

RC 066

*Submitted by: Arni Thomson*

Kenai king salmon « COVER STORY

# Whither our king salmon?

Since Les Anderson landed  
a 97-pound Kenai king  
in 1985, the prized fish  
has been harder to find  
and smaller.  
Is there something we all  
can do to help reverse  
the trend?

BY MIKE CHIHULY

A king salmon  
clears the water  
after being hooked  
in the Deep Creek  
marine fishery of  
upper Cook Inlet.  
Photo by MIKE CHIHULY



RONNIE CHAPPELL / ADN archive 1985

Les Anderson's 1985 king salmon weighed in at 97 pounds, 4 ounces, a rod-and-reel world record. Anderson threw his big fish in his truck and didn't weigh it for several hours. Many believe it would have topped 100 pounds had it been weighed immediately.

I attended a book signing at a Ninilchik book club meeting in early January of this year and met a bubbly lady by the name of Shirley, who, it turned out, is the stepdaughter of Les Anderson. You may remember that Anderson, fishing with friend Bud Lofstedt, caught the largest king salmon ever taken on rod and reel in North America.

The great fish was caught in the Kenai River on May 17, 1985. The behemoth weighed a whopping 97 pounds 4 ounces after laying in the bottom of Les' boat and then later his pickup truck for several hours. Reports indicate that the fish was beached around 7 a.m. but not weighed until 2 p.m. Many believe the fish would have topped 100 pounds had it been weighed immediately. We'll never know.

As Shirley and I bantered back and forth, she shared with me that she still has cans of Les' big king tucked away on the shelves of her pantry.

"Really!" I reacted with amazement.

She had my attention. Coincidentally, I had just finished reading several scientific papers written by fisheries scientists who used protein electrophoresis and mitochondrial DNA to

separate the first run of Kenai River kings from second-run fish — or perhaps more accurately, tributary spawners from mainstem spawners.

My mind immediately began to race, thinking back on the last 32 years of Cook Inlet salmon fisheries management on the Kenai and Kasilof rivers. I wondered what that DNA in those cans might reveal if we could analyze it. With today's technology and the king salmon DNA baseline data now available for many streams in the Kenai watershed, we could tell a lot about that fish if we just had a small tissue sample.

Turns out, once the flesh has been cooked, it renders it useless for DNA analysis. In addition, Les had the fish mounted, and all the tissue, head, entrails, and fins were disposed of long ago.

Still, it piqued my interest and got me thinking about the years since Les caught his great fish and how we moved from the king salmon abundance and size on the Kenai in 1985 to the low abundance and smaller kings seen in the 21st century.

That Les caught such a huge fish in mid-May was unusual and surprising by most people's

standards. Les and Lofstedt were simply moving a boat from point A to Point B on the river. It was so early in the season that almost no one was fishing the river yet. Typically, the Kenai Peninsula is still pretty darn cold in May. Both the Kenai and Kasilof rivers are usually low and turbid at that time and have a reputation for eating up the props and lower units of outboard motors of even experienced fishermen who know the river.

Back then, fishing on the river usually didn't get going until Memorial Day weekend and fishing usually wasn't good until the first week in June.

Les and Lofstedt decided they might as well drift a Spin-N-Glo with eggs on their way down the river to their destination. Somewhere between two well-known spots, Pillars and Honey-moon Cove, Les hooked the big male. The duo fought the fish for more than an hour up and down the river and seemingly everything went wrong that could. They tangled their lines. Les fell in the bottom of the boat. The net was too small.

But humble Les Anderson hung on to that king. Finally, with Lofstedt's help, they beached



Photo by MIKE CHIRILY

Anglers line the banks of the Kenai River by the thousands when the sockeye and king salmon hit the river in July.

the boat on an exposed gravel bar and dragged the huge fish to shore. Neither angler had any idea what they had just done. They continued to fish that morning and not until hours later — with the urging of friends — did they decide to weigh the king. The rest is history.

The big king is intriguing and the circumstances surrounding its capture begs many questions. As far as we know, a fish of comparable size had not been caught by anyone anywhere in North America for at least 36 years. According to biologists, Anderson's king was a "six-ocean" fish — a fish that spent one year in freshwater and six years at sea before returning to spawn. Six-ocean fish are rare and make up a very small percentage of the run. Most of the really large kings that return to the Kenai River are four- and five-ocean kings.

And what was that fish doing in the river so early? In mid-May, Kenai River guides were still

tying leaders, working on their outboards and readying for the upcoming season. Fisheries data at the time told us that early-run kings were significantly smaller fish, on average, than late-run kings. Conventional wisdom at the time said that almost all big kings exceeding 60 pounds enter the river later in July and spawn in the main stem.

Was this fish a fluke or was his presence predictable? Was he a part of a heretofore unknown subpopulation that spawned in the Kenai's turquoise waters undetected by fisheries biologists? Had we been missing something all along about different stocks of Kenai River kings and their diverse run timing and spawning locations?

Radio telemetry studies have shown that some king salmon, after being released in the Kenai River with radio tags, continued their upstream migrations as far as 20 miles before

abruptly turning back downstream and re-entering Cook Inlet — only to reascend the river days or weeks later.

Was this fish in the river to stay? Was it an early-run fish defying conventional wisdom regarding size? Was this a mainstem spawner or a tributary spawner headed for the Funny River or perhaps Benjamin Creek at the headwaters of the Killey River?

One thing is certain, even the monk Gregor Mendel (often called the father of genetics after his early work on pea plant cross-breeding) would agree that the genes this fish carried were unique and rare by today's standards.

#### When 60- to 80-pounders were common

History has documented king salmon well in excess of 100 pounds that were harvested

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commercially in the Columbia River in the early 1900s before the Grand Coulee Dam was built. The Columbia River kings were called "June hogs," a summer-running fish that spawned in its headwaters. Between overfishing that selected for larger fish and the installation of hydroelectric dams on the Columbia that prevented fish passage, the "June hogs" were extirpated by 1939 and their genetic templates lost forever. Today hatcheries do their best to replace and maintain those very fish by stocking millions of young salmon at a lofty price to taxpayers, but the native-fish genetic diversity, that was selected for over hundreds of years, was lost. Today's summer-run king salmon on the Columbia average 20 pounds.

Other North America rivers, besides the Columbia and the Kenai, that have produced some very large king salmon in the past, include the Umpqua, the Skeena, the Sacramento River, and of course our own Kasilof River. No other river, however, has consistently produced the number of extremely big fish that the Kenai once did.

Les Anderson's king is the largest king salmon known to exist since 1949, when a 126-pound chinook was captured in a commercial fish trap in saltwater near Petersburg in Southeast. That fish's stream of origin is unknown.

In the 1980s and '90s, Kenai River kings in the 60- to 80-pound range were almost a daily occurrence in July and, looking beyond Les' catch, 1985, in particular, was a memorable year for big fish. That year at least one other king broke 90 pounds and a handful of fish more than 80 pounds were taken. One of my clients, Jack Arthur from Chattanooga, Tennessee, landed an 85-pound king in July while fishing in the Deep Creek marine fishery near Ninilchik. That fish was undoubtedly a Kenai- or Kasilof-bound fish as well. What made 1985 such a good year for kings?

Was it a mild winter when that brood year was in the gravel? Was it good freshwater rearing and survival in the Kenai freshwater environment

during the chinook's first year of life? Was it better-than-normal ocean survival and productivity that allowed them to grow so well as they reared in the Gulf of Alaska? Was there something about the handling of the commercial fishery that year that allowed so many kings into the river? Or were they just so numerous they overwhelmed all the net fisheries in the Inlet?

We don't know for sure. Maybe it was the perfect storm of all of these things. But one thing is certain: We have not seen the kings so big and in



Photo by MIKE CHIRLEY

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Commercial setnetters are a major player in the allocation and management of salmon resources in Cook Inlet. Setnetters target sockeyes but catch significant numbers of king salmon in the process. These fishers have just finished picking fish and pulling their nets during an "East Side" setnet opener in July.

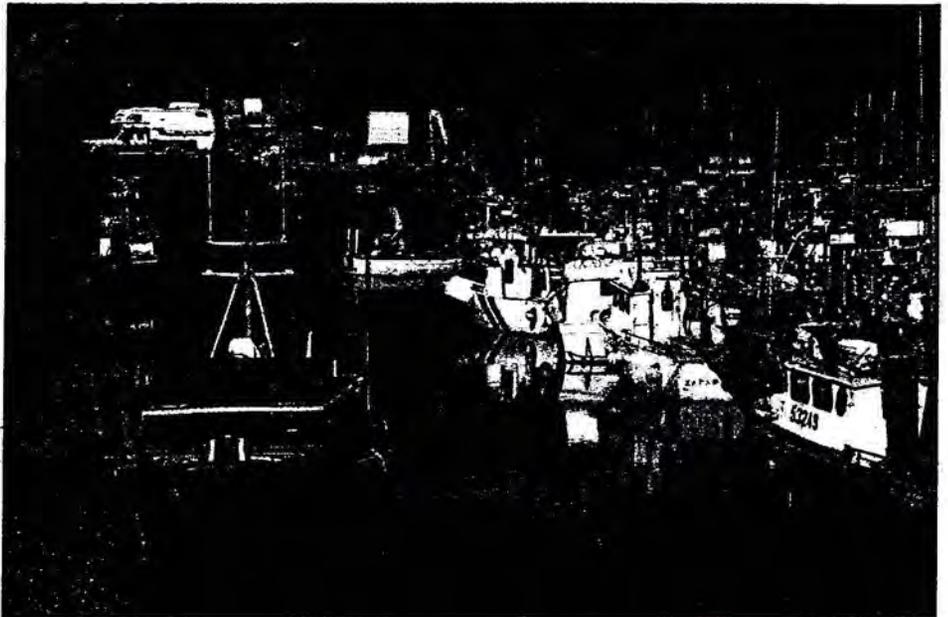


Photo by MIKE CHIRLEY

Upper Cook Inlet commercial drift gillnet boats lay at rest at low tide in the Ninilchik harbor waiting for the next salmon opener.

such numbers in the last decade.

Since 2003, the Alaska Department of Fish and Game has required that all harvested king salmon greater than 55 inches be sealed by a department employee within three days. Length, weight, age, girth, and sex, among other information, are collected for each fish and kept in a department database.

In the last nine years of this program, only one king over 55 inches was certified and sealed by Fish and Game. The fish was a male 55.5 inches long, weighing 71.1 pounds. Only one king salmon from the Kenai River more than

80 pounds has been harvested and sealed by Fish and Game in the last 13 years. Reports of larger kings that were caught and released exist but remain unverified. The big kings, the great fish of the early and late run, the so-called "five- and six-ocean" fish, have nearly disappeared. The "four-ocean" fish are returning in smaller numbers, too.

#### Treacherous Journey

Like most salmon, Cook Inlet kings face a daunting journey of environmental challenges and predators, humans among them, who want

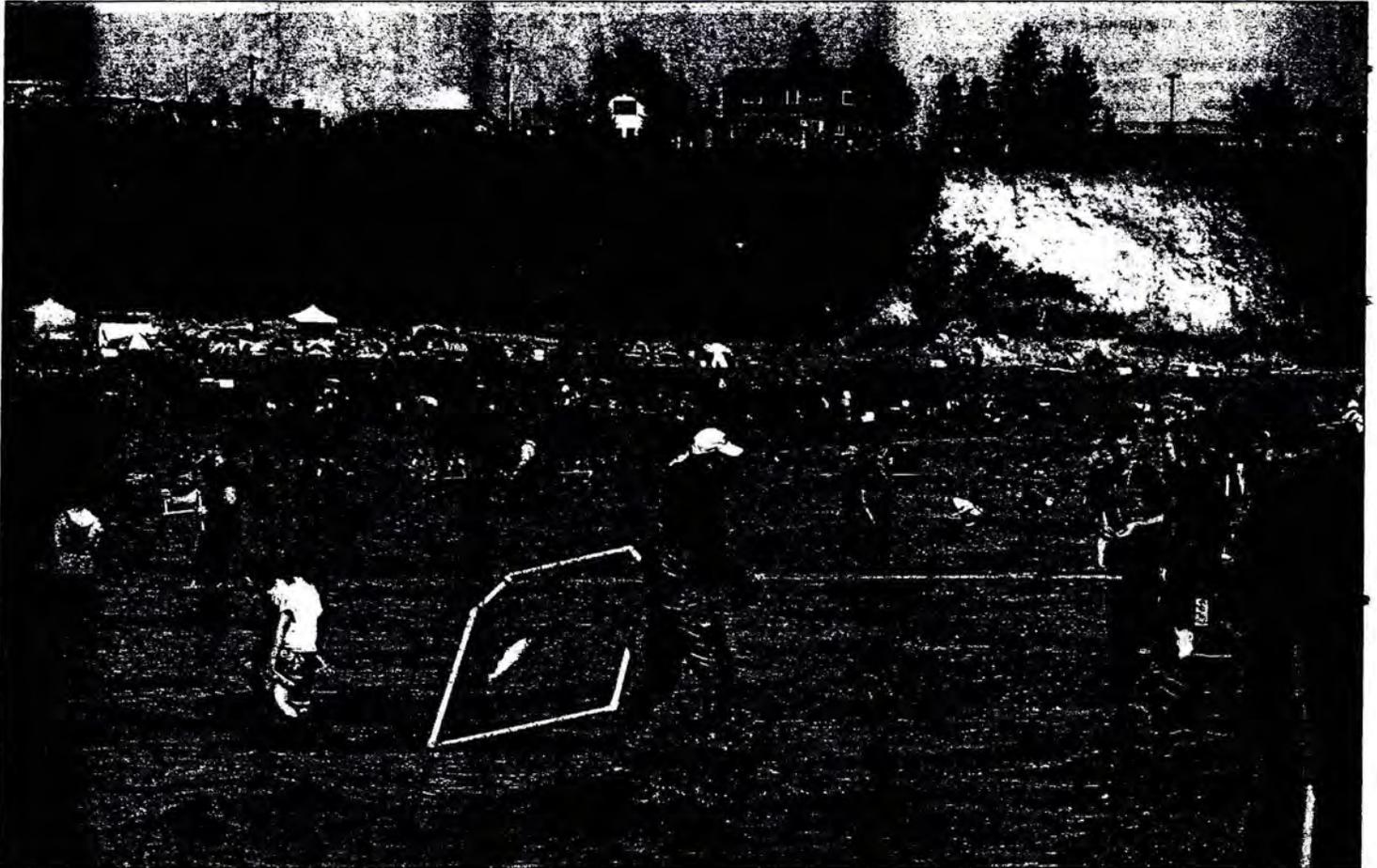


Photo by MIKE CHIRALY

Personal-use dipnetters flock to the mouth of the Kenai River in July to harvest king and sockeye salmon. They are a major player in the allocation and management of the river's salmon as they harvest as many as 1,500 kings and half a million sockeyes in some years depending on run strength.

to catch, kill and eat them before they can reach their spawning grounds. For example and perspective, picture, if you will, the effort that went into catching salmon in Cook Inlet during July of the 1980s and '90s.

More than 100 sport boats per day commonly trolled for the great kings in the saltwater intercept fishery from Anchor Point to Ninilchik in July. King salmon fishing in "the salt" was productive and popular in those years. At the same time, more than 500 drift gillnetters each deployed 150 fathoms of gillnet in Cook Inlet in an effort to catch the money fish, sockeye salmon. Some 450 setnetters, each with 105 fathoms of gillnet per permit and spaced 600 feet apart, extend from Ninilchik to beyond the mouth of the Kenai River (the so-called East Side setnet fishery). They laid their gillnets perpendicular to the beach trying to make a basic living, continuing to do what they'd done since statehood in 1959, when fish traps were outlawed. Set gillnetters target sockeye salmon, but they also

catch significant numbers of king salmon in the process.

Subsistence and personal-use fisheries, though relatively small, also set gillnets on the shores of Cook Inlet at Ninilchik, Kasilof and near the Kenai River's mouth. While subsistence, personal use, and drift and set gillnetters deployed their nets in the Inlet, personal-use dipnetters flocked to the mouth of the Kenai and Kasilof rivers to catch kings and sockeyes. The fishery began slowly in the early 1980s but gained immediate favor with Alaskans — so much so that in recent years dipnetters have typically harvested between 300,000 and 500,000 sockeyes as well as 500-1,500 kings annually.

While dipnetters were busy filling their coolers near the mouth of the Kenai river, sportfishing boats, drifting and back-trolling clogged the river upstream in a frenzy to catch the elusive king salmon.

#### King salmon gauntlet

In 1989, some 160 sportfishing guides were registered with Alaska State Parks to ply their trade on the Kenai River. By 1997 the number of guides had swelled to 354 and by 2006 that number had again increased to 396. Nonguided anglers were abundant and fought for their share of the kings, too. Most guides carried four of five people per boat and ran two trips per day.

With the big kings more abundant in the 1980s, everyone wanted one. Everyone wanted to see, touch, feel, catch, photograph, eat and mount one of the world's largest salmon. The epitome of the species lived and prospered right here in Alaska on the Kenai Peninsula in the turquoise waters of the beautiful Kenai and Kasilof rivers.

Guided and unguided anglers exploited every hole and every resting place, and they aggressively jockeyed their boats, gunwale to gunwale,

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for that privilege. They learned where the fish that spawned in Slikok Creek rested and were vulnerable. They found the holes in the Kenai at Beaver Creek and Big Eddy, and below the Funny River and Killey River that held the kings headed for those streams. Known spawning areas in the main stem of the Kenai were not protected in the early years of the fishery.

We undoubtedly altered the gene pool by selecting for large fish and overfishing certain components of the run, a phenomenon biologists call "fishery-induced evolution." For example, some early-run mainstem spawners were exposed to angling pressure for double the time period that late-run July kings were. Their only reprieve was the close of the king salmon fishery on the first of August each year, and that was extended by emergency order on some years in the 1980s.

Guided and unguided anglers were happy, and the fishery gave the Alaska economy a tremendous boost. But king salmon in Cook Inlet destined for the Kenai and Kaslof rivers faced a gauntlet from the mouth of upper Cook Inlet to their spawning beds in the upper rivers. Too many of these great fish were doomed.

"We humans flocked to the honey hole until the honey dried up," an angler friend of mine said.

#### Another sad wildlife story?

As the fishery continued to grow and proliferate, boating safety on the river, increased pollution from outboard motors, quality of the fishing experience and degradation of riparian habitat (primarily from boat wakes), all raised concerns.

In 1987, boats were limited to 35 horsepower on most of the Kenai River.

Early-run kings rapidly gained popularity, and they were the first to show signs of deterioration. In general, the quality of the sport fishery began to decline as both the number of fish dwindled and the average size fell.

A Fish and Game study by Terry Bendock and Marianna Alexandersdottir in 1988 revealed that more than 90 percent of the entire early-run Kenai king salmon was being caught at least once before reaching the spawning grounds, and some were caught two or three times by sport fishermen. Bear in mind that no Cook Inlet commercial fishing effort has occurred on fish of the early run for many years. The finger of blame for the deterioration of the early run could not be pointed at the commercial folks.

Rather, despite our best management efforts to regulate the various fisheries while still protecting the habitat, we loved the river and the resource to death. Today, much like the Columbia River, biologists fear we have diluted the large-fish gene pool of Kenai River kings to the point that it may take decades to recover — if it ever does.

Is this just another sad wildlife story, like that of the passenger pigeons, the Plains buffalo or the Atlantic salmon of the East Coast?

"Water is life," as the Dakota Access pipeline protesters have repeated for months, but "water and salmon are life" in Alaska, too. The book, "Made of Salmon," a product of an advocacy



Photo by MIKE CHIHULY

This dime-bright Kenai River king salmon weighed 48 pounds. The fish likely spent four years in the ocean before returning to spawn. Fewer "four-ocean" and "five-ocean" fish have been returning to the Kenai River in recent years.

effort called The Salmon Project, chronicles well what salmon mean to Alaska's diverse people, from the salmon troll fishery in Southeast Alaska to the purse seiners in Prince William Sound, from the king salmon derby on Anchorage's Ship Creek to the subsistence sockeye fishery at Bat-sulinetas on the Copper River.

We need to keep our salmon resources healthy and sustainable. We need to get those big Kenai River kings with their genetic blue-prints back in the river and safely on their spawning beds. We need to recapture that genetic diversity that is a bellwether of our health as a people.

So what do we do? Where do we go from here? How do we make it right?

There is no easy solution. Certainly, not all our woes on the Kenai River are locally induced. King salmon productivity and size have suffered statewide for the last decade. Biologists tell us that the age at maturity for kings is decreasing — that is, a higher proportion of kings are coming back after spending one to three years in the marine environment, instead of three to five years. Why? Biologists aren't sure. And there are other factors influencing the health and productivity of our fish runs. But let this not be our excuse or scapegoat. We have a responsibility to be good stewards of the resource and do everything we can to fulfill that obligation and correct past blunders. We must do whatever we can as individual users and harvesters of the resource — including participating in local Fish and Game advisory committees and state Board of Fisheries meetings — to maintain productivity and diversity in our fisheries. Certainly, we can heed our past mistakes and learn from the ongoing research of fisheries scientists, who

continue to unlock the secrets of the great Kenai River kings.

For me, I can substitute my kings with canned reds and silvers and make smoked strips out of smaller kings. I like the bigger fish for their oil and I'm not excited about releasing salmon, but if I am trolling for kings on the Miss Shirley this coming summer in the Deep Creek marine fishery, many miles south of the Kenai and Kaslof rivers, and I bring a great king to the boat, I will release it as delicately and judiciously as I can — hoping and praying that it successfully survives the gauntlet of fishers that await it on its journey to the spawning grounds. Until we find a definitive solution and the health of the Kenai River kings is restored, for me, it's the right thing to do.

Do you have a plan?

If you're a setnetter picking your gillnet on the flood this July at Humpy Point; or a Kenai River dipnetter, chest deep in water, waiting for a hit on your dipnet held hard to the bottom at the mouth of the river; or an angler sitting in the bow of a Willie Predator drifting the Pillars and holding a 9-foot Lamiglas rod with a silver-and-char-treuse Kwikfish on the other end, and you bring in a great Kenai River king, a healthy king worthy of praise even in the heydays of the 1980s, a five- or six-ocean king carrying genes with the potential to make it right again — what will you do?

Will history repeat itself?

Mike Chihuly is a retired fisheries biologist, sportfishing guide and fire chief, and a former member of the Alaska Board of Fisheries. He lives in Ninilchik with his wife, Shirley, and just finished his first book, titled "Alaska Fish & Fire."