



NORTH BAY WATER REUSE PROGRAM

Water Supply Reliability through Regional Reuse



Local Agencies Create Partnership to form NBWRP

The NBWRP is a coordinated, regional effort to offset potable water demand by promoting water reuse for agriculture, urban use and environmental protection.

Members:

- Las Gallinas Valley Sanitary District
- Napa Sanitation District
- Novato Sanitary District
- Sonoma County Water Agency
- Sonoma Valley County Sanitation District
- North Marin Water District
- Napa County

The NBWRP is overseen by the North Bay Water Reuse Authority, which consists of a seven-member Board of Directors whose members are appointed by their representative agencies.

Regional Collaboration Boosts Water Reuse in the North Bay

The successful collaboration to boost water reuse efforts in three North Bay counties is expected to yield more than 5,500 acre-feet per year (AFY) of water in the first of its two phases, which will be used for agriculture, urban water demands and habitat restoration. The North Bay Water Reuse Program (NBWRP) is a partnership formed to implement a series of regional projects that are helping to meet the region's water supply needs by producing a reliable source of recycled water.

North Bay communities face long-term water challenges to meet the needs of agriculture, urban centers and environmental protections. One new environmentally sound and reliable water supply option is recycled water. The NBWRP is a

collective effort by a group of agencies in Napa, Sonoma and Marin counties to produce this drought-proof source of water for a variety of beneficial uses. It is a two-phased regional program that has utilized a combination of federal, state and local funding to design and construct recycled water distribution projects in the three-county region on the northern rim of San Pablo Bay.

The program is a regional-scale model that promotes the collaboration of smaller sanitation districts and allows them to have access to funding and expertise they would not normally have. It also enables the partnership to leverage state and federal funding. As a regional water reuse program, the NBWRP is unique in its approach of collectively

expanding reuse efforts — and in doing so is redefining regional-scale water reuse in Northern California. By offsetting urban and agricultural demands on potable water supplies, enhancing ecosystems and improving water supply, the program has demonstrated the viability of addressing water demand and wastewater discharge issues concurrently using an integrated, regional approach.





Recycled water treatment, storage and distribution are key components of NBWRP's Phase 1 projects.

Phase 1 Recycled Water Distribution Projects

- New treatment, distribution and storage for the Las Gallinas Valley Sanitation District and North Marin Water District.
- Increased capacity at the existing Novato Recycled Water Treatment Facility, additional distribution and storage.
- Recycled water service in the Novato Central Service Area through relocation of the recycled water treatment Facility construction of a distribution system.
- Additional pipeline, and reservoir at Sonoma Valley County Sanitation District wastewater treatment plant, distribution to new users in Sonoma Valley.
- Pipeline to bring tertiary treated recycled water to two ponds in the Napa-Sonoma Marshes Wildlife Area for habitat restoration of the saline ponds.
- Napa Sanitation District and Napa County will expand capacity and distribution from the wastewater treatment plant to Napa State Hospital and further into the Milliken-Sarco-Tulocay area.

Federal and State Water Objectives Supported by Phase 1 Projects

Implementation of Phase 1 of the NBWRP is under way, with six recycled water distribution projects in the design and construction phases. When complete, Phase 1 will provide 5,500 AFY of tertiary treated recycled water for agricultural and landscape irrigation and salt marsh restoration.

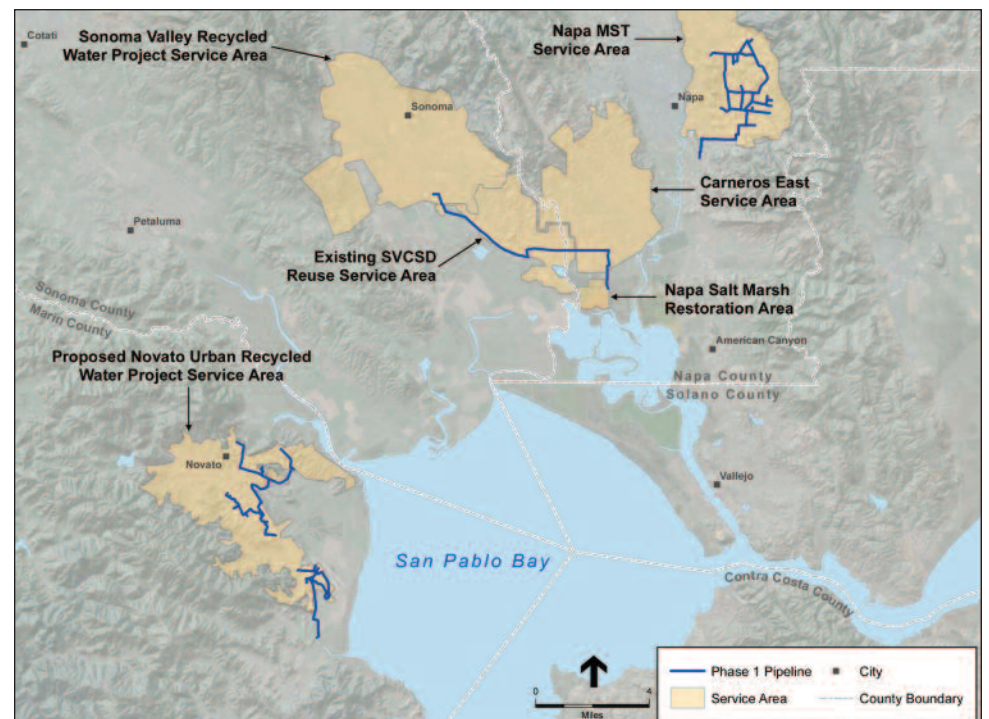
The Program has been successful in obtaining both state and federal support for the program. Phase 1 of the program was authorized for \$25 million in federal construction funding. To date, the NBWRP has received more than \$9 million through a combination of American Recovery and Reinvestment Act (ARRA) and Bureau of Reclamation WaterSMART and Title XVI grants.

The NBWRP is consistent with the Bureau of Reclamation's mission of a balanced approach to meeting the needs of all water users, assisting local agencies and contributing toward endangered species recovery.

In addition to receiving federal funding, the Phase 1 projects were awarded \$2 million in funding through the California Department of Water Resources' Integrated Regional Water Management grant program.

By ultimately producing 5,500 AFY of water for reuse in Phase 1, the NBWRP is making a significant regional contribution to the state of California's goal of increasing water reuse by 2 million AFY above current levels.

Initial planning efforts for the NBWRP spanned a five-year period and included numerous workshops, meetings and a robust outreach effort to involve potential stakeholders. A three-phase feasibility study was completed in 2008, and the Environmental Impact Report/Environmental Impact Statement completed in 2009.



Existing and proposed service areas within the NBWRP are shown shaded in brown. Blue lines indicate Phase 1 pipelines that are in the design or construction phase.

Demand for Water Reuse Addressed in Phase 2

Once Phase 1 of the NBWRP is complete, it is anticipated there will be significant additional demand for recycled water for urban and agricultural irrigation and habitat enhancement in the three-county study area. Development of recycled water storage in Phase 1 was limited by a lack of funding. The need for storage has increased due to several factors: Drought conditions have increased recycled water demands;

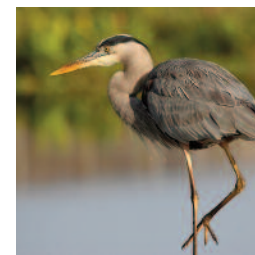
traditional sources of water supply that Sonoma and Marin rely upon from the Russian River are limited. Long-range concerns such as climate change and degrading groundwater quantity and quality are further motivations to pursue water supply solutions in the North Bay region. Without any new surface or groundwater supplies available, water reuse provides the best near-term, reliable regional supply alternative.



Scoping Studies for Phase 2 will explore options for expanding the NBWRP water reuse projects. Existing wastewater treatment facilities are indicated by white squares. Potential new member agencies, including the City of Petaluma, City of American Canyon, Marin County and Marin Municipal Water District, are also shown.

Phase 2 Scoping Studies Are Currently Under Way

The study of the NBWRP's Phase 2 has begun and includes potential new members: Marin County, Marin Municipal Water District, and the cities of Petaluma and American Canyon. Phase 2 will build upon Phase 1 feasibility and environmental studies. Scoping studies under way will explore options for additional recycled water within the north San Pablo Bay region and identify new agencies, potential new projects, the geographic extent of the projects, and the scope, schedule and costs to complete the Phase 2 feasibility study and environmental documentation.



If the NBWRP decides to proceed with a feasibility study, it will include financial, engineering and environmental evaluations of how recycled water can best be utilized to provide municipal and agricultural users with a reliable source of water and also provide environmental benefits to fish and wildlife through restoration of wetlands and marshland habitat.

NBWRP Vision: A Model for Maximizing Limited Water Resources

Since it was conceived more than 10 years ago, the NBWRP has made significant progress in implementing its program and vision. It has launched multi-phase technical and economic feasibility studies, solicited broad stakeholder input from potential recycled water users and forged key partnerships to secure funding.

The NBWRP is a model for maximizing the benefits of limited water resources in the West. While the

region is not served by a federal water project, the Project demonstrates how a regional water reuse project can provide a long-term sustainable supply of water by partnering with the Bureau of Reclamation and the State of California for planning and construction costs, while the local partners provide the remaining cost share and long-term maintenance. NBWRP allows for local entities to realize benefits that would be out of their reach without regional collaboration.



This comprehensive regional program provides a sound approach toward meeting local, state and federal water management objectives and puts recycled water to its broadest and most beneficial use.

The North Bay region supports a variety of agricultural activities, including dairy operations, livestock grazing and premium wine grape production.



Providing Long-Term Water Supply Security for the North Bay Region

Multiple community needs in the region — such as offsetting urban and agricultural potable water demands, maintaining water supply security, and preserving the quality of life — are being addressed by the Program.

The NBWRP goals for water and resource conservation are consistent with those of its member agencies and the General Plans for Napa, Sonoma and Marin counties. The Program's vision addresses multiple community needs, such as offsetting urban and agricultural potable water demands, maintaining water supply security, improving the quality of life, and restoring wetlands. The NBWRP is a model for producing new regional-scale water supplies in areas where existing water resources are limited.

Specifically, the NBWRP vision addresses regional water supply issues by achieving the following objectives:

- Capturing high-quality treated effluent to store and reuse for irrigation in the water-short North Bay region.
 - Developing multi-purpose facilities that provide increased capacity to store recycled water and provide waterfowl and wetland benefits.
 - Maintaining and protecting communities' public health and safety and their quality of life.
 - Providing recycled water to local agriculture that historically have dammed and diverted local streams for irrigation. Reliable, alternative water supplies for on-farm use allow natural riparian systems to once again flow into north San Pablo Bay.
 - Preserving current land uses by providing recycled water for restoration of marsh and wetland areas on lands surrounding the north San Pablo Bay and through improvements to existing levees to meet habitat restoration goals and anticipated sea level rise.
- Providing multiple benefits from water reuse and a sustainable water supply to all of its stakeholders — urban, agricultural and environmental.
 - Providing a drought-resistant source of water for urban uses and high-value crops in Napa, Sonoma and Marin counties.



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