

Section 12: Fresh Water Management Projects

12.1 Water Right Management

West Fork of the Carson River water rights are the cornerstone of the freshwater irrigation, water quality improvement opportunities, and conjunctive use of resources and infrastructure in Alpine County. The water currently available for the recreational pool of Indian Creek Reservoir is transferred surface water rights from the District owned property in Diamond Valley. These rights are planned to be supplemented with other transferred rights in the future to provide a reliable source of water for the Indian Creek Reservoir fishery.

In addition to using agricultural water rights for Indian Creek Reservoir maintenance, the movement of freshwater through the system has great benefits to habitat quality and conveyance efficiency. By using the available storage and conveyance facilities to maximize the needs of multiple users many solutions to management objects can be developed.

An assessment and quantification of District owned water rights can be found in Appendix G - Water Rights. There are two freshwater management projects and implementation of each is contingent on the success of the District's current Hypolimnetic Oxygenation System project, and the District's ability to meet minimum water surface elevations in Indian Creek Reservoir.

12.2 Project No. 19 - Use of Mud Lake Winter Diversion for Indian Creek Reservoir Flushing Flow

This project addresses the purpose and need statement:

- PN-9. Ability to meet Indian Creek Reservoir water quality requirements is impaired and the District needs to meet TMDL requirements for the Indian Creek Reservoir.

Project No. 19 would divert winter flows in Indian Creek through Indian Creek Reservoir before reaching Mud Lake Reservoir in Nevada. The flushing flows would be diverted from Indian Creek via the Upper Dressler Ditch.

The construction of the Indian Creek Reservoir Hypolimnetic Oxygenation System project intends to help ensure water quality maintenance throughout Indian Creek Reservoir, preventing elevated phosphorus levels from polluting downstream water bodies. While Project No. 19 is a management project, it will require infrastructure improvements to increase flushing flows to Indian Creek Reservoir. The Upper Dressler Ditch conveyance Improvements (Project No. 15, page 11-82) address capacity and reliability issues of flow to Indian Creek Reservoir. This operational change has great promise as a means of improving water quality at the cost of agreement of parties and operation changes.

12.3 Project No. 20 - Storage of Water for Downstream Users

This project addresses the purpose and need statement:

- PN-9. Ability to meet Indian Creek Reservoir water quality requirements is impaired and the District needs to meet TMDL requirements for the Indian Creek Reservoir.

In an effort to maintain a higher recreational pool in Indian Creek Reservoir, water from transferred water rights can be stored in Indian Creek Reservoir for later use by downstream users. It is currently difficult to reliably fill or replace losses in Indian Creek Reservoir during

drought years. By storing water for later release, the pool elevation can be maintained longer in the season thereby increasing fishery habitat quality, and recreational opportunity.

Water releases from Indian Creek Reservoir can be conveyed to downstream users via Indian Creek and the East Fork of the Carson River.

Indian Creek Reservoir has capacity to provide seasonal storage for freshwater diverted from the West Fork of the Carson River and Indian Creek. As a means of providing freshwater resources later in the growing season, or in the winter months when the river is low, Alpine Decree water rights may be transferred to storage in Indian Creek Reservoir and released at a later time for agriculture or municipal and industrial demands.

This process could require approval by the U.S. District Court Water Master, and the Nevada State Engineer. The negotiations require the determination of conveyance paths and transmission losses, and demonstrate that storage operations would not hinder existing water rights holders, or violate provisions of the Decree. Additionally, reviews in other Federal Courts may be required.

12.4 Potential Temporary and Permanent Freshwater Right Transfers

Transfer of District freshwater rights from Diamond Valley Ranch to Indian Creek Reservoir allows for increased operational flexibility. For example, a temporary transfer of water rights could occur with approvals during construction of the Irrigation Fields in Diamond Valley. In addition, if a rancher applying recycled water opts out of his agreement, an increase in recycled water application could occur on Diamond Valley Ranch and the District could possibly transfer water rights from the ranch to Indian Creek. Finally, for wet year seasonal cycles, recycled water could be removed from Harvey Place Reservoir to keep it from overflowing and could be applied to Diamond Valley Ranch; this also could result in a temporary transfer of water rights from the ranch to Indian Creek Reservoir. A permanent transfer of water rights from Diamond Valley Ranch to Indian Creek Reservoir could occur when the ranch is converted fully to recycled water irrigation.