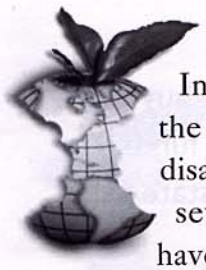
A Business Plan for Endangered Salmon

by Jim Lichatowich and Duncan Wyse



In the northwest, the Pacific salmon is disappearing. Already several populations have gone extinct. In Oregon, some coastal stocks are at 10 percent or less of their historic abundance. Overall, the fish's natural productivity has declined by about 80 percent. This crisis touches nearly all human activities in watersheds of the Pacific Northwest.

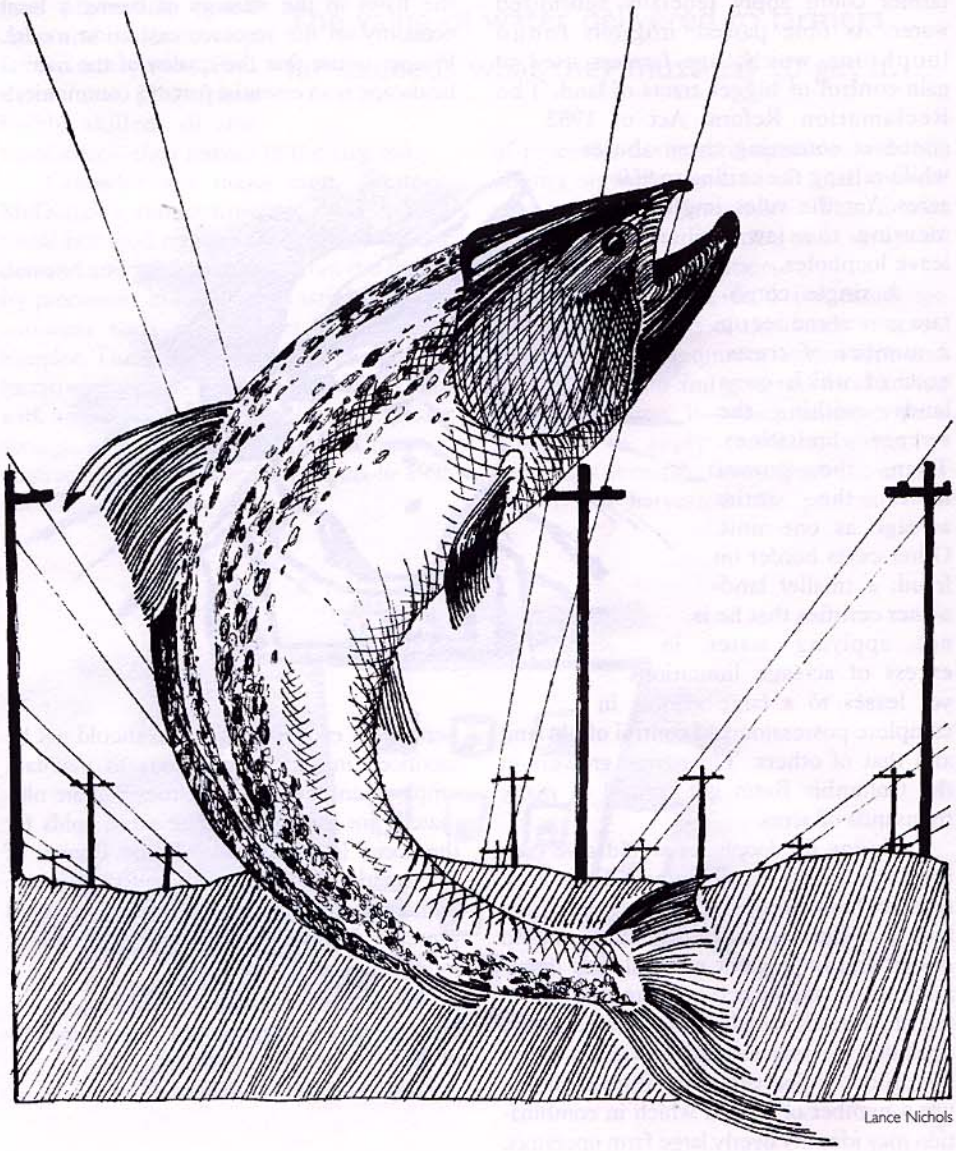
To avoid having the National Marine Fisheries Service list the coastal coho salmon under the federal Endangered Species Act (ESA), Oregon recently developed a plan for restoring salmon to coastal rivers. Like the fish, salmon management is in a crisis. If more of the depleted salmon stocks are given protection under the ESA, that crisis will rapidly worsen.

Disappearing fish and a crisis in stewardship are not what the people of the region intended when they funded salmon research, restoration, and management during the last half century. We did not reach this crisis point because salmon managers, politicians, and the public didn't care. People do care. The survival of salmon and their dependent industries have always been major social and political issues in the Pacific Northwest. How then did salmon reach the crisis point? That question and the lack of a clear answer prompted the Oregon Business Council (OBC) to investigate the roots of the crisis.

Although the current crisis is relatively new, for over a century we have known what would cause the depletion of salmon. In 1875, responding to a request from the Oregon Legislature, Spencer Baird, the US Fish Commissioner, told the region that three things threatened the salmon: dams, over-harvest, and habitat change. Clearly, the causes for the salmon's depletion have not changed in 120 years, and simply knowing what would cause depletion was not enough to prevent it. Why not?

In the second half of his report, Spencer Baird told the region that with an investment in hatcheries of $15,000 to $20,000 (1875 dollars) salmon could be made so abundant that there would be no need for restrictive regulations. There was no scientific basis for his claim. Baird's report pinpoints the birth of our current vision for Pacific salmon—that we could circumvent the need for healthy rivers. Choosing that path 120 years ago has led to depletion, extinction, and Endangered Species Status for the region's greatest natural symbol.

The watershed of the Columbia River is marked by the industrial economy. Dams and the power transmission system, rail and road networks, farms and industrial forest operations, factories and cities, are the external signs of the industrial economy. Operating within all of Oregon's watersheds is another economy whose infrastructure and centers of organization are not obvious to the average person. It is the natural economy.



Lance Nichols

Our development of watershed and management of salmon over-emphasized the industrial economy to the detriment of the natural economy. In order to retain the region's standard of living and still maintain the salmon and environmental quality, we must strike a balance between the two economies. Both support us. If either fails, the whole is diminished.

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The principles underlying the natural and the industrial economies differ. The industrial economy is driven by markets and monetary considerations. The natural economy is driven by solar radiation and self-organizing mechanisms that promote stable, long-living reproduction. The industrial economy favors economies of scale in large centralized and standardized production centers (factories). Large centralized salmon hatcheries (fish factories) are designed and managed to fit the standards of the industrial rather than natural economy. The natural economy disperses production among many smaller units such as salmon stocks in many different streams. The industrial economy is linear and extractive, whereas the natural economy operates in renewable cycles. A salmon has value in the industrial economy when it is removed from its habitat, put into a can and converted to cash. A salmon has value in the natural economy if it contributes genes to the next generation that maintain the fitness of the population. The two ways of placing value on salmon leads to different emphases: on production in the industrial economy and on reproduction in the natural economy.

The Oregon Business Council studied the roots of the salmon crisis and the implications that emerge when watersheds are viewed as two interacting economies. The Council then took that information into a working session with the objective of writing a new vision; a set of principles and assumptions that provide solid support and direction for technical programs and is a yardstick against which the individual projects are measured and evaluated. A vision remains useful as long as it guides the development of projects that actually solve problems.

The OBC does not view its vision statement as a final product. Its purpose is to engage the citizens of the northwest in a dialogue that can lead to a new vision for Pacific salmon; a new vision with broad public support. To start the dialogue, the Council proposes this vision:

> The Pacific Northwest will have sustainable, biodiverse salmon and steelhead runs in watersheds throughout the region where runs practically can be sustained.

Like the fish, salmon management is in a crisis.

Implementing this vision entails changes in harvest regulation, hatchery production, habitat protection, and hydroelectric operations. The new vision shifts the focus of salmon management from artificial propagation and harvest to restoring sustainable and biodiverse runs of wild salmon and steelhead through local watershed stewardship. It is habitat-based and designates the watershed as the basic management unit. Emphasis is on husbanding natural habitat and production, rather than on engineering artificial solutions. Hatcheries and engineering will continue to play important roles, but their objectives will be changed. They will be used to support healthy watersheds rather than circumvent them.

Characteristics of the industrial & natural economies:

Industrial Economy	Natural Economy
Driven by monetary considerations	Driven by solar energy
Large, centralized production	Dispersed production, spreading risk
Monocultures & economies of scale	Diversity
Linear, extractive market values	Circular, renewable survival values
Emphasis on production	Emphasis on reproduction
Waste & failure to fully utilize resources	No waste & everything recycled

Meaningful salmon restoration programs have a fundamental requirement: They must work in concert with the salmon's strengths. The last half a century of restoration programs, especially artificial propagation, tried to circumvent the need for habitat. Hatcheries were used as a substitute for healthy watersheds; they fostered the idea that rivers need only be channels to the sea.

Forests, rangeland, rivers, and salmon have the internal capacity to recover from major disturbances. They have been doing so for thousands, if not millions of years. The principal role for humans is to not interfere in the natural recovery process, but to minimize their disturbances of the watershed.

To help salmon recover, we must change the way we manage watersheds, our harvest, habitat, hatcheries and hydroelectric systems.

Harvest. The Oregon Department of Fish and Wildlife (ODFW) is dependent on license fees for funding which results in an emphasis on harvest to keep sport and commercial fishermen happy. This has led to overly optimistic projections of salmon abundance and to over-harvest. Under the new vision, ODFW will need to take a more conservative approach to harvest and, where there is the possibility of error, the error must favor the salmon.

Habitat. The region has gradually recognized the importance of habitat. Local community groups are beginning to work together on restoration. The appropriate agencies must develop performance measures for habitat health and implement reasonable monitoring programs to track progress. The stewardship, restoration, and management of salmon habitat should follow two principles: it costs less to protect habitat than to restore it; and restoration activities should assist in the stream's natural healing processes.

Within all watersheds is an economy not obvious to the average person.

Hatcheries. The hatchery program needs an independent and comprehensive

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the ecosystem approach which admits the role of predators in the system, differ from their predecessors.

The environmental impasses of the 70's and early 80's led to amending the ESA and to the creation of the Habitat Conservation Plan. An HCP can permit a legal taking through habitat modification, so if a program of monitoring and mitigation assures that no species will be lost, economic development can proceed. The Blue Mountains house 380 vertebrates of which twenty to thirty percent may be listed. To prevent the need to void an HCP every time a new species is listed, the Natural Community Conservation Plan was crafted to address not single but multiple species and their habitats (the "ecosystem approach").

Though science may eventually catch up to the problem, the fundamental cultural issues remain ignored. Agencies depend upon access to wildlife for the source of their livelihood and would like to consult and inform the public. However, they are loath to relinquish any power or prerogatives through such processes as shared planning with landowners. The Oregon Department of Fish and Wildlife, for example, has a Wildlife Diversity (a.k.a. non-game) Plan (1993). Under the heading of "Socio-Political Problems", ODFW lists inadequate program funds, informing the public, wildlife viewing opportunities, and animal damage assessment and control. It misses the less tractable but fundamental issues of cultural differences and alienation.

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Professor Glendon tells us that there exists

> A large legal profession, whose most visible members habitually engage in strategic exaggeration and overstatement. But we are not only the most lawyer-ridden society in the world, we are also the country in which the lawyer's role is most adversarial. The rhetoric of absoluteness increases the likelihood of conflict and inhibits the sort of dialogue that is increasingly necessary in a pluralistic society. In the common enterprise of ordering our lives together, much depends on communication, reason giving, and mutual understanding... Absoluteness is an illusion and hardly a harmless one. [6]

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With opportunities increasingly available through crop subsidies, amendments to the ESA, and incentives such as tax easements, the largest impediment to moderating the property owners' angst lies in the apparent inability to communicate with them. Agencies have not tried to systematically identify, nurture, and reward those people with the special gift of communicating difficult information to rural property owners. In an area largely driven by lawyers, lobbyists, and managers, legal and agency mandates offer the only guidance. Often missing from the recipe are the technical skills to foster innovative, credible solutions. Yet such skills are crucial; witness the first HCP near San Francisco.

When I delivered some sobering news to a group of ranchers (clients) engaged in an ESA dispute, one mentioned that the usual result of their meetings was to enrage each other while they discussed their frustrations and the enemy-of-the-day's latest maneuvers. Then, the ranchers would charge out looking for a tall tree and a candidate with an environmental bumper sticker. The rancher mentioned that it was good to have someone to slap them around and keep them focused on solutions. Such facilitation should be easier to come by. Most rural property owners want a say in the disposition of resources on their properties, to avoid repugnant legal skirmishes, and to be counted on the side of the natural landscape.

A forest, range, and wildlife ecologist, Steve Berwick runs Wild Systems, based in the Portland area. He serves as a national and international expert on land use planning.

1Glendon, in J. Echeverria and R.B. Eby (Eds.), *Let the People Judge* (Washington, D.C.: Island Press, 1995).

2 Lewis, ibid.

3 Ramos, ibid.

4 Brick, ibid.

5 Baca, ibid.

6 Glendon, ibid.

Other sources:

Steve Berwick, "Dry-Gulched by Policy", *The New York Times*,(December 1978).

Oregon Department of Fish and Wildlife, *Oregon Wildlife Diversity Plan* (Portland, 1993).

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audit to determine why it failed to achieve its promised results and what future productive role it can play. Because some runs of salmon are dependent on supplements from hatcheries, the shift to a greater reliance on natural or wild spawning salmon will be gradual and indexed to improvement in natural production and habitat. Performance measures need to account for the negative impact of hatchery operations on natural production. Additionally, there is a need for public education programs on the true costs and benefits of artificial propagation of salmon.

Salmon can recover. Our role is to not interfere in the recovery process.

Hydroelectric system. Hydroelectric production and water use in general are the source of the greatest conflict between the natural and industrial economies, especially in the more developed basins such as the Columbia. Modification of the hydrosystem must be based on scientifically sound experiments carried out in an adaptive format. A single institution or agency should be in charge of directing and overseeing those changes and its administrator held accountable.

Actions must begin now and progress must be tracked through clearly defined and measurable milestones. Specific measures must be continuously evaluated for effectiveness and efficiency in order to ensure a healthy natural environment and a healthy economy.

Jim Lichatowich is a fishery biologist consultant at 182 Dory Road, Sequim, WA 98382.

Duncan Wyse is Executive Director, Oregon Business Council, 110 0 SW 6th Avenue, Suite 1608, Portland, OR 97201.

The Oregon Business Council is interested in your thoughts and ideas on the new vision for Pacific salmon. A copy of the full report, *A New Vision for Pacific Salmon*, can be obtained by calling the OBC office, 503-220-0691. Read the report and let the Council know what you think.

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