

Alamitos Creek WMU

Located in the headwaters of the Guadalupe River and flowing through largely undeveloped lands, the WMU represents the least developed watershed in the Guadalupe River Watershed Management Area. Current land uses are predominantly open space/parks/rangeland/forest (80 percent), with 17 percent urbanized, most of which is residential. About 1.8 percent is used for agriculture, primarily ranching along some reaches upstream of Harry Road and along the Calero and Santa Teresa Creek tributaries. As a FAHCE stream, Alamitos Creek has been identified as key for habitat improvement and fisheries restoration projects.

DRAFT VISION

Our vision for the Alamos Creek WMU includes:

A stream without dams and other human-made barriers that impede natural flow up to Almaden Reservoir, that supports native fish populations. Historic fisheries on Alamos Creek will be restored, including steelhead trout in the reaches between the creek's confluence with Guadalupe Creek and the outlet from Almaden Reservoir. This will occur particularly in the reach of Alamos Creek from the confluence at Almaden Lake to Harry Road.

Potential Projects:

- ◆ Feasibility study on creation of a bypass channel at Almaden Lake. This study would complement the planned geomorphic study of Alamos Creek by further development of the restoration concept for Alamos Creek.
- ◆ A land use master plan (in collaboration with the appropriate jurisdictions) to address the issues of growth in the Guadalupe Creek and Alamos WMUs with the purpose of developing land use and ordinance recommendations that will allow the highest level of natural function for the creeks.
- ◆ Removal of dams and other fish barriers on Alamos Creek below the reservoir (consideration of removal of Almaden Reservoir Dam optional)
- ◆ Survey of Almaden Reservoir for water quality at a minimum required frequency
- ◆ Feasibility of improvements to Almaden Reservoir for fisheries and recreation
- ◆ Monitoring and assessment program to evaluate impacts of creek barrier removal on temperature, fish population (and predation), and sediment particle sizes.
- ◆ Restoration of the floodplain where the stream has been confined by the removal of braided channel reaches, in both Alamos and Calero.
- ◆ Evaluation of decommissioning of ponds in the WMU

Healthy, vegetated banks. Existing well-established riparian vegetation along part of Alamos Creek will be retained and vegetation along the streambanks will be enhanced where it is inadequate. Extensive non-native, in-stream vegetation (particularly *Arundo donax*) will be removed in the reaches of the creek upstream of Harry Road. Bank stabilization will also help reduce mercury contamination of the creek and the Bay.

Potential Projects:

- ◆ Increase native riparian vegetation on unvegetated banks at from upstream of Almaden Lake to Harry Road.
- ◆ Removal of *Arundo donax* and planting of native trees to shade creek above Harry Road and in other patches downstream

A watershed free of mercury contamination. Reducing the presence of mercury in the Alamos Creek WMU will be the focus of future stewardship efforts. Building on the results of the Mercury

TMDL study, efforts will be taken to reduce this existing source and other sources of mercury, such as urban runoff, in this system.

Potential Projects:

- ◆ Erosion control projects to reduce impacts of contaminated sediment in the existing banks of Alamitos Creek
- ◆ Removal of calcine deposits along Alamitos Creek where feasible.
- ◆ Evaluation of possible mercury contamination in sediment drop structures along tributaries to Alamitos Creek such as Golf/McAbee Creek and Randol Creek, and removal of contaminated sediment where feasible
- ◆ Evaluation of urban runoff in main stem of Alamitos Creek to confirm that mercury concentrations are low in comparison to concentrations received from contaminated areas. If not, develop strategy that includes public education and outreach and the development options for residences and businesses to help reduce mercury concentrations in urban runoff using appropriate and practicable best management practices (BMPs).
- ◆ Feasibility of obtaining maintenance easements along entire Alamitos Creek to assist in ability of reducing flood hazards and contaminated sediment
- ◆ Biotechnical erosion control projects to reduce contaminated soil particles from reaching Alamitos Creek and its tributaries
- ◆ Removal of contaminated sediment in tributaries draining the mining area such as McAbee Creek just outside the Senador Mine entrance
- ◆ Removal or capping of presently-uncovered mine wastes such as upstream of Hacienda Furnace Yard on the eastern bank of Alamitos Creek and on the slope below the road slippage above the town of New Almaden on the way to the reservoir.
- ◆ Feasibility of controlling seeps with high mercury concentrations at former mines such as to McAbee and Randol Creeks, both tributaries to Alamitos Creek

Continued Protection of Open Space. Existing open space area in the WMU will be protected and enhanced. Careful land use planning will ensure the high quality, natural environment found in the majority of the watershed.

Potential Projects:

- ◆ Land use planning study to assess the effects of future development
- ◆ Feasibility of cooperative projects to increase access to open space, including provision for joint trail heads, parking, and public facilities

Abundant recreation opportunities and an extensive network of streamside trails. New streamside recreational trails will be developed, and will be managed to prevent erosion and degradation water quality.

Potential Projects:

- ◆ Exploration of alternative recreation options around Almaden Lake with and without a bypass.

- ◆ Feasibility of trail development around Almaden Reservoir and to Calero Reservoir, and a trail linking the existing trail system along Alamos Creek to Calero Reservoir
- ◆ Feasibility of additional recreational opportunities at Almaden Reservoir

Maintain existing flood control while improving stream function. Existing flood control functions will be maintained, while emphasize natural flood protection..

Potential Projects:

- ◆ Calero Channel Repairs, if dam is retained
- ◆ Evaluation of the potential for increased flooding due to on-going development on steep slopes in Alamos Creek watershed; include detailed analysis of existing drop structures on tributaries

Maintain and Build on Existing Partnerships and Interagency Cooperation. Stakeholders in the WMU will continue to work together to ensure watershed stewardship. The District and other agencies and stakeholders in the WMU will build on existing efforts such as SCVURRRP, the WMI and FAHCE.

Potential Projects:

- ◆ Joint agreements between the City of San Jose, the County, as well as the agencies with jurisdiction, such as SCVWD and MROSD.
- ◆ Partnerships with ranches and other property owners on erosion control.

Calabazas Creek WMU

A highly urbanized watershed, the Calabazas Creek WMU has long been affected and manipulated by human activity. It has a history of early settlement, extensive farming and channelization. The most highly urbanized portions of the Calabazas Creek WMU have experienced significant flood control improvements in recent years. However, several reaches of the creek channel have not been modified and retain a high level of natural function. In addition, as older portions of the stormwater and transportation infrastructure reach obsolescence the replacement infrastructure provides an opportunity to return additional portions of the channel to more natural conditions connecting with other portions of the creek serving as a regional wildlife corridor. The vision is based on the transition to natural flood protection and improved storm water management techniques to continue to protect and minimize the impacts of flooding within the WMU, and reduce hydromodification of the channel.

DRAFT VISION

Our vision for the Calabazas Creek WMU includes:

A continuous, vegetated riparian corridor that helps prevent bank erosion while promoting water quality and habitat. Calabazas Creek's banks will be revegetated in order to maintain stream temperatures and create quality habitat for riparian wildlife. The channel will be stabilized and shaded with vegetation, so that it may one day support warm water fisheries. Though current habitat conditions are unfavorable to fish, if the channel were stabilized and shaded with vegetation, Calabazas Creek could one day support warm water fisheries.

Potential Projects:

- ◆ Explore non-hardening options as part of the Lawrence Expressway to Miller Avenue revegetation.
- ◆ Conduct a feasibility study on the removal of the Comer Debris Basin. The debris basin is acting as a grade control structure and is protecting the stream reaches above from further incision, but may be contributing to downstream channel erosion by interrupting the bed load supply. Is there a more natural alternative?
- ◆ Ensure that all individual infrastructure replacement operations (e.g., Bollinger Avenue Bridge) are consistent with the natural flood protection framework for the Calabazas WMU.
- ◆ Develop alternative designs for the CIP project being planned from Miller Avenue to Wardell Road that include bioengineering methods to stabilize streambanks and reconnect floodplains so that instream habitat for macroinvertebrates and other aquatic life may reestablish.

An extensive network of streamside trails, linking natural preserves in the headwaters and an urban park network downstream. Locations for additional streamside trails and urban parks will be identified in the Calabazas Creek WMU, and will become part of a larger network of linked trails.

Potential Projects:

- ◆ Streamside trail development along Calabazas Creek both in headwaters as well as in urban areas. Explore possibilities for collaborating on the restoration of creekside trails at Calabazas Park.
- ◆ Continue exploration of using District maintenance roads as trails
- ◆ Explore increasing access to Calabazas Creek through trail easements
- ◆ Continue/expand District Trails, Parks and Open Space Grant Program for creekside park and trail development

Promotion of ongoing stewardship activities in the watershed. The District and other agencies in the WMU will strive to increase residents' awareness of Calabazas Creek as a natural resource and amenity. Reaches of Calabazas Creek will continue to be "adopted" by community groups. The District and other jurisdictions will encourage collaboration with local volunteer groups in order to maintain streams and conduct monitoring.

Potential Projects:

- ◆ Continue promoting District's Adopt-a-Creek program in the Calabazas watershed.

- ◆ Explore restoration potential at Calabazas Park in San Jose, located at the confluence of Calabazas Creek and Rodeo Creek.
- ◆ Explore restoration potential in other reaches where District easements are located and erosion is severe, e.g., from Miller Ave upstream to the Highway 85 crossing, sites of severe erosion were observed and easements appear to present potential opportunities for floodplain restoration at multiple locations.

Stevens Creek WMU

Steven Creek is the most naturalized watershed in the three watershed areas, with the highest quality riparian and aquatic habitat. The creek and its natural streamside character are a crucial natural feature of the South Bay. Stevens Creek has a predominantly natural channel with some high quality, steep riffle-pool and step-pool reaches in wooded upland areas. Stevens Creek has an extensive trail network that include 55 miles of trails. The WMU has over 12,000 acres of non-urbanized land, almost all of which is open space. Its sinuous channel, lush riparian forest and miles of trails provide residents opportunities for recreation, education and contemplation.

DRAFT VISION

Our vision for the Stevens Creek WMU includes:

A stream with natural earth channels that continue to support important populations of cold-water fish and other special status species. The Stevens Creek WMU will continue to provide habitat for red logged frog, yellow legged frog and both warm water and coldwater fish assemblages. Its high quality channel and riparian environment will be enhanced where necessary in order to provide habitat for sensitive species.

Potential Projects:

- ◆ Protection and enhancement of vegetation on west bank in order to maintain cool water temperatures.
- ◆ Enhancement of the creek's habitat quality by increasing channel complexity, by replacing long glide sections with riffle-pool habitat by the use of Large Woody Debris or other structural components.
- ◆ Identify locations and then develop conceptual designs for excavation of back channels and lowered floodplain benches to provide high-flow refugia.

A stream without barriers to fish passage. Fish barriers on Stevens Creek will be removed in order to allow the creek's fish populations to increase, and in some cases, return to pre-barrier conditions.

Potential Projects:

- ◆ Conceptual plan for fish barriers removal
- ◆ Improvement of Moffett and Fremont fish ladders

A stream that will have a geomorphically stable channel that is in dynamic equilibrium where site constraints permit. Channel modifications and restoration effort on Stevens will emphasize creating a channel that is in dynamic equilibrium, in order to prevent channel instability and bank erosion. Natural channel stabilization techniques will be used wherever possible.

Potential Projects:

- ◆ Conduct a complete geomorphic assessment to support habitat restoration and stormwater retrofit projects.
- ◆ Evaluate and inventory existing storm drain designs and develop conceptual plan for reducing hydromodification on the channel.

A linked system of streamside trails, linking natural preserves in the headwaters and an urban park network downstream. Open space in the Stevens Creek WMU will be preserved, and public access to public lands will be increased. The Stevens Creek riparian corridor will provide recreational and educational benefits to all who live in the watershed. Trails will highlight creek resources, but will not negatively impact riparian habitat.

Potential Projects:

- ◆ Connection of the Stevens Creek trail (near Snyder House) to the De Anza trail
- ◆ Trailhead improvements and parking at end of Stevens Canyon Road
- ◆ Acquisition and conversion of the two large quarries to parkland

Land use patterns in the watershed support the protection of water resources. Land use patterns and development in the watershed will support the protection of water resources. With a high percentage of permanently protected land in the headwaters, land use planning will emphasize the protection of undeveloped streamside land, and on tools for reducing impacts of development on the valley floor.

Potential Projects:

- ◆ Ensure/enact adequate setbacks
- ◆ Identify key areas that are subject to conversion from open space to residential or other development in the watershed
- ◆ Complete an inventory of encroachments

Build on a strong watershed council and ongoing stewardship activities. The Stevens Creek Watershed will continue to enjoy strong community support for watershed protection. The Stevens & Permanente Creeks Watershed Council and other community groups will continue to successfully promote watershed stewardship activities, working to protect and restore Stevens Creek as a key natural resource and recreational amenity in the Santa Clara Valley.

Potential Projects:

- ◆ Identify volunteer monitoring opportunities (dissolved oxygen, temperature, mapping riparian features, invasive species)
- ◆ Identify tools, such as funding for watershed councils, to facilitate partnerships with land use agencies and landowners
- ◆ Implement public awareness programs to educate citizens regarding their watershed