
Despite 50 years of public management, the Washington State salmon resource has undergone a serious contraction. With the decrease in supply has come an increase in the complexity of management problems. Catch control has been replaced by rehabilitation as a major weapon against depletion. The problem of maintaining the fisheries at an economically productive level today is neither simple nor inexpensive. It has become significantly related to the resource development and industrial growth of the entire state; fishery administrative policies, for, must now be conceived on a regional basis and require regional cooperation.

POLICIES AND PROPOSED 1951-53 BUDGET OBJECTIVES

Washington State Department of Fisheries

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There are many factors affecting the Washington State salmon, among them the following:

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1. The development of power dams, flood control dams and irrigation

projects has cut off the salmon's spawning runs, retarded or prohibited

downstream migration, and caused favorable changes in stream conditions.

2. The development of agriculture and the deforestation of great areas has lowered the consistent flow of streams and

made torrents out of them at such seasons of the year, while turning

them into trickles during the heat of the summer and early fall.

The result has been to reduce the ability of streams to receive

spawners and to rear their young.

3. Pollution in certain areas of the state, sometimes in or close to

the mouth of the rivers, has caused the destruction of small fish

and is today interfering with the reproduction of many streams.

These are the environmental conditions which have directly affected the salmon resource and which must be corrected by the state and the people.

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Despite 60 years of public management, the Washington State salmon resource has undergone a serious contraction. With the decrease in supply has come an increase in the complexity of management problems. Catch control has been passed by rehabilitation as a major weapon against depletion. The problem of maintaining the fisheries at an economically productive level today is neither simple nor inexpensive. It has become significantly related to the resource development and industrial growth of the entire state; fishery administrative policies, too, must now be conceived on levels embracing programs of international and regional cooperation.

There are many factors affecting the supply of salmon, among them the following:

1. The development of power dams, flood control dams and irrigation projects has cut off hundreds of miles of available spawning areas, retarded or prohibited adult migration, affected downstream migration, and caused formidable changes in stream conditions.
2. The development of agricultural and suburban land and the deforestation of great areas has lowered the consistent flow of streams and made torrents out of them at some seasons of the year, while turning them into trickles during the heat of the summer and early fall. The result has been to reduce the ability of streams to receive spawners and to rear their young.
3. Pollution in certain areas of the state, oftentimes in or close to the mouths of the rivers, has caused the destruction of small fish, and is today interfering with the rehabilitation of many streams.

These are all environmental conditions which have directly affected the salmon: to them can be added increased fishing pressure, sports and commercial, in the face of static or declining runs.

There are other causes for the state of the fishery resource that might be placed under the heading of public policy. Simply stated, they point to the fact that an adequate program of fisheries management and rehabilitation has never been supported financially. Although such a program has been conceived on paper, the funds necessary to make it anything but a biologist's dream have never been forthcoming. In this case, the finger in the dyke hasn't been able to stop disaster. Instead of getting better, the situation has become worse. And it will continue to do so unless more money is poured into the fisheries program.

By the end of this year, the state will have 16 hatcheries and research stations devoted to the artificial propagation of salmon. The state has had hatcheries for nearly 60 years. They never have been able to stop the decline in production. This is not because they have no useful place in the preservation of salmon, but because they don't attack the complex of other problems that have been eating away the runs. Hatcheries do not open up streams, build fish ladders, conserve water, screen ditches, or constructively attack any of the other sources of competition in the salmon's home environment. Hatcheries are only stop-gap instruments unless they are combined with other positive measures. The present-day peril which threatens the future of this great resource cannot be handled by closures or planting -- by themselves. That is the lesson that 50 years of salmon management has taught.

The facts have been known for some time, but the matter of implementing a program that will tackle all the problems on a long-range basis has been seriously hampered by the small investment -- or re-investment -- in rehabilitation work. The wholesale value of fish products in 1949 was more than \$100,000,000; yet only \$1,800,000 was appropriated for two years for fisheries work. Add to these figures the value of the recreational fishery and the importance of saving this resource may be realized in its true scope.

There are two general paths which the people of the state may follow in handling their salmon problem.

First, They may accept the idea that the salmon must naturally fall before the inroads of civilization. By this path, the people of the state can expect only one outcome: the imposition of progressively more drastic catch regulations to the point where eventually the salmon will exist in only limited quantity.

The second path is recognition of the resource in its true light, with the people insisting that coordinated effort be exerted to preserve the environment of the salmon as the population of the state further increases.

The present fisheries administration is committed to a rounded program that includes more hatcheries, more stream improvement work, more research -- not just in salmon but in all fishery fields. This program, like others before it, is still on paper. It will remain there unless the value of the fisheries is recognized in its full stature, and money is granted which will do the whole job, not a tenth of it. The program is well-rounded, and it is positive: it proposes to improve conditions, as a whole, not just preserve the status quo.

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The program of the Department of Fisheries as proposed for the next two years is based upon the following assumptions:

That fish are a crop which is self-renewing in its natural state. As a wealth-producing resource, it ranks third in importance in Washington.

That the fishery resource, however, no longer abides under natural conditions. Strict management is now necessary to protect it against the competition of other industries, paramountly power.

That in the case of salmon, environmental changes are the main cause for depletion of the resource. The effect of these changes has been to place undue emphasis on catch control features of fish management.

That rehabilitation is as natively a principle of sound fishery management as conservation; the former implies a gain, the latter a static condition. The salmon

problem particularly lends itself to solution through rehabilitation.

And, finally, that not enough support has been given in the past to make an adequate fisheries program possible. If the resource is to be perpetuated at a level which will enable it to support both commercial and recreational consumption, greater financial investment in the program is imperative.

Specific areas of activity and future objectives of the fisheries program are set forth in the following sections:

HABITAT MANAGEMENT:

The control of water usage and maintenance of access are key functions of the Department's stream improvement division. No other phase of the general fisheries program, as it relates to salmon, exceeds it in importance. It is a part, however, that has been most neglected in the past, and must be greatly accentuated in the future. Once water supply and natural habitat are appropriated by other uses, the salmon resource is the irremediable sufferer.

Main points of the stream management policy:

1. Close regulation of changes in stream channels, as empowered by law.
Passage of migratory fish must be guaranteed by those barring or otherwise altering the normal flow of the stream. Screening and by-passing of fish in irrigation and other water diversion channels also is enforced.
2. Laddering of existing barriers or removal of those that are not permanent in nature. That this work is far behind schedule is unfortunate, because hundreds of miles of spawning and rearing grounds lie behind obstructions that can be either cleared or by-passed.
3. Survey of water use applications. A minimum flow provision is contained in all new permits to assure an adequate flow at low-water stages.

4. Field studies to determine methods of increasing the water retention capacity of salmon-producing streams.
5. Cooperation with other agencies, such as the U. S. Soil Conservation Service and agricultural groups, in coordinating water usage on a mutual need basis.

HATCHERIES

Hatcheries are an essential phase of rehabilitation work and run maintenance in the salmon fishery. In the future, out of necessity, they may become even more important as a substitute for natural environment which is no longer available. The Department has endeavored to lay out a hatchery program that fits immediate area requirements, and which, at the same time, is improving its own efficiency.

This program calls for the following physical expansion and technical adjustment:

1. New hatcheries in neglected watersheds, such as Hood Canal, the Nooksack, Stillaguamish and Nisqually Rivers, and southwest Washington.
2. Emphasized biological research on techniques of rearing salmon, including chum and pink salmon.
3. Additional stream research to determine how artificial planting can be made to produce more adult fish.
4. Careful choice of location and functional, economic construction of all future stations.

RESEARCH APPLICATION

To assure the proper utilization of the fishery resource on a sustained yield basis, the following research projects must be carried out:

1. Establishment of a spawning-bed inventory that will allow an accurate check of returns of salmon to their home streams. This will give data on the productive condition of streams and enable the Department to

sensibly arrange its hatchery-planting program.

2. Compilation of catch statistics by areas and more thorough accounting of the sports fishing take. This is particularly vital to the management of silver and chinook salmon runs.
3. An interim action program on all management matters, which are undergoing biological analysis. While additional scientific data are being obtained, the Department must proceed along lines which offer the greatest possibility for temporary benefits.
4. Extension of biological investigation into areas of the fishery that have been neglected because of insufficient personnel. This must be done as a sustained program.

PATROL

Part of the management program lies in the effective enforcement of fishery conservation regulations. The role of enforcement is particularly important at present when many of the fishery stocks are below normal, and rehabilitation of salmon runs is being attempted.

Patrol activities have undergone improvement, but neither the personnel nor the equipment is numerically adequate to handle the complex requirements of guarding a fishery that extends from the Cascade Mountains to Cape Flattery, and from the mouth of the Columbia River to the boundaries of that watershed in this state. The task is made more difficult by the fact that the peak of stream poaching activities coincides with extensive commercial and sports fisheries, both of them demanding close attention.

It is essential that the present patrol force of 20 persons, including administrative officers not in the field, be expanded and additional floating and communicational equipment provided to make its work more effective.

The late director, Alvin Anderson, completed the draft of a \$4,633,000 budget prior to his death in October. This constitutes official Department of Fisheries objectives for the next two years.

During the past two years, the Department has operated on a budget of \$1,808,000, exclusive of Lower Columbia River Fisheries Program and Lewis River Hatchery funds.

The proposed new budget includes \$2,967,000 for salaries, wages and operations, and \$1,665,700 for capital outlay. (Note: Federal support moneys for Lower Columbia River work, and the Lewis River Hatchery fund, also reimbursable to the state, are not included, nor is money for participation in the Pacific Marine Fisheries Commission.)

The operations requests are divided as follows:

Administration, \$322,943; research, \$595,573; construction, \$299,793; hatcheries, \$905,908; patrol, \$503,720; statistics, \$90,902; stream improvement, \$249,107. Additional personnel would amount to 77 full-time employees; the Department staff now numbers approximately 150 persons.

Capital outlay items would provide for increased production of hatchery fish, extensive stream improvement work, and an enlarged scope of scientific research.

Proposed are three new 12-pond freshwater station and a 10-pond saltwater station, and the addition of 44 rearing ponds at existing stations. The increase in rearing capacity over the present 163 ponds would exceed 60 per cent. (Note: A battery of 10 ponds will permit rearing of 1,050,000 chinook salmon to 90 days of age and 350,000 yearling silvers.) The maintenance and rebuilding of many runs will depend to a large extent on the ability of the Department to transfuse streams with stocks of artificially reared salmon. It is planned to further emphasize the production of chinook, the most seriously depleted of all native species.

The new stations would include one on Finch Creek at Hoodspert for \$348,000; a second on the Nisqually-Deschutes River watershed at McKenna Springs for \$178,250, and a third on the North Nemah River in southwest Washington for \$265,650. The Finch Creek station would comprise 12 freshwater and 10 saltwater rearing ponds.

Hatcheries which would receive additional ponds and other improvements include Green River, Kendall, Skykomish, Simpson and Willapa.

The proposed budget includes \$143,000 for construction of fishways in western Washington, and \$33,000 for stream clearance work. Streams which would benefit include the Stillaguamish River system and Chuckanut Creek in north Puget Sound; Siebert Creek, in Clallam County; the Duckabush and Dosewallips and other Hood Canal streams; the Mashel River on the Nisqually system; the Skookumchuck, Naselle, Nemah and Humptulips Rivers in coastal Washington, and streams in the Lake Washington watershed. Other phases of the stream improvement budget would continue the screening and fishway program in eastern Washington and stream flow gauging work.

Biological research would be extended to important fisheries on which little or no study has been possible in recent years. These include research on black cod, herring, ling cod, silver smelt, soup fin shark, the bottom fishery, hardshell clams, crabs, shrimp and the ocean troll fishery. These investigations would be in addition to those on salmon and their environment, razor clams, oysters, pollution and the Columbia River fishery, which are continuing studies. Finally, to better arm the shellfish program, a new laboratory is sought on Hood Canal which would replace the present outdated station near Gig Harbor.

In conclusion, the restoration of the salmon runs that have frequented the waters of the Pacific Northwest should continue of paramount importance,

not only to the recreational and commercial fishermen, but to the citizenry as a whole. The perpetuation of this outstanding natural resource is a challenge that calls for the utmost effort and cooperation of all who are concerned with the progressive growth of Washington State, whose resources remain its greatest hope for future prosperity.

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