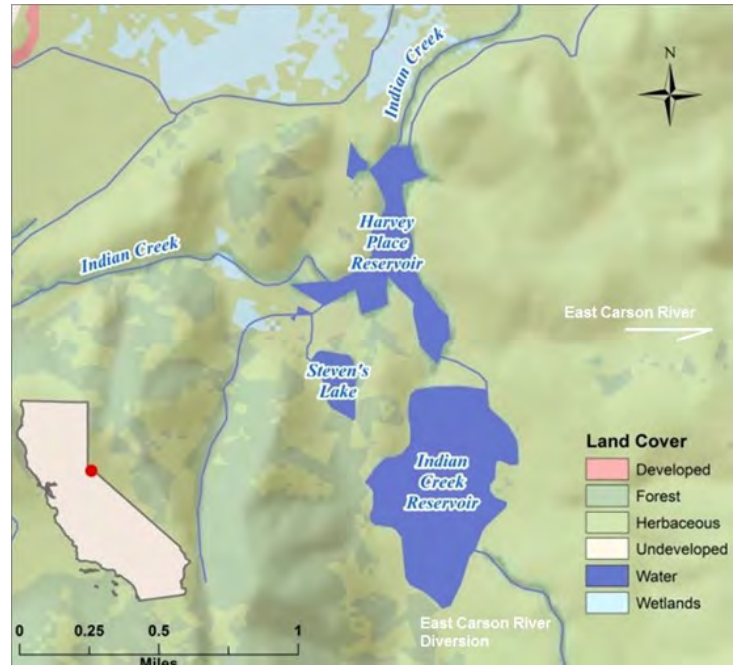


| Water Quality Report Card        |                                     | Phosphorus in Indian Creek Reservoir        |   |
|----------------------------------|-------------------------------------|---|---|
| <b>Regional Water Board:</b>     | Lahontan, Region 6                  | <b>STATUS</b>                               | <input checked="" type="checkbox"/> <b>Conditions Improving</b>   |
| <b>Beneficial Uses Affected:</b> | COLD, COMM, REC-1, REC-2            |   | <input type="checkbox"/> Data Inconclusive  |
| <b>Implemented Through:</b>      | CWA 319(h)<br>Nonpoint Source Grant | <input type="checkbox"/> Improvement Needed | <input type="checkbox"/> Targets Achieved/Water Body Delisted   |
| <b>Effective Date:</b>           | July 1, 2003 (TMDL)                 | <b>Pollutant Type:</b>                      | <input type="checkbox"/> Point Source <input checked="" type="checkbox"/> Nonpoint Source <input type="checkbox"/> Legacy |
| <b>Attainment Date:</b>          | 2024                                | <b>Pollutant Source:</b>                    | Naturally-Occurring   Erosion/Siltation   |
|                                  |                                     | Nonpoint Source Runoff                      |   |

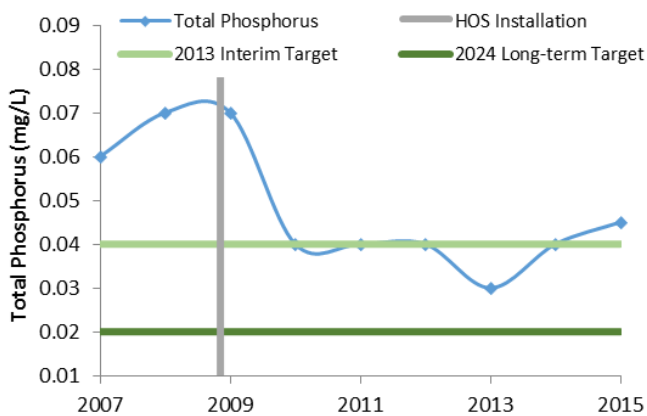
### Water Quality Improvement Strategy

Indian Creek Reservoir (ICR) is located in Alpine County approximately 30 miles south of Lake Tahoe. Since 1989, the water in the ICR has been provided by fresh water diversions from Indian Creek and the West Fork of the Carson River. The ICR has been impacted by eutrophication, the process by which a water body becomes enriched in dissolved nutrients, since the 1970s and phosphorus was identified as the primary nutrient causing this. The phosphorus source loading is primarily from internal sources (sediment load). The responsible parties (RPs) are to reduce eutrophication within the ICR. The responsible parties are: South Tahoe Public Utility District (STPUD), the U.S. Bureau of Land Management, Alpine County, and other owners and land managers in the watershed. The Regional Water Board completed the [Indian Creek Reservoir TMDL for Phosphorus](#) in 2002, which was approved by USEPA in July 2003. The TMDL is implemented through a Clean Water Act Section 319(h) Nonpoint Source Implementation Grant to the STPUD. The grant was administered to reduce internal sources of phosphorus into the ICR from sediment, and to optimize reservoir management to protect and enhance beneficial uses. In December 2008, as part of the TMDL mitigation project, STPUD installed a hypolimnetic oxygenation system (HOS) in the deepest portion of the ICR. The ICR is evaluated for eutrophication by monitoring total phosphorus (TP), dissolved oxygen, chlorophyll-a, trophic state index (TSI), and Secchi Depth (SD). TSI is a numeric target used to determine the status of a water body by assessing its biological condition, and SD is a measurement of water clarity. The TMDL implementation schedule calls for achieving the interim phosphorus TMDL target (0.04 mg/L) by 2013, and the long-term phosphorus target (0.02 mg/L) by 2024.

### Indian Creek Reservoir



### Total Phosphorus at Indian Creek Reservoir



### Water Quality Outcomes

- TMDL targets for TP and TSI are currently exceeded as seen in the graphs below. The STPUD attributes the recent exceedance in the TP interim target to high concentrations at two of three shallow water monitoring sites.
- Annual mean TP concentrations generally have declined since HOS installation in 2008.
- TMDL targets for dissolved oxygen and SD have not been exceeded in the ICR.
- In 2015, STPUD spent approximately \$20,000 for HOS maintenance, operations, and water quality monitoring.

### Water Quality at Indian Creek Reservoir

