



# United States Department of the Interior

## National Park Service

Lake Clark National Park and Preserve

Admin/HQ Office

240 W 5<sup>th</sup> Ave., Anchorage AK 99501

Phone (907) 644-3626 Fax (907) 644-3810

Field Office

PO Box 227, Port Alsworth, AK 99653

Phone (907) 781-2218 Fax (907) 781-2119



## Program Updates Fall 2025

Lake Clark National Park and Preserve

Southwest Area Inventory and Monitoring Network (SWAN)

SUBSISTENCE DIVISION, LIZA RUPP (907) 644-3648

### *Lake Clark National Park Subsistence Resource Commission*

- The Lake Clark Subsistence Resource Commission met in Pedro Bay on April 26, 2025. The fall meeting will be in Newhalen on September 27, 2025.

### *Subsistence Harvest Surveys of Port Alsworth and Nondalton*

- Through funding provided by the National Park Service (NPS), the Alaska Department of Fish and Game (ADF&G) Division of Subsistence conducted a comprehensive survey of both Port Alsworth and Nondalton in March 2022. These surveys document the harvest and use of wild resources by two resident zone communities in Lake Clark National Park and Preserve. The final report was shared with the communities this spring. The final report can be accessed online: <https://www.adfg.alaska.gov/techpap/TP510.pdf>

NATURAL RESOURCES DIVISION, BUCK MANGIPANE (907) 717-7044

### *Coastal Bear Survey*

- In collaboration with the Alaska Department of Fish and Game, LACL staff completed a bear survey of Game Management Unit 9A and 9B in May. The survey utilized the distance sampling method employed in LACL in 2010 and 2019. Preliminary data shows that 1018 and 226 transects were completed in 9B and 9A, respectively. Observations for 9A were 244 brown bear and 55 black bear groups observed. For 9B, there were 100 brown bear, and 81 black bear groups observed. Data analysis and resulting population estimates are expected to be available early winter of 2025.
- Three coastal bear trend counts were completed in the summer of 2025. On June 24, 2025, park staff flew a survey of the coastal salt marsh areas. The flight resulted in 224 brown bears observed, which is above the average of 19 prior late June surveys (Between

June 15 and June 30). The second survey was completed on July 15, 2025, and 134 brown bears were observed. There have been 14 surveys completed in early July (July 1 – July 15) previously, with an average of 186 bears observed. The 2025 survey was noticeably lower than that average. In 2025, we were able to complete a survey in early August which has only occurred once previously. In 2023, we observed 112 bears on an August 2 survey. This year, we completed the survey on August 5 and observed 36 brown bears. This result tracks with the below average count in Early July. Changes in timing of the meadow senescing and other food sources becoming available likely affected the numbers observed using the meadows.

### ***Dall's Sheep Survey***

- In July 2025, staff conducted an aerial Dall's sheep survey of all sheep habitat in LACL. This survey used distance sampling methodology with transects flown along contour lines in sheep habitat. This was only the 7<sup>th</sup> parkwide survey completed since the initial survey of the park area was completed in 1978. We expect to have the population and age/sex class composition estimates by December 2025.

### ***Newhalen River Counting Tower***

- Monitoring on the Newhalen River has been ongoing since 2000 and provides information on salmon escapement, run timing, and population characteristics. The 2025 estimated escapement was about 428,000 sockeye salmon, which was approximately 14% of the total Kvichak River return of 3.0 million. This year's escapement to the Newhalen River was relatively early with the mid-point on 7/17, 5 days earlier than average. Preliminary assessment of age and size data indicates the run was primarily comprised of older, 3-ocean salmon. This is consistent with accounts from local subsistence users who indicated the salmon were early, bright, and large.

### ***Telaquana River Weir***

- This was the 16th year of this collaborative project with the state of Alaska and provides a reliable estimate of salmon escapement to one of the few lake-rearing sockeye salmon populations in the Kuskokwim River drainage. This year's return to Telaquana was 117,522 sockeye salmon representing 13% of the total estimated escapement past the Kuskokwim River sonar and was 24% below the 10-year average. Estimated escapement for Chum salmon and Chinook salmon were 119 and 56, 30% and 10% higher than average respectively. Similar to Newhalen, the timing of the migration past the weir was 3 days earlier than average with the mid-point on 7/21.

### ***Dragonfly and Mercury Monitoring***

- Park staff continued their monitoring of dragonflies in waterbodies throughout the park. This sampling effort was part of a nationwide Dragonfly Mercury Project that has sampled over 500 sites since 2014. This season, staff collected dragonfly larvae from three water bodies including the Beaver Pond near Port Alsworth, and two other water bodies in the park. Samples will be processed by the U.S. Geological Service and will provide an assessment of environmental mercury contamination in the park in relation to sites throughout the country.

### ***Soundscape Monitoring***

- Soundscape monitoring continued in 2025 with a new sound station deployed in the Chulitna River drainage. This was part of larger soundscape inventory of the park.

CULTURAL RESOURCES DIVISION, LIZA RUPP (907) 644-3648

### ***Kijik National Historic Landmark Cultural Landscape Report***

- In 2019 the park began a multi-year project to document the Kijik NHL cultural landscape and to develop a framework to manage the site that is informed by the perspectives and values of Dena'ina communities. The final report will be printed in October 2025.

SOUTHWEST ALASKA INVENTORY AND MONITORING NETWORK,  
HEATHER COLETTI (907) 644-3683

SWAN data and publications are publicly available on the NPS datastore:

<https://irma.nps.gov/DataStore/Reference/Profile/2311127>

### ***Water Quality Monitoring***

- Lake temperature has been monitored year-round in Lake Clark since 2006, and in Kijik Lake since 2010. In 2017, temperature monitoring also began in Telaquana Lake. In 2024, monitoring continued at all three sites. The monitoring relies on the use of programmable data loggers attached at various depths to moored vertical temperature arrays. Data from the temperature arrays allow tracking of freeze-up and break-up dates, lake stratification, and large-scale wind events, all of which influence lake productivity. Additional water quality measurements, including pH, dissolved oxygen, specific conductivity, and turbidity, were measured hourly at the outlet of Lake Clark over the course of the summer (June-September), and at multiple points on Lake Clark and seven smaller lakes in July and August. Lastly, temperature loggers installed at several stream and beach locations around Lake Clark measured surface and hyporheic water temperatures where sockeye salmon spawn. Finalized water quality data are available for download at <https://irma.nps.gov/aqwebportal/>.

### ***Surface Hydrology Monitoring***

- Streamflow near the outlet of Lake Clark has been estimated since 2009 by measuring water levels hourly during the ice-free portion of the year. In 2014, a second streamflow monitoring site was established near the outlet of Kijik Lake. This work continued during the 2025 field season. The data are useful for understanding patterns observed in aquatic systems because streamflow affects many processes, from nutrient loading to the timing and success of fish spawning. Finalized surface hydrology data are available for download at <https://irma.nps.gov/aqwebportal/>.

### ***Weather Stations***

- All five of Lake Clark's remote automated weather stations (RAWS) have received annual maintenance during June of 2025, however with the departure of SWAN's climate scientist, several sensors could not be replaced or calibrated on 3 of the 5 stations. The Chigmit Mountain and Stoney airstrip stations are fully operational. The station at Snipe Lake is partially operational, however the wind speed sensor is not functioning properly, and the snow depth sensor needs calibration. The Silver Salmon station needs snow depth calibration to be fully function, and the Port Alsworth station is near fully operational however there are some errors associated with the sensors that record solar radiation, soil temp, and soil moisture.

### ***Vegetation Monitoring***

- Vegetation monitoring in Lake Clark provides information regarding long-term changes in the vegetation structure, species composition, and abundance of plants across a range of vegetation types. Due to staff shortages and operational uncertainty, we performed less monitoring work than was planned for the year, sampling 5 spruce forest monitoring plots near the inlet of Two Lakes and 4 dwarf shrub tundra monitoring plots near Kukaklek Lake.

### ***Cold-Water Refuges***

- In 2024, LACL and SWAN began a new project to identify cold-water refuges in Lake Clark National Park and Preserve. Cold-water refuges are important freshwater locations where fish species can find relief as water temperatures approach or exceed thermal thresholds. Initial efforts used aerial surveys flown with an infrared camera to map the spatial distribution of thermal refuges in 12 salmon streams, including parts of the Necons, Chilikadrotna, Mulchatna, Telaquana, Kijik, Little Kijik, Tanalian, Tazimina, Newhalen, and Johnson rivers, as well as Priest Rock and Silver Salmon creeks. This year, we processed the images from 2024 and manually identified more than 300 cold-water refuges. We then selected a subset of these refuges to be outfitted with water temperature loggers to help characterize their extent and persistence over time. At present, we are installing water temperature loggers in selected refuges and flying a second round of aerial surveys.

### ***Bald Eagle Surveys***

- Lake Clark supports large populations of bald eagles. In May, June, and July 2025, bald eagle surveys were flown in LACL to estimate nesting occupancy and determine nest productivity. The early occupancy surveys were completed in May and June, with the late productivity survey completed in late July. In the fall of 2025, an intern that specializes in GIS applications will be brought onboard to assist with bald eagle data processing.