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## James Lichatowich, *Salmon Without Rivers: A History of the Pacific Salmon Crisis*

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## BOOK REVIEW

**JAMES LICHTOWICH, SALMON WITHOUT RIVERS: A HISTORY OF THE PACIFIC SALMON CRISIS**, Island Press, Washington, D.C. (1999); 317pp; \$27.50; ISBN 1559633603, softcover.

REVIEWED BY JACK McDONALD

In 1875, Spencer Baird, the first head of the United States Commission on Fish and Fisheries, wrote a letter identifying the three major threats to salmon survival: excessive fishing, dams, and alterations of the physical habitat of the streams. Today, we refer to these threats as three of the “four H’s” of salmon decline: harvest, hydropower, and habitat. In his letter, Baird made a pivotal decision, one emblematic of nearly every decision made in American salmon policy since that time. Rather than recommending regulations to reduce the identified causes of salmon decline, Baird chose, instead, to address declining salmon runs using an untested technical solution, the artificial propagation of salmon. This solution is the “fourth H” in the perils of salmon: hatcheries.

James Lichtowich’s new book *Salmon Without Rivers: A History of the Pacific Salmon Crisis* examines the historical decline of salmon in the Pacific Northwest. Not only does the author provide an in-depth assessment of the events and direct causes of salmon decline, but also he examines the philosophies behind decisions such as Baird’s that have had seemingly everlasting effects on the health of salmon populations. The policy and decision makers in the Northwest have known for over a century that regional practices would drive salmon runs to ruins. According to some estimates, three billion dollars have been spent attempting to remedy the problem. Despite this huge monetary figure, Lichtowich argues that the same misguided philosophies that created the problem still dominate today. According to the author, until the region transcends its industrial-age mentality, salmon restoration will remain unsuccessful.

Baird made a gigantic leap of scientific faith in deciding to use the hatchery solution because he felt harvest and habitat regulations were politically untenable. In this decision, Baird avoided making a tough call that would have displaced existing economic interests. However, he made the decision with virtually no assurance of its effectiveness. Ultimately, his decision was no decision at all, offering the region a plan where rivers could “sustain” both large salmon runs *and* unlimited development. The elements of Baird’s decision became the heart of salmon policy decisions made by individuals, states, and the federal government for the next century, and continuing largely today.

A euphemism for eradicating salmon habitat, “river development”

implies a conversion from a natural to an industrial state. The unwillingness to compromise accelerating river development; the full throttle development of hatcheries, a choice driven by an optimistic confidence in technology and an unwillingness to alter industrial progress; and the dams that use of this alternative allowed, ultimately led to the reality of "salmon without rivers." Salmon production was moved from the natural streams to feeding pens; rivers became mere transportation corridors.

### A MULTI-DISCIPLINARY INSPECTION OF THE SALMON CRISIS

Though trained as a biologist, Lichatowich wears numerous different hats while explaining the decline in the Pacific Northwest salmon runs. The author shines in this book as a historian, mining the past to build a view of regional thinking at key points in the development of salmon policies. Much of this way of thinking we recognize today either as political and philosophical movements well known in American history or as embedded present day ideology.

The history of the salmon decline is inextricably tied to the economic situation at the time. Profiteers seeking short-term economic gains in timber, mining, and grazing resources had no great interest in keeping salmon habitat intact. A *laissez-faire* political system passed little regulation and enforced even less. The nearly free wealth of salmon as a wild resource inevitably led to over-harvest despite the self-defeating economic hardship on the pursuers. The early twentieth century utilitarian ideology favored dams as helping a greater number of people through power, irrigation, and navigation over the salmon fishing that the dams would displace.

In presenting these driving philosophies in resource management, Lichatowich develops a multi-disciplinary analysis of the salmon crisis. Lichatowich first establishes the ecological history of salmon and its habitat before proceeding to the cultural causes of salmon decline. The book's structure serves as a metaphor for the solution that Lichatowich advocates: unless the Northwest restructures its resource economy to first consider the natural system that produced salmon, the species will not survive.

Lichatowich then switches hats to anthropologist, describing an indigenous culture that thrived while working within the natural parameters. Next, he examines the salmon crisis as an economist, comparing the industrial economy that predominates today to a natural economy that must provide a source of values and balance in order to restore salmon. A natural economy relies on interdependence, renewal, dispersal of production, and diversity, as opposed to an industrial economy favoring individualism, extraction, economies of scale, and a simplified natural system. Without balancing industrial economic thinking with the natural economic system, the timber industry will continue to see economic loss in implementing a tree buffer along streams, and irrigators will see forgone financial opportunity in instream flows. According to Lichatowich, balance is achievable only by acknowledging the natural world's intrinsic, non-economic values.

### SALMON WITHOUT RIVERS - ARTIFICIAL PROPAGATION

Of the many culprits in the salmon decline, Lichatowich reserves his harshest criticism for hatcheries. He faults hatcheries not only for their responsibility in ecological damage, but also for the tough choices avoided and reforms precluded by placing blind faith in the ultimate industrial solution for declining salmon: growing salmon.

Lichatowich chronicles the unwillingness of American salmon managers to support the effectiveness of hatcheries with sound science. In a chapter-long comparison of the Canadian experience in the Fraser River Basin, which largely avoided hatcheries, to the Columbia River Basin in the United States, Lichatowich credits Canada's diligence in pursuing sound science as making the difference in the Fraser's healthy salmon runs today. The author gives short shrift to the notion that modern hatcheries have reformed, dismissing the notion with a sweeping statement that the past speaks for itself. This view might be more credible if the sentiments were backed by further evidence of the continued failures of modern hatcheries, but the author's skepticism in the principle of artificial salmon propagation is well grounded throughout the book.

Most people place the critical period of salmon's decline at the Depression-era development of the modern hydropower system. Lichatowich spends remarkably little time here. Although the Fraser River experience demonstrated that industrial progress was not inevitable, the American pattern of complete development with artificial propagation as mitigation was already dead-set, linking hatcheries and dams in a partnership, "forged deep inside the heart of the industrial economy."

### CHOICES FOR THE FUTURE

Has the Northwest learned anything from its past? Is it willing to fuse the natural economy with the industrial economy? The best example of this struggle is the region's exploration of removing four mainstream dams on the lower Snake River. Ironically, those opposed to dam removal stress a cautious approach with no removal before careful scientific study—an approach not used when the dams were built. Lichatowich gives no recommendation on removal, though he does slyly note that hatchery managers on the Lower Snake River admit that even hatchery salmon cannot flourish with the dams in place. The message of this book is that policy decisions, such as dam removal, have become choices between development *or* salmon, rather than development *and* salmon. All salmon policy decisions, including the decision of delay, involve hard choices with real consequences, for we cannot have salmon without rivers.

That the author can take a "feel-good" notion of balancing industry with nature and ground it in a wide array of scientific and historical evidence makes his arguments difficult to ignore. Add in a clear and effective writing style, and the result is an important and readable book for anyone concerned with the fate of Pacific salmon.