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**Rabbit Creek**

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The Rabbit Creek watershed (highlighted in green on map) is located in Anchorage and originates in the Chugach Mountains.

- Watershed size: 9,281 acres
- Maximum elevation: 4,933 feet
- Mean elevation: 2,056 feet
- Percent wetlands: 0.4 %
- Connected lakes: No

**Watershed facts**

- **Why temperature?**
  - Water temperature affects all phases of the salmon lifecycle, including:
    - timing of migration
    - survivorship of eggs
    - respiration
    - metabolism
    - availability of O₂
  - Warm water temperature induces stress in salmon and makes them more vulnerable to pollution, predation and disease.

- **For more details about our methods or data, please contact:**
  - Sue Mauger
    - Cook Inletkeeper
    - 3734 Ben Walters Ln.
    - Homer, AK 99603
    - (907) 235-4068 x24
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- **Water temperature monitoring site is located upstream of the Old Seward Highway crossing.**
  - Latitude (N) 61.08500; Longitude (W) -149.82300
Rabbit Creek Temperature Summary

Below is a summary of Rabbit Creek water temperature data from 2008-2010.

- Maximum temperature recorded: 13.1°C (55.7°F)
- June average temperature: 6.1°C (42.9°F)
- July average temperature: 8.3°C (47.0°F)
- August average temperature: 8.3°C (47.0°F)
- Maximum 7-day average temperature: 9.4°C (49.0°F)
- Maximum 7-day maximum temperature: 10.5°C (50.9°F)
- # of days/year temperature exceeds 13°C (55°F): 1
- # of days/year temperature exceeds 15°C (59°F): 0

Climate Change Vulnerability

We can use our current knowledge of the relationship between air and water temperature to develop stream-specific predictions for future water temperature. “Sensitivity” is a term used to describe how much a stream’s water temperature will change with a 1°C (1.8°F) change in air temperature. A stream with a higher sensitivity (>0.75) will increase faster as air temperatures increase in the years ahead. And we can use a salmon-relevant threshold value of 13°C (55°F) for average July temperature to describe a stream as “cold” or “warm” to create a framework for assessing climate change vulnerability:

- Cold Temperature - High Sensitivity
- Warm Temperature - High Sensitivity
- Cold Temperature - Low Sensitivity
- Warm Temperature - Low Sensitivity

Rabbit Creek falls in the “cold, low sensitivity” category, which indicates that stream temperatures will likely remain favorable for salmon and this system can serve as important cold water habitat in the decades ahead.

This baseline data set and our understanding of stream-specific sensitivity can guide future monitoring efforts to track climate change impacts and can help fisheries and land managers prioritize streams for research and protection efforts to ensure Cook Inlet wild salmon endure as thermal change continues.