SALMON
THE LAST FRONTIER

BY GREAT LAKES SALMON/TROUT EDITOR BOB MCGARY

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Go deep. Then, go much deeper.

The rod goes off and another deep-water chinook makes a run for freedom. I look at the downrigger dial indicating the weight is tracking at 250 feet. Ten years ago, I would have thought fishing this deep for salmon was insane. The chinook on the other end of my line proves that anglers have made a quantum leap forward in understanding salmon behaviour. Fishing the "abyss" may well be one of the last frontiers in understanding chinook behaviour.

A group of salmon anglers, especially on Lake Ontario, has started to explore the depths. Their efforts have resulted in excellent catches of large chinooks, compared with anglers who continue to fish shallower water.

Science Probes

Much of what we know regarding vertical movements of chinooks are a result of studies by the United States Geological Service (USGS) on Lake Huron. Dr. Roger Bergstedt was the lead researcher, with Ray Argyle, and the data his team collected provide a "highway of information" about how chinook salmon behave. Last April, Bergstedt presented his findings at the Lake Ontario Trout and Salmon Symposium in Port Credit. Anglers in the audience were amazed at his data.

The initial study from 1998 to 2001 involved monitoring the temperature preferences of Lake Huron lake trout. This was achieved by surgically implanting digital storage tags (DST) into the fish. Radio-telemetry monitoring was not an option because information can't be read accurately in deep water, due to interference.

Dr. Bergstedt is not just a researcher. He's also an avid angler.

The second stage of research involved DST tags that could track movements of fish, with data for hourly depths and water temperatures. From 2002 to 2005, both lake trout and chinooks were implanted with DST tags. The chinooks were angled and placed in ambient-temperature holding containers, tags surgically implanted, allowed to recover, and released. An external tag indicated to anglers that when they caught and returned a study fish, they would receive a $100 reward.

All of the chinooks for the study were implanted in the upper half of Lake Huron in U.S. waters. Surprisingly, most of them were recovered in Lake Ontario, especially spawning chinook in Ontario tributaries. This simply reflects the migratory nature of salmon.

"The primary objectives were: 1) to accurately assess the seasonal temperatures occupied by chinooks, for the purpose of more accurately relating their growth (well-known) to the prey consumption needed to account for that growth (based on studies of food conversion efficiency, which is related to temperature); 2) describe the seasonal and daily depths and temperatures occupied, for the purpose of better understanding the spatial interactions of chinooks with prey species and competing predators," said Bergstedt. "We obviously also understand the interest that would have to anglers."

IN WINTER, ONE FISH MOVED FREQUENTLY FROM 30 TO 700 FEET WITHIN 1 HOUR. DURING SUMMER, DAILY MOVEMENTS FROM 25 TO MORE THAN 200 FEET WERE COMMON.

Seasonal Numbers

The 30 chinook caught with DSTs provided valuable information about their behaviour. In general, from June to September their favoured temperature range was 50 to 57°F, and in winter 38 to 39°F. However, more than half the fish moved out of the average temperature range, especially during summer. In August, as an example, in a 24-hour span, individual fish were found to frequent water temperatures from 40 to 60°F.

In order to experience these temperature ranges, fish moved frequently up and down through the water column. "There is no magic answer to locating chinooks, since the fish are constantly moving vertically," said Bergstedt.

In winter, 150 to 275 feet are the most frequently used depths, and in summer, 50 to 60 feet. But, each day throughout the year, individual salmon made significant vertical forays. In winter, one fish moved frequently from 30 to 700 feet within 1 hour. During summer, daily movements from 25 to more than 200 feet were common.

Light Effects

In general, during evening hours and through the night and early morning, chinooks occupy the shallow zone. After about 9 am in summer, most, but not all, chinooks retreat to deeper water, where they remain until evening. Data on individual fish reveal that there's no specific pattern, in that all fish don't go deep at the same time or stay deep for the same length of time.

The up and down yo-yo movement can be related to a number of factors. The onset of increased water clarity in the Great Lakes, due to invasive zebra mussels, seems to be one theory as to why chinooks go deep during the day. On the other hand, if they're feeding heavily during low-light conditions, do they return to the depths to rest or are they simply following other forage opportunities, such as bottom-dwelling sculpins? Temperature variation in the vertical water column is an additional consideration.

Bergstedt implies that a general, but unproven trend, is that larger adult chinooks are more likely to frequent deep water. "One of the most important considerations relating to angling success is related to maximizing your efforts," advised Bergstedt. "The number of fish per volume that you are running your lines through will dictate your success rate."

Why fish shallow if most of the chinooks are ultra deep?

Pro Views

Randy Ford, who operates Reddog Sportfishing *(www.reddogsportfishing.ca)* on Lake Ontario between Bronte and Bowanville, is recognized as one of the first pioneers of deep-water chinook fishing. "When I was fishing in British Columbia in 1984, we were mooching for salmon in depths of 180 to 300 feet," he related. "I thought I'd experiment at these depths at home on Lake Ontario."

Ford says that, after trial-and-error attempts, he started catching deep chinook. "I tied two 10-pound

cannonball weights together and hand-bombed them down on a manual downrigger to depths of over 200 feet," he said.

Ford has been refining his techniques for more than 20 years. It's a challenge to fish over 250 feet, and only within the last five years have other anglers started to experiment in the "dark zone."

Ford relies on Big John Brute downriggers to track his 15-pound Torpedo weights. Down to 300 feet, he uses three downriggers, one on each side at the back of the boat and one at the centre of the stern. Currents and swing-back due to water pressure can create logistical problems for movement of the weights. At these depths, two weights tangling can be a nightmare. Over 300 feet, Ford only uses one downrigger.

"Deep chinooks are fish of opportunity," he said. "When I'm fishing with clients and have high lines at 50 to 80 feet, I'm always watching my sonar for hooks over 200 feet."

He reduces trolling speed to as slow as 1 mph when running deep lines.

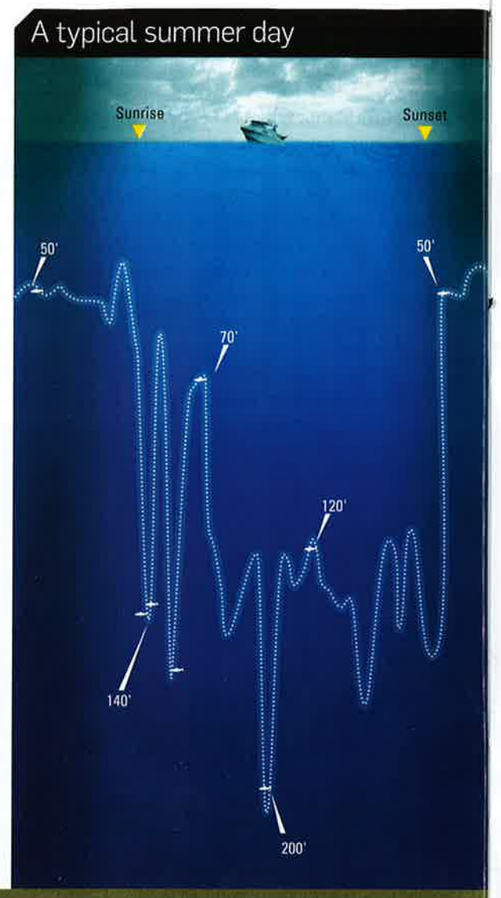
Ford uses 30-pound 19-strand Torpedo wire line on his reels. The wire line cuts with less resistance through the water and is also water flea resistant.

His favourite lure choice is a Twinkie rig made up of four tandem Glo Hammer Atomik flies with a trailing Magnum M.C. Rocket. His tactics produced a number of 20-pound-plus fish last year at depths of more than 300 feet.

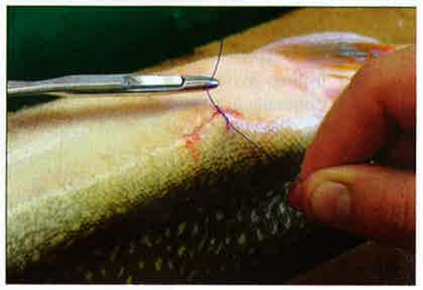
Take Two

Mike Dumnesil operates Catch One Sportfishing *(www.catchonesportfishing.com)* out of Fifty Point on Lake Ontario. He's been fishing salmon for more than 30 years and regularly targets deep-water kings. "I attribute most of my success to locating and fishing the deep-water temperature breaks," he said.

On a charter a few years ago, the surface temperature was 62°F and extended down to 135 feet. A temperature break of only a few degrees here produced incredible chinook action. Since that day, Dumnesil has been going deeper and deeper, using a Walker Temp-Sense Tournament Series rigger to monitor deep-water temperatures.

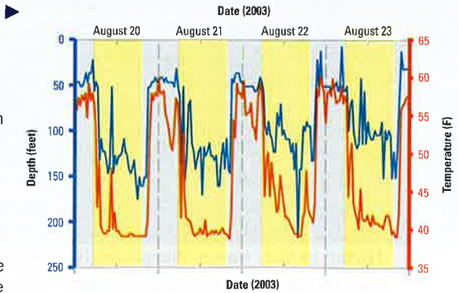


Implanting the DST tags. Anglers received a $100 reward for turning in tagged fish.

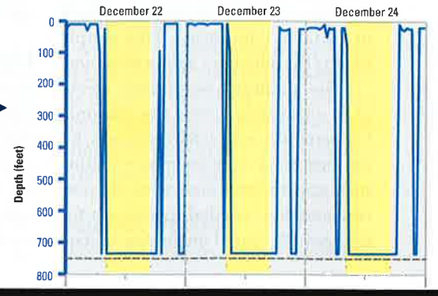


CHARTS AND PHOTOS COURTESY DR. ROGER BERGSTEDT

Daily vertical changes in depth (blue line) and resulting changes in body temperature (orange line) for one tagged chinook salmon in Lake Huron over a 4-day period in August 2003. Yellow shaded areas show daylight hours (sunrise to sunset) and grey-shaded areas show the hours of darkness. The horizontal dashed line shows the maximum depth of Lake Huron.



Daily vertical changes in depth (blue line) for one tagged chinook salmon in Lake Huron over a 3-day period in December 2003.



West and East

Last July, I had the opportunity to experience amazing chinook fishing on the west coast of Vancouver Island out of Rugged Point Lodge on Kyuquot Sound. The first morning on the boat, our host, Matt Guiguet, set two downriggers, one at 150 feet and the other at 175 feet.

Twelve-pound downrigger weights were more than adequate for these depths. Spoons and flashers with hootchies were a favourite presentation and produced limits of 20-pound-plus fish.

The British Columbia chinook fed consistently through the day at extreme depths, indicating Great Lakes chinooks are genetically similar in behaviour. The larger fish off Vancouver Island were caught consistently in deeper water (down to 300 feet), as is the case in Lakes Huron and Ontario.

"Over 200 feet deep is my most consistent pattern, up to about 300 feet," he said.

His boat, a 30-footer with a 10.5-foot beam, facilitates using a deep downrigger on either side. Shark downrigging weights in the 15- to 18-pound range can be used or Torpedo weights up to 15 pounds. Walker Electric Tournament Series downriggers provide the mechanical strength to move the heavy weights. He trolls at 1 to 1.5 mph.

Four-inch flutter spoons are his primary lure choice. "At depths of over 200 feet, the motion of these spoons triggers a response in chinooks to home in on their location," Dumnesil said.

A black spoon with a white back is popular, as well as glow colours. "Swap out your colour choices each day until some pattern is evident," he added.

City Salmon

Greg Amiel operates Fishing 4 Tails *(www.fishing4tales.com)*, mostly out of Toronto. He's been experimenting with deep-water tactics for six years. "When you lose the bite for chinooks, it's time to think deep water," he said.

Onshore winds can stack up warm water and push chinooks to depths of more than 200 feet. "The north side of Lake Ontario near Scarborough offers deep-water access less than two miles from shore and is a great place to experiment with deep-water techniques," Amiel suggested.

His deepest chinook last year was taken at 308 feet. To get down to depths over 250 feet, he uses Torpedo downrigger weights from 12 to 15 pounds. Cannon High Speed Mag 10s provide the lifting power.

"Trolling speed needs to be slowed down to 1.5 to 2 mph, to eliminate excessive cannonball swing-back, and only one deep line is employed," said Amiel. "The deep line is used out to the side at the rear back quarter." High lines can still be utilized in the spread for steelhead and coho.

Amiel sums up the strategy. "When the chinook action falls off with lines running less than 100 feet down, it's time to think 150 to 300 feet," he said. "Kings are notorious for migrating across the lake while in transition and will move vertically in search of food and comfort."

Chinooks are moving targets as they roam the abyss, but savvy anglers who target them have one more option for staying on the fish all summer. ●

Deep-Water Releases

Many salmon anglers release the chinooks they catch. They're similar to lake trout in that they can expel air bubbles as they emerge from deep water. These "burps" help to stabilize pressure in the fish's air bladder.

The key to healthy survival is to put the boat in neutral and slowly fight the fish, allowing it to bulldog and make a few runs. Bringing the fish in too fast while trolling will essentially drown a deep-water chinook. A quick release will normally result in a healthy fish re-entering the water.

PHOTO: LONNIE KING, TOP LEFT BY BOB MCGARY