

NRSN A T U R A L
R E S E R V E
S Y S T E M

University of California

Administering
Campus
UC Santa BarbaraEstablished
1973

Site Specs

Location

Mono County, on eastern slope of Sierra Nevada; 13 km (8 mi) east of Mammoth Lakes just off U.S. Highway 395.

Size

22 ha (55 acres)

REGIONAL Elevation

1,250 to 4,012 m (4,100 to 13,163 ft)

Average Precipitation

25 to 38 cm (10 to 15 in)/yr, most as snow

Temperature Ranges

Summer: 0° to 29°C (32° to 84°F)

Winter: -23° to 11°C (-10° to 52°F)

Facilities

Experimental stream complex; six wet labs, two controlled-environment rooms, chemistry lab, radioisotope lab, 10 offices, library/meeting room; dormitory for 25, four houses w/ room for 15; classroom annex; database center w/ extensive computer facilities; storage for long-term researchers' equipment; Mammoth Mountain Snow Science Lab located nearby.

Databases

Long-term flow/temp records for Convict Creek; climate data; maps; bibliography of on-site research; synoptic collections; aerial photos; regional geographic information system (GIS).

Personnel

On-site staff reserve manager, stewards, database manager, environmental monitoring specialist, education coordinator.

NRS Publications

Reserve brochure (revised 2000).

VESR Flora, 2nd ed. published 2000 — available via NRS website (see below).

Contact Information

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NRS Website

<<http://nrs.ucop.edu>>

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Sierra Nevada Aquatic Research Laboratory (SNARL)

A component of the Valentine Eastern Sierra Reserve (VESR)

With a fully equipped modern laboratory and computing facilities, the Sierra Nevada Aquatic Research Laboratory (SNARL) serves as a major center for research for the eastern Sierra Nevada and Owens Valley. The site features a human-made experimental stream system, consisting of nine meandering channels used for research on stream hydrology and ecology. Convict Creek flows year-round through SNARL, feeding the experimental system and providing a natural stream environment protected from grazing and other human impacts. Non-aquatic research is also supported and encouraged on the reserve's pristine habitats, which include Great Basin shrubland and grassland, high desert riparian woodland, and riparian meadow. Another nearby NRS site, Valentine Camp, joins with SNARL to comprise the Valentine Eastern Sierra Reserve (VESR).

Selected Research

Ecology of Mono Lake: UC research since 1976 on Mono Lake influenced a 1994 decision of the State Water Resources Control Board to raise the lake level, helping to restore its ecosystem; ongoing projects there include physical-limnology modeling and monitoring of brine shrimp and alkali fly populations.

Sierran snowpack: SNARL scientists operate a snow laboratory on Mammoth Mountain; the National Science Foundation and NASA Earth Observing System Project fund ongoing studies of snowpack properties and snow-melt runoff.

Aquatic biology: Ongoing studies examine impacts of livestock grazing on stream ecology and effects of nonnative trout on Sierra Nevada lake ecosystems.

Special Programs

Geologic monitoring: U.S. Geological Survey-funded scientists monitor seismic activity in the Long Valley Caldera and carbon dioxide emissions around Mammoth Mountain.

Public outreach: Environmental education programs for local elementary school students; K-12 summer school; public tours; short courses.

Regional field station: SNARL attracts users from all UC campuses, many out-of-state colleges/universities, federal laboratories and research programs; reserve manager consults on regional resource management issues.

Field courses: University courses using site include botany, geology, environmental studies, snow science, and White Mountains Research Supercourse.