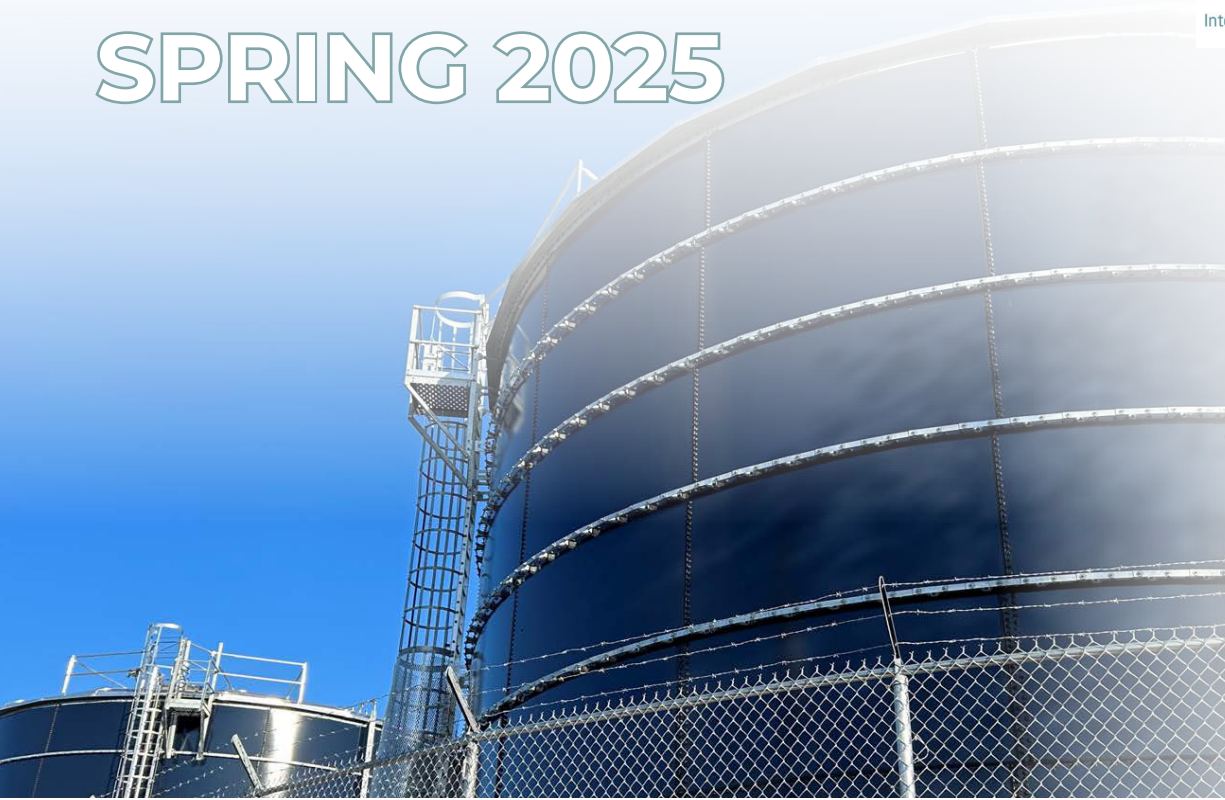


ANNUAL REPORT

SPRING 2025



Lake County Special Districts Project Updates

By Yolanda Garibay

Lake County Special Districts (LCSD), in partnership with Hidden Valley Lake Community Services District (HVLCSO), is on their fifth and final year of project activity on the Prop1, Round 1, IRWM Implementation Grant. The \$4.7M grant was awarded in 2021 and funded six (6) projects in Lake County, CA. The grant benefits a majority of disadvantaged communities with critical water line upgrades, new water tanks, emergency water supplies, and contamination prevention. This is the fifth and final year of project and grant implementation.

In March 2025, HVLCSO completed its water supply improvement project by replacing one old, wooden, leaky water tank with two steel bolted, 500,000-gallon tanks. This project improves water delivery efficiency and resiliency for the community.

Lake County Special Districts continues to complete Inflow & Infiltration prevention work within their sewer infrastructure, in areas pin-pointed for high inflow & Infiltration. District staff has analyzed more than 50-miles of sewer infrastructure so far. At the end of 2024 district staff completed a realignment project, repairing one of their problem sewer stations, to prevent sewer spills and inflow & infiltration, during the rainy season.



Before sewer realignment.



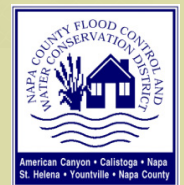
After sewer realignment.

COORDINATING COMMITTEE (CC)



Lake County Watershed
Protection District

Pawan Upadhyay



Napa County Flood Control
and Water Conservation
District

Mark Snyder
Rick Thomasser



Yolo Subbasin Groundwater
Agency

Sarah Leicht
Sabrina Snyder



Solano County Water Agency

Chris Lee
Drew Gantner
Max Stevenson



Beach fouled by mussel shells.

Golden Mussels Threaten Clear Lake and Lake Berryessa

There's a new aquatic invasive species in California. Although its name suggests it may hail from the Golden State, the invasive golden mussel (*Limnoperna fortunei*) is named for its light brown to gold shell color. First detected in the Bay Area in October 2024, golden mussels have since been detected in the eastern part of the Delta, posing an immediate threat to Clear Lake and Lake Berryessa.

Boaters on Clear Lake and Lake Berryessa in the Westside Sac IRWM Region are familiar with ongoing efforts to prevent the spread of invasive zebra and quagga mussels (*Dreissena polymorpha* and *Dreissena bugensis*); these have been updated to include protection against golden mussels, which can establish in waters with lower calcium levels than required by quagga and zebra mussels.

Four primary characteristics make the three species extremely invasive. 1. They are free-swimming larvae for the first month of their life and can easily be drawn into engines, tanks, and bilges and transported between waterways. 2. They have byssal threads that allow them to attach to any stable substrate, including rocks, fiberglass, plastic, cement, and plants. 3. Their reproductive rate is rapid; one female can produce up to one million eggs yearly. 4. Their feeding process decreases dissolved oxygen and increases pH, altering conditions that support native organisms.

Once embedded in a waterbody, these invasive mussels can devastate the aquatic ecosystem. They increase the likelihood of harmful algae blooms, displace native species and game fish, and litter beaches with sharp shells. They also interfere with recreational, transportation, and water supply infrastructure. They attach to boats and watercraft, where they clog cooling systems and impact engine functions, and accumulate on built infrastructure, where they can clog water system intakes or interfere with structure stability and safety.

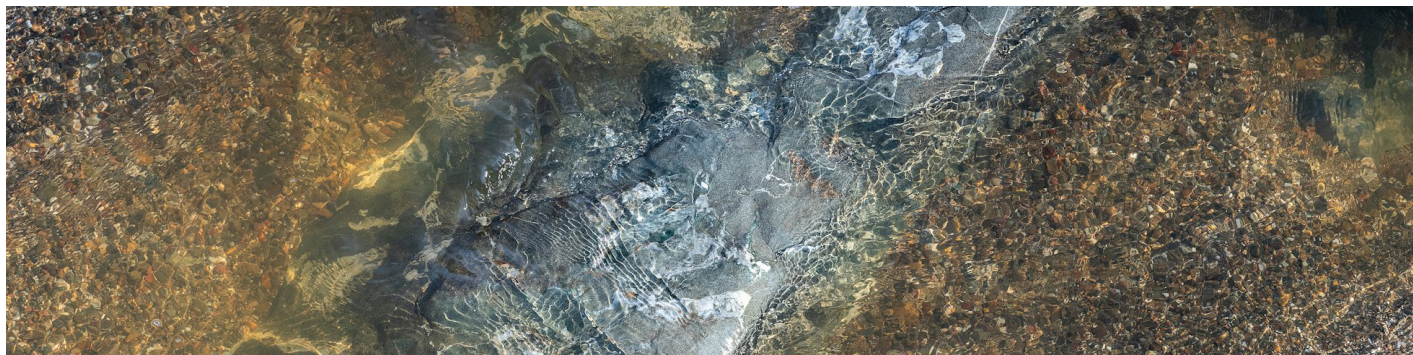
To prevent mussel infestation in Clear Lake and Lake Berryessa, Solano County Water Agency (SCWA), the federal Bureau of Land Management (BLM), and Lake County have instituted watercraft entry protocols. All agencies require inspections; [Lake County](#) uses stickers to indicate inspection compliance and [SCWA/BLM](#) use tags. See page 6 for more details.



Young mussels are tiny and can be hard to spot. Photo credit: Texas Parks and Wildlife



Zebra mussels colonize water infrastructure. Photo credit: Larry D. Hodge, Texas Parks and Wildlife.



Stormwater diverted into an ephemeral stream slowly percolates into the groundwater basin.

Dunnigan Area Recharge Program Update

By Ryan Fulton, Larry Walker & Associates

The Dunnigan Area Recharge Program (DARP, Program), led by the Dunnigan Water District (DWD), was selected by the CC for DWR's 2021 Urban and Multibenefit Drought Relief Funding in Spring 2022. The Program addresses declining groundwater levels that threaten agricultural and residential water supply and land subsidence. Recharge areas include Buckeye, Dunnigan, and Bird Creeks, Azevedo Drain, and 500 acres of fallowed farmland to provide habitat for migratory shorebirds. Since October 2022, the Program has installed ten monitoring wells and five rain gauges and recharged 5,000 acre-feet through diverting water into ephemeral streams and onto fallowed fields (Figure 1). This inundation resulted in excess surface water infiltrating the groundwater table raising groundwater elevations and providing habitat for migratory shorebirds.

The Program leveraged the DWR funding by partnering with The Nature Conservancy, which purchased water for recharge, reimbursed landowner field preparations, and assessed shorebird habitat benefits. DWD in partnership with Reclamation District No. 108 and Colusa County Water District (CCWD) have been awarded an USBR WaterSMART Grant to expand their monitoring network into neighboring districts and groundwater only areas (Figure 2).



Figure 1. Flooded fields.

This Water SMART Grant is being paired with the DARP portion of the Yolo GSA SGMA grant and a Colusa County Water District grant through the Northern Sacramento Valley IRWM Program which will further expand monitoring of groundwater levels, enhance surface water delivery measurement systems, install stream gauges, expand recharge areas in partnership with landowners, and develop a long-term implementation and funding plan. DWD and CCWD are working with DWR's Flood Diversion Recharge Enhancement Initiative Program to install pumps to divert water into ephemeral streams and recharge basins. Additionally, the Program has received individual landowner donations and continues to seek other opportunities to expand.

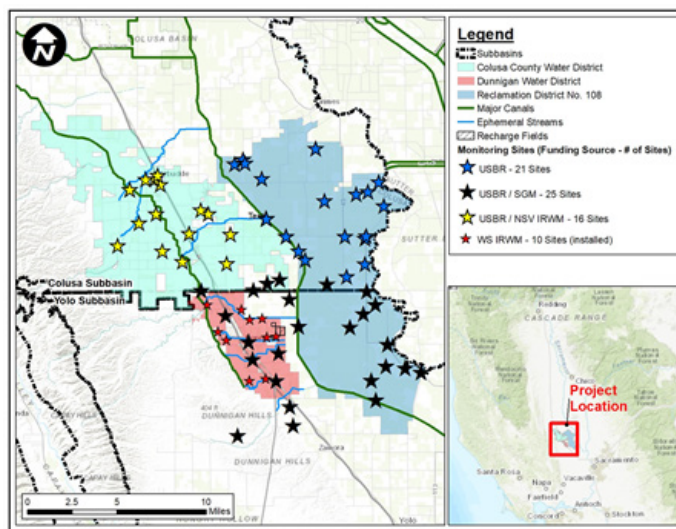


Figure 2.



Water flow is controlled through pumps and flood control gates.

Westside Sac IRWM Coordinating Committee Achievements

Since its inception in 2010, the Westside Sacramento IRWM Coordinating Committee (CC) has successfully leveraged over \$5.6 M in local cost share to obtain over \$16,000,000 from state and federal sources to implement regional projects that improve water supply and water quality. Most of the projects have been implemented in economically disadvantaged communities and collectively, they improve the quality of life and climate resiliency for the residents of the Westside Sac region.

Additionally, the Westside Sac IRWM CC has, using member dues, awarded over \$120,000 to thirteen small, local projects through its [Small Grant Program](#).

The small grant program dispenses funds as available to projects or programs that meet the goals and objectives of the IRWMP. The funded projects range from water quality improvement to education to weed management and habitat restoration.

Collectively, they meet all of the thirteen goals in the Westside IRWM Plan, including improving education and awareness (Goal 2), improving water-related health (Goal 5), preserving and improving water quality (Goal 7), and protecting and enhancing habitat (Goal 9).

WS IRWM Goals met by Small Grants Projects 2015 - 2024												
Coordinating Committee Small Grants Projects	2019 WS IRWM Plan Goals											
	Acknowledge cultural values	Improve watershed education	Improve understanding of challenges and opportunities	Improve natural channels	Improve water-related public health	Preserve water-related recreation	Improve water quality	Promote reasonable resource use	Protect habitat and diversity	Provide reliable water supplies	Reduce the risks of disturbances	Support improved regional water management
Weed Removal for Engineering Surveys on Putah Creek			•						•		•	
Pollution Prevention and Watershed Education: Adopt-a-Flat Environmental Education Program		•	•									
Pollution Prevention and Watershed Education: Creek Science Investigations Environmental Education		•	•									
Goat's Rue Noxious Weed Management Project									•		•	
McCune Watershed Flood Control and Habitat Restoration Project				•					•		•	
Implementation of the Cache Creek Resource Management Plan			•						•	•	•	•
City of Winters Drinking Water Hexavalent Chromium (Cr6) Compliance Project					•		•					
Quagga Mussel Boat Display		•	•			•					•	
2016 Putah Creek Fall Cleanup		•							•		•	
Groundwater meters for small farms								•			•	
Lake Solano picnic afternoon		•	•			•						
Clear Lake Hitch Symposium	•	•	•					•				•
50 Valley Oaks for Putah Creek Nature Trail									•		•	

Lake Sonoma Steelhead Festival

By Angela DePalma-Dow

The Lake Sonoma Steelhead Festival is one of California's biggest and best celebrations of the endangered Steelhead Trout, which return annually to the Congressman Don Clausen Fish Hatchery at Lake Sonoma to spawn the next generation of fish.

This free event attracts 8,000-12,000 people each year to the grounds of the Milt Brandt Visitor Center at Lake Sonoma. Adults and children can view the nature exhibits and learn about environmental stewardship, preservation of natural resources and protection of threatened and endangered species.

Lake County Watershed Protection District tabled at the event and distributed over 650 hand-outs and promotional items that informed the public about Quagga, Zebra, and Golden mussels, their threats, and prevention measures. At least four hundred festival attendees visited the district's table, and many expressed appreciation for its mussel prevention program.

Yolo Subbasin Groundwater Agency Recharges Groundwater



Recharge in February 2025.



Capay Dam.

In addition to the [Dunnigan Area Groundwater Recharge Project](#), which was initiated with IRWM funding through the Westside Sac IRWM CC and continues with funding through DWR's Sustainable Groundwater Management Act (SGMA), the Yolo Subbasin Groundwater Agency (YSGA) has two other groundwater recharge projects.

The [Yolo County Flood Control and Water Conservation District Groundwater Recharge](#) program diverts excess winter storm flows from Cache Creek into the District's 160-mile unlined canal system. The water diverted contributes directly to the groundwater aquifer because the canals are unlined. In 2024, the program diverted 8,710 acre-feet (AF) of stormwater to replenish groundwater over 33 days.

The [Yolo-Zamora Groundwater Recharge Pilot Project](#) diverts up to 2,000 AF of excess Cache Creek storm flows from the Capay Dam yearly. Excess water is conveyed to China Slough and on-farm groundwater recharge sites in partnership with local landowners. This project has multiple benefits including groundwater recharge, alleviating land subsidence, capturing canal system losses, and reducing flood risk.

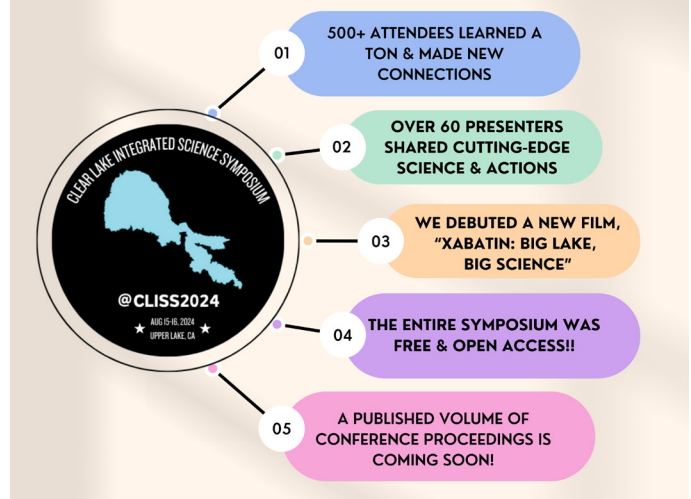


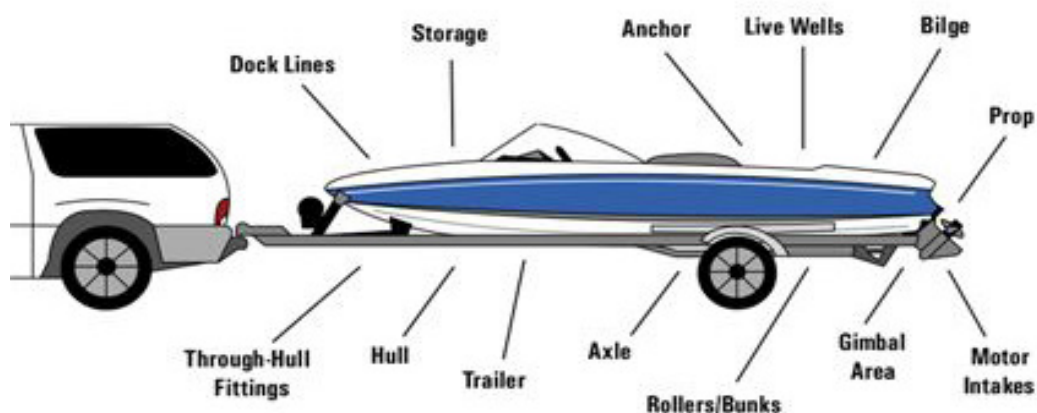
Clear Lake Integrated Science Symposium

The Westside Sac IRWM Coordinating Committee awarded Lake County Watershed Protection District \$10,000 towards hosting a [Clear Lake Integrated Science Symposium](#) that builds on collaborative efforts between Tribes, State Water Board, California Department of Fish and Wildlife, Lake County Water Resources Department, UC researchers, and others to address declining populations of the Clear Lake Hitch. The Symposium, the first in over 25 years, was held August 15 - 16, 2024.

The Symposium was a key event where the community shared vital information to help understand and manage Clear Lake. Over 200 participants representing Tribal, local, state, and federal agencies, and conservation and community-based organizations, participated in the event. Sessions addressed topics including lake and upland restoration, community engagement, Clear Lake Hitch, groundwater, algal blooms, wildfire, and water quality and quantity. Recordings of Symposium sessions are available on the Lake County Water Resources Department's [YouTube channel](#).

The 2024 Clear Lake Integrated Science Symposium was a resounding success!!





Lake Berryessa and Clear Lake Mussel Prevention Measures

The Bureau of Reclamation, Solano County Water Agency (SCWA), and Lake County Watershed Protection District have increased their invasive mussel prevention efforts given the increased threat of golden mussel infestation. A seal program is underway at Lake Berryessa and Lake County has launched a sticker program; both programs apply to trailered watercraft and jet skis.

At [Lake Berryessa](#), all vessels will be inspected before launch and vessels must undergo a 30-day quarantine period during which they do not launch. A red seal will be applied for the quarantine period. When the quarantine period is over, vessels may return to the lake, have the seal removed by authorized staff, and launch. A hot-water decontamination performed by SCWA-trained and approved staff allows a vessel to launch immediately without a quarantine period. Upon exit from the Lake, all vessels must have a green seal attached by authorized staff to be allowed to freely launch at Lake Berryessa, otherwise the vessel will need to undergo another quarantine period or decontamination. Hand launched watercraft with electric motors like fishing kayaks, require an inspection prior to launch. Non-motorized watercraft, such as kayaks and paddleboards, are not subject to inspection and are encouraged to be inspected for free at any launch ramp. All paddlers are encouraged to arrive clean, drained, and dry.

[Clear Lake](#) has different screening procedures for residents and visitors. Resident vessels are those registered with the DMV at Lake County addresses or that are moored or stored at a commercial facility in Lake County. Before the first launch every calendar year, a resident vessel must obtain a Resident Mussel Sticker and vessels must be re-screened upon return to Lake County after launching in an out-of-county water body. Visitor vessels must be screened before launching each calendar month and must be re-screened upon return to Lake County after launching in an out-of-county water body. Any vessel that is not clean, drained and dry, or appears to pose a risk will be required to undergo a physical inspection by an Authorized Inspector.

Following these procedures and spreading the word about the threats from invasive mussels (see page 2) will help keep Westside Sacramento IRWM region waterbodies safe for recreation, protect valuable water supply infrastructure, and protect native wildlife habitat.

CONTACT US

Westside Sacramento IRWM Coordinating Committee

LAKE COUNTY

Pawan Upadhyay,
pawan.upadhyay@lakecounty.gov

SOLANO COUNTY

Drew Gantner, dgantner@scwa2.com
Max Stevenson, mstevenson@scwa2.com
Chris Lee, cleee@scwa2.com

NAPA COUNTY

Mark Snyder, mark.snyder@countyofnapa.org
Rick Thomasser,
richard.thomasser@countyofnapa.org

YOLO COUNTY

Sarah Leicht, sleicht@yolosga.org
Sabrina Snyder, sabrina.snyder@yolocounty.org