

Salmon Creek Hydro

[Topo Map](#)

Starting points are PP14 and an unlisted flattened heli in front of the road bridge about midway

The **Salmon Creek Dam** is a concrete [arch dam](#) on the Salmon Creek, 3 miles (5 km) northwest of Juneau, Alaska. Built in 1914, it is the world's first constant-angle arch variable radius dam. Since it was built, over 100 such dams have been constructed all over the world.

The dam was built by the [Alaska-Gastineau Mining Company](#) to meet the electrical energy needs for mining operations. The dam continues to be fully functional for hydroelectric generation, as one of the drinking water sources to Juneau city and for aquaculture and fishing. When built, adoption of the constant arch design for the dam reduced costs by 20% because less concrete was needed to construct the dam. Of the two hydroelectric power stations built at the initial stage (one at the upper level and the other at the lower level) – the latter one is still in use after a new powerhouse was built adjoining the old one – it produces the inexpensive electricity in Alaska while meeting 10% of the energy needs of Juneau city. When built, the dam and its two power plants were considered engineering wonders. Both are operated and maintained by the [Alaska Electric Light & Power](#) (AEL&P).

Hydroelectricity

The rehabilitated dam and the new power house facility at the lower house site are now fully functional. The generating capacity of the power station is 29.5 GWh annually, which accounts for nearly 10% of Juneau's power demand. Alaska Electric Light and Power operates and maintains the system.

Drinking water supply

Salmon Creek reservoir is a secondary source of drinking water which is provided in conjunction with Alaska Electric Light and Power Company (AEL&P). Water is drawn from near the Salmon Creek power generation plant, which is located near sea level. Tail waters from the power station are then pumped to a water treatment plant for chlorination, and pH and alkalinity adjustment with soda ash before the water is supplied to the distribution system. This system was commissioned by the City Borough of Juneau (CBJ) in 1984, after the lower Salmon Creek Powerhouse was re-commissioned with new generating units. The reservoir is also used as chlorine contact tanks, where chlorine is added for purification and given time to react with any pathogens, before it is supplied to the city. However, this source is subject to seasonal high turbidity and also interruptions due to the annual maintenance of the generator units. This system is able to supply 1,000,000 US gallons (3,800 m³) of water, which covers about one third area of Juneau. The water resources are generally pollution-free and quality is monitored and tested every month to check for drinking-water standards set by the [EPA](#) and Alaska Department of Environmental Conservation (ADEC).

Salmon Creek Reservoir [Trail](#)

Bikers can ride the Salmon Creek Reservoir Access Road into a forested valley not far from downtown that is the site of one of Juneau's older hydroelectric operations.

Originally built in 1914 as a tramway to haul men and supplies up to a construction site for the dam, the Alaska Gastineau Mining Co. used the trail as a source for

hydroelectric power for its operations at six miles south at Sheep Creek. The trailhead is behind Alaska Electric Light and Power Co.'s powerhouse at mile 2.5 Egan Drive. Coming from town, turn right just past the end of the long retaining wall beside Egan Drive. There is room to park your car near the trailhead. Bike riders may reach the trailhead via a walkway extending from the dead-end section of Glacier Highway that is above Egan Drive or along the bicycle trail running parallel to Egan Drive from the Salmon Creek intersection. **Bartlett Regional Hospital** is just north of the trailhead and local buses stop at the hospital regularly both northbound and southbound.





Upper (old) Power House



