless pessimism are banished from the Project. Instead, we have asked our authors to identify and describe practical policy options that could successfully sustain significant runs of wild salmon if adopted.

To identify those policy options, we enlisted 33 salmon scientists, salmon policy analysts, and salmon advocates. They range from hardcore technical scientists to aggressive champions of particular salmon recovery policies, thus representing a spectrum from quasi-institutional to highly individual opinions. Writing styles vary from scholarly to popular, from somber to lively. We are fully aware that among the authors are people who do not agree with each other, to put it mildly, and several who frankly do not concede each others’ right to an opinion. Nonetheless, all their views enrich the current debate, whether we agree with them or not.

Everyone who participated in the Project recognizes that restoring wild salmon to the Pacific Northwest and California is a daunting challenge. Since the discovery of gold in California in 1848, salmon runs have dramatically declined across the region due to water pollution; loss of spawning, rearing, and riparian habitat from a multitude of human actions; a history of over-fishing; dam construction and operation; water withdrawal for agriculture and industry; competition with hatchery-produced salmon; competition with various non-indigenous fish species; predation by marine mammals and birds; and climatic and oceanic shifts. Sustaining significant runs of wild salmon through 2100 remains an elusive goal even after numerous efforts that have cost a lot and caused significant social dislocation.

The Project neither rejects nor advocates any particular policy or class of policies. The prescriptions offered by the participants are universally candid, sometimes uncomfortably radical, and occasionally sobering. Nearly all conclude that major, sometimes wholesale modification of core societal values and preferences will have to occur if significant, sustainable populations of wild salmon are to be present in the region by 2100. All have been asked to offer specific direction for those changes.

We want this book to play a challenging role that is some mixture of court jester, Greek chorus, cage rattler, and straw man to decision-makers, elected and appointed officials, and others who have various mandates and directives to address the decline of wild salmon runs in the Pacific Northwest and California.

Ultimately it is the general public that must become engaged in salmon policy debates if intelligent, informed decisions are to be made. Therefore, we offer this book also to the general public in a quest to illuminate starkly what would have to change if wild salmon recovery efforts are to have a reasonable likelihood of success.

Furthermore, we do not think our policy prescriptions are only relevant to this region: the same basic policy and science questions exist for restoring wild salmon in eastern North America, Europe, and the Asian Far East.

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***For further information about the Salmon 2100 Project, please contact:***  
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#### Robert T. Lackey

Senior Fisheries Biologist  
National Health and Environmental Effects Research Laboratory  
US Environmental Protection Agency  
200 SW 35th Street  
Corvallis, Oregon 97333

Voice: (541) 754-4607  
Fax: (541) 754-4799  
Email: [Robert.Lackey@oregonstate.edu](mailto:Robert.Lackey@oregonstate.edu)  
Web Site: <http://oregonstate.edu/dept/fw/lackey/Salmon2100.htm>

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