

Tracking King Salmon in Lake Ontario with Pop-Off Satellite Tags

New York Sea Grant (NYSG) is involved in research that is advancing the understanding of king salmon, a fish that constitutes arguably the most important Lake Ontario fishery, drawing anglers from around the world and annually generating tens of millions of dollars for local businesses and communities.

King salmon, also called Chinook salmon, were stocked in Lake Ontario to control growing alewife populations in the absence of native predators in the 1960s. King salmon grow larger in Lake Ontario than any other Great Lake, reaching lengths of more than 3 feet and weights of 30-plus pounds.

Characterizing the movement and behavior of king salmon is valuable information that can be used by scientists, biologists, and anglers to enhance understanding of fish behavior to support fisheries management, and to locate and catch king salmon more efficiently.

Using Technology to Track King Salmon

In 2017, NYSG provided funding and partnered with Dr. James Watkins of the Cornell University Department of Natural Resources to investigate king salmon activity in Lake Ontario using pop-off satellite tags. The tags, newly developed for use in fresh water, record depth, temperature, light conditions, and acceleration every second to reconstruct individual movement and behavior for up to 90 days.

A tag placed on a mature salmon on July 13 in waters near Oswego, NY, was detected on August 26 near Cobourg, Ontario, Canada, 90 miles away. That tag was recovered with 45 days of data. Watkins, and Dr. Christopher Perle, a biologist with Florida State College at Jacksonville, are analyzing the data.

“With this tagging process, the fish become lake profilers. For example, data from the tags will track how closely the salmon follow their water temperature preferences (42-48°F in summer) and when they choose to leave that preferred temperature to enter either warmer or colder waters in search of forage,” Watkins notes.



*King salmon with pop-off satellite tag.
Photo: Dr. James Watkins/Cornell University*

Watch NYSG King Salmon video:
<https://youtu.be/pb4wJQc-07A>

NYSG personnel communicated preliminary results from the 2017 tagging to key stakeholders and the information was well-received by

charter captains and fisheries managers. NYSG also produced a popular 3-minute “**Learning More About Lake Ontario’s King Salmon**” video. More than three dozen media outlets and the *Cornell Chronicle* featured the project in 2017.

Partners:

- Cornell University
- Florida State College at Jacksonville
- Fish Doctor Charters
- Rochester Sport Fishing

The Sea Grant Focus Area for this project is Sustainable NY Fisheries & Seafood Businesses

New York Sea Grant is a joint program of Cornell University, the State University of New York, and NOAA.

New York Sea Grant Extension,
112 Rice Hall, Cornell University, Ithaca, NY 14853

*This project summary was written by
NYSG Fisheries & Ecosystem Health Specialist Jesse Lepak
315-312-3042, Jesse.Lepak@cornell.edu, www.nyseagrant.org*

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