EPA Science Forum 2003
Partnering to Protect Human Health and the Environment

Landscape Scale Change 1972 - 2000

Year of Water: Thirty Years of Progress Through Partnering

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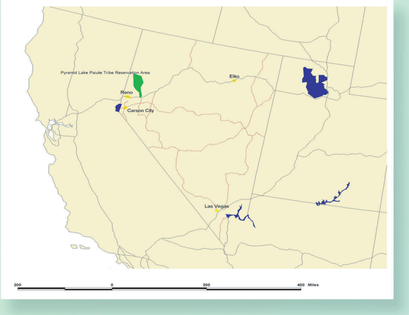
Paiute Tribe Reservation Area

Location map of Pyramid Lake Paiute Tribe (PLPT) Reservation in northwestern Nevada.



PLPT environmental program goal is recovery of the Lahontan Cutthroat Trout fisheries.

Stone Mother tufa formation

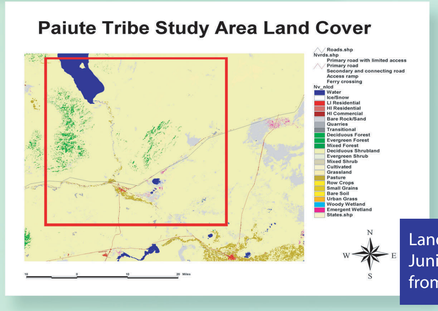
Stone Mother tufa formation. The pyramid, which the lake is named after, is a tufa formation.

Changes in the landscape affect wildlife habitat, fire condition, rangeland economics, cultural and aesthetic values. The Pyramid Lake Paiute Tribe (PLPT), in cooperation with federal, state and local entities, has been able to increase stream flow, establish water quality standards and improve fish habitat in the Truckee River. As seen in the Landsat imagery from July 25, 1972, and July 27, 2000, representing 28 years of change, lake level and riparian habitat have increased.

Pyramid Lake has high calcium carbonate concentrations, which precipitates out of solution creating large tufa formations.

In the 1972 image, the red splotches seen in Pyramid Lake are Nodularia blooms (blue-green algae). Nodularia fixate nitrogen from air and Truckee River inputs. Decomposition of the Nodularia is considered the primary source of total nitrogen to Pyramid Lake. Blooms can occur in all parts of the Pyramid Lake from August to early November.

Truckee River headwaters in Lake Tahoe, Sierra Nevadas, and terminates into Pyramid Lake.



Land cover is predominantly sagebrush step with single leaf Pinon Pines and Juniper in higher elevations. The Truckee River corridor is easily distinguished from land cover and imagery in this high elevation arid environment.

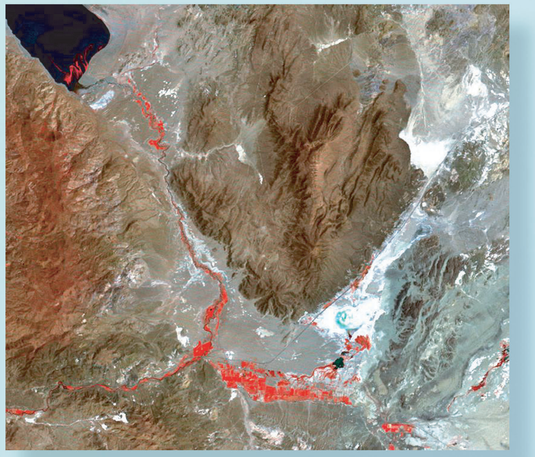
Petroglyphs near Lake Winnemucca. Prior to 1920 and the Newlands land Reclamation Project, Pyramid Lake was 80 feet higher. At higher lake levels, Pyramid Lake overflowed into Winnemucca Lake, which is now dry.

Petroglyphs

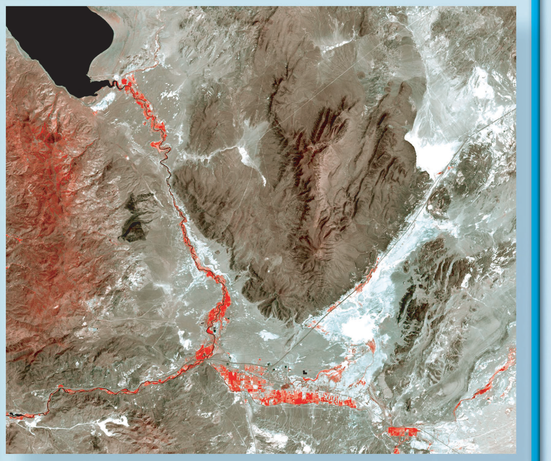
Truckee River upstream of Lockwood

Needles Geyser, Pyramid Lake

Truckee River below the Nixon Bridge



July 25, 1972



July 27, 2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Partnering to Protect Human Health and the Environment