



Taking Action

If the 1960s was a decade of Alaska taking control of its fisheries, the 1970s were about taking action to secure its fisheries' future. The state created the Fisheries Rehabilitation, Enhancement, and Development program, better known as FRED, to develop a system of salmon hatcheries; imposed limited entry to stabilize the growing commercial fishing fleet; and pushed the federal government to claim a 200-mile limit to keep the foreign fleets off Alaska fish. Before any of these took hold, things only got worse.

Alaska salmon production in 1973 plunged to just 22 million fish, a new low for the century and the runs that followed the next two years weren't much better. In Bristol Bay the harvest of sockeye salmon dropped below one million fish, its worst catch in recorded history.

This time, however, state biologists saw it coming. The poor returns were the result of two unusually cold winters, and they followed Andy Anderson's direction to rebuild the runs regardless of the pain. Fishing was completely closed in Prince William Sound and restricted to just a few days elsewhere to ensure that adequate escapement reached the spawning grounds. It hit fishermen in the pocketbook even as their numbers were being pared by limited entry.

"My first year in Bristol Bay was right after they instituted the permit system," biologist John Burke recalled. "They shut the fishery down that year. The return was so small there was maybe just one or two days of fishing. Guys came into the Fish and Game office with their permits and wondered, 'What is this worth? It isn't worth anything if I can't fish.' That's how bad it was."

While salmon crashed, Alaska shellfish again started to boom. The shrimp fishery, long a staple near Petersburg, took root near Kodiak and Chignik shortly after statehood with a catch that soon topped 10 million pounds. In the 1970s, the shrimp harvest soared, peaking in 1976 at almost 130 million pounds, a volume similar to that of the depressed salmon runs earlier in the decade.

The king crab fishery also started to rebuild. After the Kodiak peak in the 1960s faded, fishermen turned their attention to the Bering Sea where catches slowly increased. By the early 1970s the catch of king crab from the Bering

Sea totaled 100 million pounds and turned Unalaska-Dutch Harbor into a boom town.

Dutch Harbor struggled with the volume of crab. The city water system dated back to the WW II era. There were problems getting enough containers to ship out the frozen crab. Meanwhile, the crab just kept coming in with a dozen or so boats tied up off every cannery waiting to offload.

The second king crab boom was hastened by passage of the Magnuson Act in 1976 that created the 200-mile limit. The culmination of years of work and international negotiation, the Act created an exclusive economic zone that ended the directed foreign fishing for crab and groundfish off Alaska's coast.

Growing attention to international fishing issues and concerns about the depressed salmon stocks resulted in some other long overdue changes. In 1977, the Japanese International North Pacific Fisheries Commission fleet was finally pushed out of the central Aleutians, reducing its high seas take of Alaska bound salmon. Also in that year, but less immediately apparent, was a shift in climate cycles that would play a dramatic role in what was soon to come. By the late 1970s, Alaska salmon production had jumped to 88 million fish, four times that earlier in the decade. The tide was turning for Alaska salmon.

In the 1970s, salmon production plunged, setting a new low for the century while the harvest of shrimp and king crab soared to record levels.

Left: King crab.
Photo Jim Craig, ADF&G.

Shaping Alaska's History

Limited Entry

Paradoxically, even as salmon runs bottomed out in the 1950s and 1960s, the number of fishermen was on the rise. Alaska's population grew quickly after World War II and the seasonal work of fishing and potential for a big payday attracted not just traditional fishermen, but teachers, the military—everybody. Commercial fishing attracted more and more Alaska Natives to supplement their subsistence harvests. The trend accelerated after statehood when the elimination of fish traps required more fishermen. In the 1960s, the number of salmon licenses in Alaska jumped from 5,000 to 9,000 and more than doubled in lucrative Bristol Bay.

"Alaska's salmon resources cannot produce a livelihood for an unlimited number of fishermen, nor can they be successfully managed for maximum sustained yield," Governor Bill Egan soon concluded. "The only alternative is the stabilization of entry into the fishery at reasonable levels."

But how to do it? Many Alaskans favored restricting non-residents but while popular, the idea quickly ran afoul of the federal constitution. Other proposals ran squarely into the state Constitution's guarantee of fish as common property. At Egan's urging, Alaska lawmakers proposed a constitutional amendment in the early 1970s that would allow limited entry for the purposes of resource conservation and preventing economic distress among fishermen.

It was highly controversial. While some saw merit in limited entry, others were deeply opposed. As a legislator from Halibut Cove, Clem Tillion felt the consequences for his support of limited entry. "Even my niece got her tires slashed," Tillion recalled. "My kids were beat up on the playground. It wasn't nice."

But the amendment passed and a bill was drafted with remarkable speed that set an optimum number of permits for each fishery, assigned permits based on an individual's fishing history, and allowed for permit transferability, an important provision for Alaskans who wanted to pass along the fishing privilege to their children.

Alaskans were still divided on the idea. A Naknek fisherman challenged the law in court, arguing that Limited Entry "creates an aristocracy of fishing families who have exclusive privileges in the publicly owned resource." The fight went all the way to the Alaska Supreme Court which found legitimacy in the arguments for limiting entry. The court, however, also recognized the tension between limited entry and the guarantee of a common property resource. To be constitutional, they concluded, limited entry should "impinge as little as possible" on

open access. That opened the door to dozens of other lawsuits from those denied permits for a variety of reasons. Limited Entry became one of the most litigated laws in Alaska history with over 70 Supreme Court decisions to date.

Limited Entry did protect Alaska from an influx of fishermen when depressed stocks reduced other west coast fisheries and court decisions cut deeply into their fishing fleets.

Permit transferability proved to be one of those mixed blessings. In some regions, local participation in the fishery declined as permits were sold out-of-region or out-of-state. And when permit price tags ran into the hundreds of thousands of dollars, the cost of entering the fishery skyrocketed. One young Petersburg fisherman found that the needed permits, a boat, and gear cost him twice what it would have to get a medical degree from Harvard.



Governor Bill Egan (center, seated) signs Alaska's Limited Entry bill into law in 1973. Standing (L to R) are Phil Daniels and members of the Governor's Limited Entry Study Group: Roy Rickey, David Jackman, Rich Listowski and Alan Adasiak. Photo courtesy Rich Listowski.

Shaping Alaska's History

Magnuson-Stevens

Barely a year after he was appointed to the U.S. Senate, Ted Stevens saw the problem for himself. "In January of 1970, I went to Kodiak and asked the Navy to fly me to the Pribilofs," Stevens recalled. "There was an amphibious plane there, an Albatross, and we flew from Kodiak to the Pribilofs at fairly low level. I counted more than 90 foreign fishing vessels anchored there just off our state. And they had a bunch of little catcher boats going out from them. It really bothered me a great deal."

Not long afterward, Stevens introduced legislation to extend America's jurisdiction from 12 to 200 miles offshore. Three South American nations already claimed such a limit and seized American tuna boat within it, prompting U.S. objections. Stevens' bill went nowhere. Tuna fishermen didn't like it and Stevens was just a freshman senator, newly-appointed to the job and in the minority party. He found a supporter, however, in a senior senator on the other side of the aisle. Washington Senator Warren Magnuson shared Stevens' concern for fish.

In the years that followed, Magnuson and Stevens crafted a series of bills that called for a 200-mile limit. The idea still faced high-level opposition. The State Department worried that unilateral action by the U.S. would anger the Soviets and derail the already long-delayed international Law of the Sea negotiations. The Navy feared such a limit would hinder navigation and commerce, close strategic straits, and threaten national security. Even the Air Force testified against the bill, worried that the 200-mile limit might apply to airspace.

Stevens countered that similar fears were raised about the 12-mile limit and proved unfounded.



Sen. Ted Stevens, R-Alaska, and the late Sen. Warren Magnuson, D-WA, of the Magnuson-Stevens Fishery Conservation and Management Act, which is the primary law governing marine fisheries management in United States federal waters.

Photo courtesy of Anchorage Daily News archive.

The 200-mile limit, he argued, was about conservation. "The concept is 'Shall the living resources of the sea have a chance to survive?'" Stevens told the Senate. "The major fishery within our shores is, in fact, the Alaska pollock, where the (foreign fleets) have taken 2.3 billion pounds in one year. That pollock is the basic food chain for the Bering Sea and North Pacific and if this continues even another 2 or 3 years, it will go the way of the California herring. It will disappear from the ocean. We cannot stand that kind of pressure."

The arguments of Stevens and Magnuson eventually won the day. "Foreign overfishing off our coasts cannot be allowed to continue," President Gerald Ford said in 1976 as he signed into law the Fishery Conservation and Management Act. In time, it would simply be known as the Magnuson-Stevens Act. The law did not hinder navigation or security; it created an exclusive economic zone to regulate fishing, oil and gas, and mineral development. Other nations soon joined the U.S. in claiming a 200-mile limit.

The extended jurisdiction was just the start. The Magnuson-Stevens Act also created a series of regional fishery management councils to regulate fishing within the

newly claimed waters. With its huge fisheries, Alaska was the only state that was a region unto itself. The 11 voting members on the North Pacific Fishery Management Council included the commissioner of the Department of Fish and Game and five others appointed by the Governor, giving Alaska a majority.

"We were fortunate. We started out with a first class council and a first class chairman," remembered Jim Branson, the first director of the Council. "Elmer Rasmuson was a brilliant man. He was really interested in the subject and dedicated. He had background in international fisheries. He'd been with the International North Pacific Fisheries Commission and worked with those folks a lot. And then we had Clem Tillion. He was and is very, very good at this business. Nobody ever agrees with Clem 100 percent but he's right most of the time, I've got to admit."

The new council adopted Andy Anderson's idea for separating the scientific decisions from matters of allocation and established both a Scientific and Statistical Committee to advise the council. Then they went to work building from scratch a fishery that measured in the billions of pounds.

Shaping Alaska's History

FRED

Early in the 20th century, Alaska salmon packers were required to rear enough salmon fry to make up for their catch, but the law was either ignored or used for ulterior motives. One year, a packer canned over \$3 million worth of salmon, mostly in Bristol Bay, but thanks to credits for hatchery releases near Karluk and Ketchikan, owed just 32 cents in taxes, a bill they paid with stamps.

In 1971, with salmon runs mired in a cycle of low and erratic productivity, the Alaska Legislature took a new look at the hatchery idea but with a scientific bent. The Fisheries Rehabilitation, Enhancement and Development program, better known as FRED, was created to "do all things necessary to ensure perpetual and increasing production" of Alaska salmon by developing a system of hatcheries across the state.

"The FRED Division was designed to rehabilitate and enhance depressed stocks and help reduce the economic impact in years of low natural stocks," said the division's chief, Stan Moberly. It meant assembling a team of biologists with expertise in things like genetics and fish pathology, as well as engineers and project managers.

Though raised in hatcheries, the enhanced production retained its roots in the

Alaska wild. State policy prevented brood stock from coming out of state or even from different regions within the state and geneticists made sure the policy was followed to the letter.

The first new hatcheries were built at Crooked Creek and Gulkana in 1973 and new hatcheries came on line at a rate of about two a year.



Our New Logo!

ALASKANS APPROVE HATCHERIES BOND ISSUE

Alaskan voters gave their hatchery program a boost in November by approving a \$26.9 million fisheries development bond request. This means that Fisheries Rehabilitation, Enhancement, and Development (F.R.E.D.) Division can proceed with plans to build four salmon and trout hatcheries throughout the state.

The new hatcheries—at Snettisham near Juneau, Main Bay in Prince William Sound, Ship Creek near Anchorage and at Kotzebue Sound—will have a total capacity of 155 million eggs. F.R.E.D. Director, Robert Roys, said the hatcheries are required to produce catchable fish for Alaska's burgeoning sport fishing population, and to moderate the "boom and bust" cycles in the commercial salmon industry.

The planned expansion of the Ship Creek complex, located on the military base at Fort Richardson, is intended as a boon to sport fishermen. Along with the annual production of 7 million king and coho salmon smolts, the expansion will increase rainbow trout production from 500,000 fingerlings to 2.5 million. Department planners estimate that the trout production alone will create an additional 600,000 recreational days of angling yearly.

The Snettisham hatchery is the largest of those proposed, with a capacity of 71.5 million chum salmon eggs and 5.4 million king and coho salmon eggs. While most hatcheries are constructed along rivers and streams, the Snettisham facility will be built adjacent to a hydroelectric plant operated by the Alaska Power Administration (A.P.A.). The power plant receives its water through a two mile tunnel from Long Lake. The hatchery will be permitted to use water in this plant's tailrace, water determined to

be suitable for fish culture. With F.R.E.D. Division and A.P.A. sharing facilities at Snettisham, each agency will be able to operate at a lower cost.

The Main Bay hatchery will have an initial capacity of 65 million chum and pink salmon eggs. Pink salmon will be phased out of production once a sufficient broodstock of the more valuable chum salmon is developed. These fish are intended for the gillnet and seine fisheries of Prince William Sound. The hatchery site is remote, but there is plenty of good water and room for future expansion.

The Kotzebue hatchery was added to the bond request by the Legislature, and consequently, planning for this facility is at an early stage. It is a demonstration project to determine the potential of fish culture in the arctic regions. The hatchery will be designed with an option to double its planned capacity of 30 million chum salmon eggs.

The four hatcheries should produce \$20 million worth of salmon annually when they achieve full production.



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By the late 1970s, they had the capacity to incubate over 100 million eggs. Over the years, the FRED division built over 20 hatcheries and then, embracing the statehood concept of local control, turned them over to the fishermen.

"The plan from the very beginning was that the state was going to develop the hatcheries and then it was going to be a user-pay thing where the fishermen themselves funded the hatcheries," said John Burke, a former FRED Division biologist, and now general manager for the Southern Southeast Regional Aquaculture Association. "The state would invest in research and developing the technology and once that was stable, turn it over to the fishermen so they paid to enhance their industry."

A second law passed in 1974 created Private Non-Profit or PNP corporations and regional aquaculture associations controlled by the fishermen to run the hatcheries. Over the years, as many as 36 PNP hatcheries operated with impressive results: the capacity to incubate 1.5 billion eggs and annual returns of 50 to 80 million adult salmon.

Having largely fulfilled its role, the FRED program was merged into the Fish and Game's Division of Commercial Fisheries in the early 1990s. Some lamented the loss of the division with a friendly and familiar name but it had fulfilled its role, raised the science of aquaculture to a new level, and then turned it over to those who depended on it. The overall impact of the FRED division was huge.

"There were two years, 2000 and 2006, where probably half the value of the salmon fishery was hatchery-driven."

—John Burke

"It's been enormous, particularly in Southeast, Prince William Sound, and to some extent Kodiak," John Burke said. "There were two years, 2000 and 2006, where probably half the value of the salmon fishery was hatchery-driven. The wild production wasn't there and there were really good hatchery returns and decent markets. It enabled some fishermen to go forward where if they had relied just on natural production, it wouldn't have happened."



Alaska territorial fish hatchery. Interior view, with water filled tanks on stands. Winter & Pond photo. Courtesy of the Alaska State Library Photograph Collection.



Harvesting roe. Photos ADF&G.