

Attachment 7
Program Preferences

North Cal-Neva Resource Conservation and Development Council, Inc.

ATTACHMENT 7. PROGRAM PREFERENCES

Project A: Ash Valley Ranch Irrigation Infrastructure Efficiency Project

The proposed project assists in meeting Program Preferences described in Section II.F of the 2014 IRWM Drought Guidelines.

Specifically, the ***Ash Valley Ranch Irrigation Infrastructure Efficiency project is a prioritized regional project.*** The project is consistent with the Upper Pit Watershed Integrated Regional Water Management (IRWM) Plan and is listed as a Tier 1 Project. Tier 1 projects have been through the formal approval process of the Project Review Committee and are endorsed by the Project Review Committee and the Regional Water Management Group. Tier 1 projects have been reviewed with respect to 12 criteria and are ready to proceed.

The project was identified as important to the region due to the amount of water running through this particular landowner's canal. The leakage is significant and stakeholders agree that this project would represent significant groundwater savings after implementation. In addition, the replacement of diesel with electric pumps will considerably reduce the GHG emissions from the current diesel-run pumps. These issues are both IRWM-level issues and are addressed in large part by this project.

In addition the ***Ash Valley Ranch Irrigation Infrastructure Efficiency project addresses the following four statewide priorities.***

The project will provide immediate regional drought preparedness by:

- Promoting water conservation. The project will result in significant conservation of water as water loss is reduced.
- Improving landscape and agricultural irrigation efficiencies.
- Achieving long term reduction of water use as the improved irrigation system will be maintained.
- Managing the Ash Valley groundwater basin more efficiently by reducing the amount of water extracted for irrigation.

The project will use water more efficiently. The project will increase agricultural water use efficiency resulting in an increase in water supply reliability. The project will immediately result in water savings of 25% percent as water loss to evaporation and leakage will be minimized. In addition, less water will be pumped from the Ash Valley Groundwater Basin resulting in conservation of this important resource for both drinking and agricultural water use. By conserving groundwater the project will contribute to maintaining a sustainable water supply and increase reliability of the Ash Valley water supply during water shortages.

The project incorporates climate change response actions.

Replacement of diesel pumps with electric pumps in the proposed irrigation efficiency project will reduce greenhouse gas (GHG) emissions and will reduce overall energy consumption. Furthermore, replacing a ditch delivery irrigation system with a piped delivery system will result in increased efficiency and decreased overall water pumped for use. The decrease in water pumped will further reduce the energy consumption of the water system, and therefore, further reduce GHG emissions. Overall the project will reduce GHG emissions by 63% of current levels.

The project also expands environmental stewardship.

The water from the project's agricultural wells has been used for over half a century to irrigate a native grassland/wetland pasture that is grazed by ranch livestock and provides a high quality seasonal resource for an abundance of wildlife species including the state threatened Sandhill crane. Increased agricultural water use efficiency will make it more viable to continue to provide this vital resource to wildlife.

Project B: Restoring Hydrological Function to South Ash Valley

The proposed project assists in meeting Program Preferences described in Section II.F of the 2014 IRWM Drought Guidelines.

Specifically, the Restoring Hydrologic Function in South Ash Valley project is a prioritized regional project. The project is consistent with the Upper Pit Watershed Integrated Regional Water Management (IRWM) Plan and is listed as a Tier 1 Project. Tier 1 projects have been through the formal approval process of the Project Review Committee and are endorsed by the Project Review Committee and the Regional Water Management Group. Tier 1 projects have been reviewed with respect to 12 criteria and are ready to proceed.

The multiple benefits provided by this project make it an excellent candidate for IRWM funding. The project integrates environmental, community education, and local economy components to fully realize the potential of IRWM in the Upper Pit watershed. Stakeholders have consistently cited fire protection as a major watershed issue for the region; this project implements that theme and at the same time provides valuable hydrologic benefits.

In addition, the *Restoring Hydrologic Function in South Ash Valley addresses the following four statewide priorities.*

The project will provide immediate regional drought preparedness by restoring the Ash Valley watershed through the removal of invasive western juniper from areas that it has not historically occupied. This will help restore ecosystem hydrological function and thus increase the amount of water available for livestock and wildlife needs. In addition, a restored watershed will increase the amount of water available for groundwater recharge.

The project will use water more efficiently. The project will increase agricultural water use efficiency by replacing invasive western juniper, with more water-use efficient grasses and shrubs. Production of forage valuable to cattle and wildlife will increase by 1,000 pounds per acre beginning four years after project completion and continuing into the future. If 60% of this forage is utilized by animals this equates to 600 lbs per acre. Over the 1,000 acres of the proposed project, that is 1,000,000 lbs of additional forage produced and 600,000 pounds of additional forage utilized per year once maximum growth has been achieved. During these drought conditions every bit of water is critical. If available water is being taken up by desirable plant species rather than juniper, then benefits to cattle and wildlife will accrue.

The project expands environmental stewardship.

The proposed treatment area is 1,000 acres and drought-resistant plant communities and hydrologic function will be restored to the entire project area. Native plant communities, including montane meadows, are adapted to low moisture conditions and can continue to provide valuable habitat and forage for wildlife even in drought years. Restoring hydrologic function within the project area will beneficially impact the watershed as a whole.

The project also protects surface water quality.

Sediment loads from areas dominated by juniper are much greater than those dominated by native sagebrush steppe or grassland vegetation. The restoration of native plant communities will reduce soil erosion, including, Sheet, Rill, Wind and Stream Bank erosion, thereby reducing sediment loads to surface waters. Native plants serve as a natural filter for runoff by slowing the flow and allowing for sediment to settle. This vegetation stabilizes stream banks and other areas that receive concentrated flows. When in drought years, vegetative growth is impacted, the roots in the soil still serve as glue holding the soil together and reducing erosion. The native plant community that establishes after juniper control serves as a soil protector while also protecting water quality for other uses. Restoring native plant communities through juniper removal will also reduce the risk of wildfire, and its associated adverse effects to surface water quality, on the landscape.

Project C: South Fork Irrigation District Infrastructure Upgrade

The project is consistent with the Upper Pit Watershed Integrated Regional Water Management (IRWM) Plan and is listed in the Plan as a Tier 1A Project. Tier 1A projects are those projects that are ready to proceed, high-priority projects which must first secure funding for the non-match portion of the budget before the lead agency will commit to supplying a match. In other words, upon commitment of funding for the project by DWR, the Natural Resources Conservation Service (NRCS) will commit to funding the match.

Tier 1A projects have been through the formal approval process of the Project Review Committee and are endorsed by both the Project Review Committee and the Regional Water Management Group. The South Fork Irrigation District Infrastructure Upgrade project was reviewed at the April 17, 2014 RWMG meeting. At that meeting it was determined that the project met the qualifications for the 2014 IRWM Drought funding and was deemed a high priority project. The RWMG approved this project to be included in the Drought Funding application at the April meeting.

This project addresses the statewide priority of drought preparedness by improving agricultural irrigation efficiencies. This project significantly upgrades the irrigation infrastructure by reducing the amount of water being lost in the water distribution system. This provides a substantial improvement in the efficiency of getting water from the South Fork Pit River to West Valley Reservoir and from the Reservoir to the irrigated fields. With a more efficient system, the amount of water needed for agricultural needs can be transported to the reservoir in less time. Reducing the loss of water from the reservoir to the fields will help sustain the flow of water through the irrigation season. This project provides long term benefits since the minimum life of the project is 15 years.

However, as mentioned in the conservation measures in attachment 2, several projects have been completed to improve water use and hydrologic function within the South Fork Irrigation District Boundaries. The benefits the proposed project provides are extended to each of these projects. The proposed project is just a part of the bigger picture within the District. This proposed project, the completed projects and any future projects are and will be designed to be compatible and enhance water use within the District.

Several projects were completed in the South Fork Irrigation District few years ago as a response to drought conditions, but not specifically the 2014 drought:

- Three pumps were installed to recycle irrigation “tail water” to other areas for re-use. This addresses the preference to Increase agricultural water use efficiency measures such as conservation and recycling
- Land treatment project included land smoothing of one field to make flood irrigation more efficient. This addresses the preference to Improve landscape and agricultural irrigation efficiencies
- Flood plain restoration, meadow re-hydration and stream bank restoration projects have been completed with the cooperative participation of different public interests. These projects practice, promote, improve, and expand environmental stewardship to protect and enhance the environment by improving watersheds, floodplains, and in stream functions.