4.13 RELATIONSHIP BETWEEN SHORT-TERM USES AND MAINTENANCE OF LONG-TERM PRODUCTIVITY

This section provides a summary of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity of the affected resources for the proposed action (SJRA) and the alternative action (Water Right Priority System), 1999-2010. There are no short-term construction impacts associated with the releases of water for stream flow enhancement. In summary, the long-term benefits of increased productivity of the San Joaquin River ecosystem and reliability in water supplies outweigh short-term adverse effects on individual resources listed below.

4.13.1 Proposed Action

Surface Water

Most impacts to water deliveries, water storage, and water quality are associated with specific hydrologic conditions, and these conditions vary throughout the period. Potentially significant impacts are short-term impacts (1 to 5 years) related to dry hydrologic events. Over the long-term, the twelve-year period 1999-2010, the probability is low that an extended adverse impact would occur, i.e., a long-term drought. Water supply reliability would be enhanced with the proposed action over the long term. Rather than relying on short-term individual water acquisitions, Reclamation and the Authority would plan their water operations with greater performance reliability.

Groundwater

Groundwater impacts to the Merced Groundwater Basin and to the OID and Exchange Contractors service areas are short term because they are related to dry hydrologic events when the full amount of water would most likely not be required. Over the long term, conjunctive use programs and natural groundwater recharge during wet years would minimize the long-term impact on groundwater overdrafting, water level, water quality, and subsidence problems.

Terrestrial Resources

The pulse flows are to occur in most years, so the impacts to vegetation and wildlife are annual events that would benefit the long-term productivity of the riparian ecosystems as long as the releases are timed to include ramping flows.

Aquatic Resources

The pulse flows would occur in most years, so the impacts to aquatic resources are long-term rather than short-term, and most impacts are beneficial. Ramping flows would ensure that juvenile salmon and salmon redds are not adversely affected.

Land Use

Short-term impacts are associated with dry hydrologic events that could result in the use of groundwater to offset reductions in irrigation deliveries or reductions in crop production. Over the long term, agricultural production would not be affected. Short-term reductions in employment and income would not significantly affect the regional economy over the long term.

Cultural Resources

Exposure of resources to recreational users would occur in the short term due to specific hydrologic events. This impact could affect maintenance of the integrity of the resources over the long term if several dry years occurred over the life of the proposed project, 1999-2010.

Recreation

There are no short-term or long-term impacts to recreation on the rivers or at the reservoirs.

Energy Resources

Impacts to hydropower generation during peak power production months would occur in the short term at Lake McClure/Merced River, depending on dry hydrologic events. Over the long term, productivity would not be significantly affected. Also, there would be some energy use associated with short-term pumping of groundwater, primarily during dry hydrologic events.

Indian Trust Assets

There are no identified Indian Trust Assets in the project area, so there are no short-term impacts to the detriment of long-term protection of these assets for Native Americans.

Environmental Justice

There are no environmental justice impacts associated with use of the reservoirs or the rivers in either the short- or long-terms.

4.13.2 Alternative Action

Impacts in the short-term are similar to the proposed action and described above (Section 4.13.1). Since the specific water right holders and their geographic locations and service areas are not identified, it is possible that the following resources would be affected differently in either the short- or long-terms.

Surface Water

Implementation of the alternative action is accomplished by "taking" (via SWRCB administrative action) the water associated with the rights of junior appropriators as required to achieve the 1995 WQCP objectives. The amount of water required, and therefore the number of junior water right holders affected, varies each year depending upon the water year type (wet, above normal, etc.). Junior appropriators, high on the list (i.e., first to lose their water), could experience long-term significant losses of water deliveries and productivity as their water supply is continually called upon to meet fish attraction and pulse flow needs (except under wet conditions when supply exceeds all the demands). In addition, since it would be impossible to predict (with any degree of certainty) the type of water year in advance, long-term water supply reliability would be sacrificed to meet short-term (annual) needs. This could have significant consequences to productivity, as decision making under this uncertainty would preclude conventional planning and reliability of resources.

Groundwater

Other water right holders may rely more heavily on groundwater supplies to provide sufficient releases into the San Joaquin River system. Short-term use of substantial amounts of groundwater could affect the long-term productivity of the affected groundwater basins and the resultant problems of overdrafting, water levels, water quality, and subsidence.

Land Use

If any of the water right holders rely on water planned for municipal use, then deliveries to municipal water users would be affected in the short-term, based on hydrologic conditions. Short-term reductions in water deliveries would adversely affect the long-term reliability of water supples for municipal users which could affect population growth and the regional economy.

Recreation

Long-term impacts to boating occur on the San Joaquin River. In the short term, critically dry years, impacts occur to recreationists at New Don Pedro Reservoir.