



**Sonoma
Water**

Dry Creek Habitat Enhancement Maintenance Program

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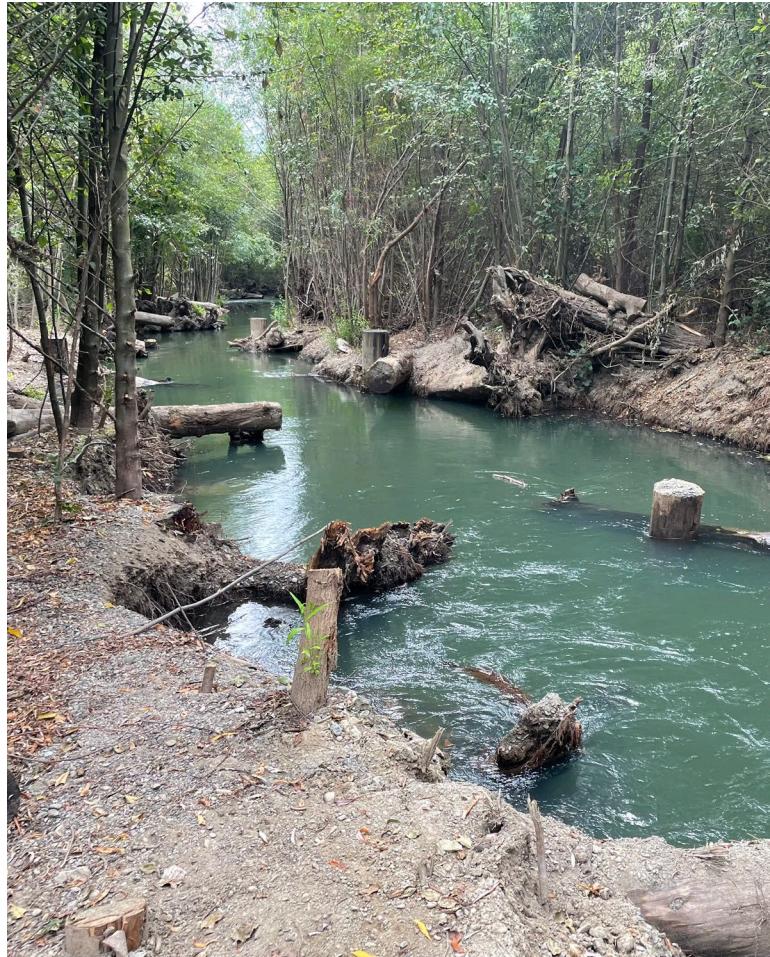
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Habitat Maintenance Program

- Purpose
 - Maintain Dry Creek constructed habitats
 - Side channel
 - Alcove
 - Log structures
 - Riffle
 - Adaptively manage habitats to benefit rearing salmon and steelhead



Regulations & Permits

- Aquatic and wetland habitats
 - US Army Corps of Engineers (Waters of the US)
 - Regional Water Quality Control Board (Waters of the State)
 - California Department of Fish and Wildlife (Lake and Streambed Alteration Agreement)
- Sensitive Fish and Wildlife
 - Federal Endangered Species Act (NMFS/USFWS)
 - California Endangered Species Act (CDFW)
 - Migratory Bird Act

Maintenance Activities

- Constructed habitat features
 - Sediment removal
 - Bank repair, structure repair
 - Vegetation management
 - Debris removal

Annual Maintenance Process

- Early Spring
 - Assess condition of enhancement sites
- Late Spring
 - Prioritize maintenance needs
 - Coordinate with landowners
 - Prepare work plan and notification
- Summer
 - Implement maintenance activities

Maintenance Example: Reach 8 in 2025

- Side Channel
 - Built in 2017
 - 1000 feet long
 - Large wood structures
 - Rearing habitat for juvenile coho and steelhead



Reach 8 Maintenance Need

- Sediment
 - Channel filled over several years
 - Exacerbated by log jam at inlet
- Unstable bank



Pre-Maintenance Surveys

- Surveys conducted before work begins to avoid and minimize disturbance to fish and wildlife
 - Active bird nest
 - Roosting bat
 - Foothill yellow-legged frog
 - California red-legged frog
 - Northwestern pond turtle
 - Fish

Fish Rescue

- Fish rescued from isolated pool
- Fish relocated:
 - 90 coho
 - 2 Chinook salmon
 - 11 steelhead



Vegetation Management

- Trees trimmed for equipment access



Log Removal

- Large log at inlet affected flow into side channel, increased deposition, caused debris racking



S
W

Excavation

- 3,000 cubic yards of sediment removed



Debris Disposal

- Vegetation
 - Re-use on site if appropriate
 - Off-haul to green waste recycling facility
- Sediment
 - Re-use on site if appropriate
 - Stockpile for landowner
 - Signed release of liability
 - Off-haul to recycling facility
 - Sonoma Water pays recycling fee



Bank Stabilization

- Rock added to protect retreating bank



Inlet to Channel

Before

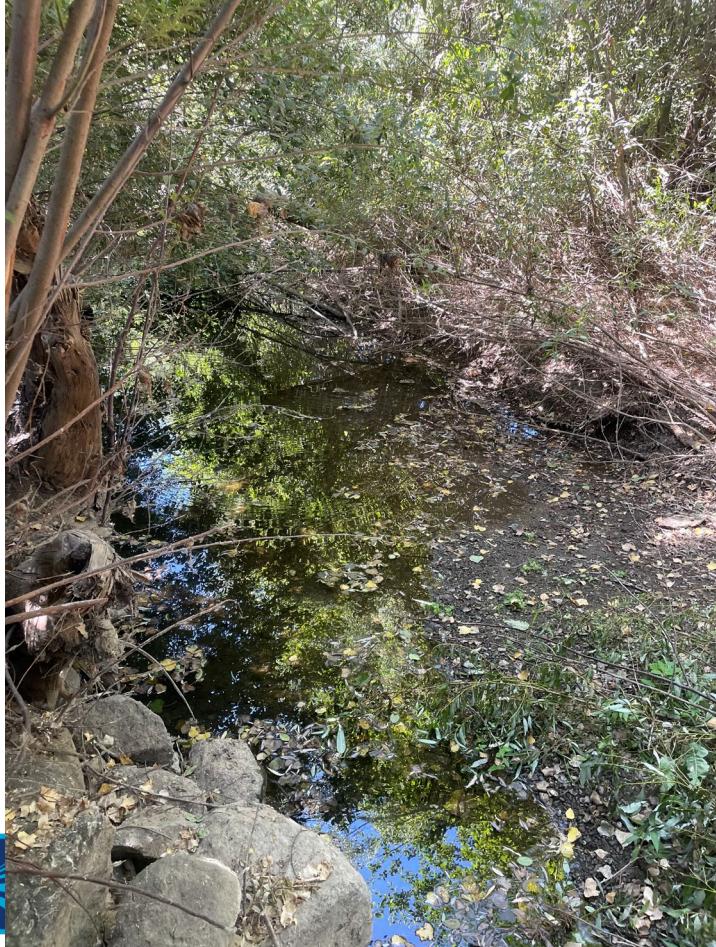


After



Mid Channel, Isolated Pool

Before

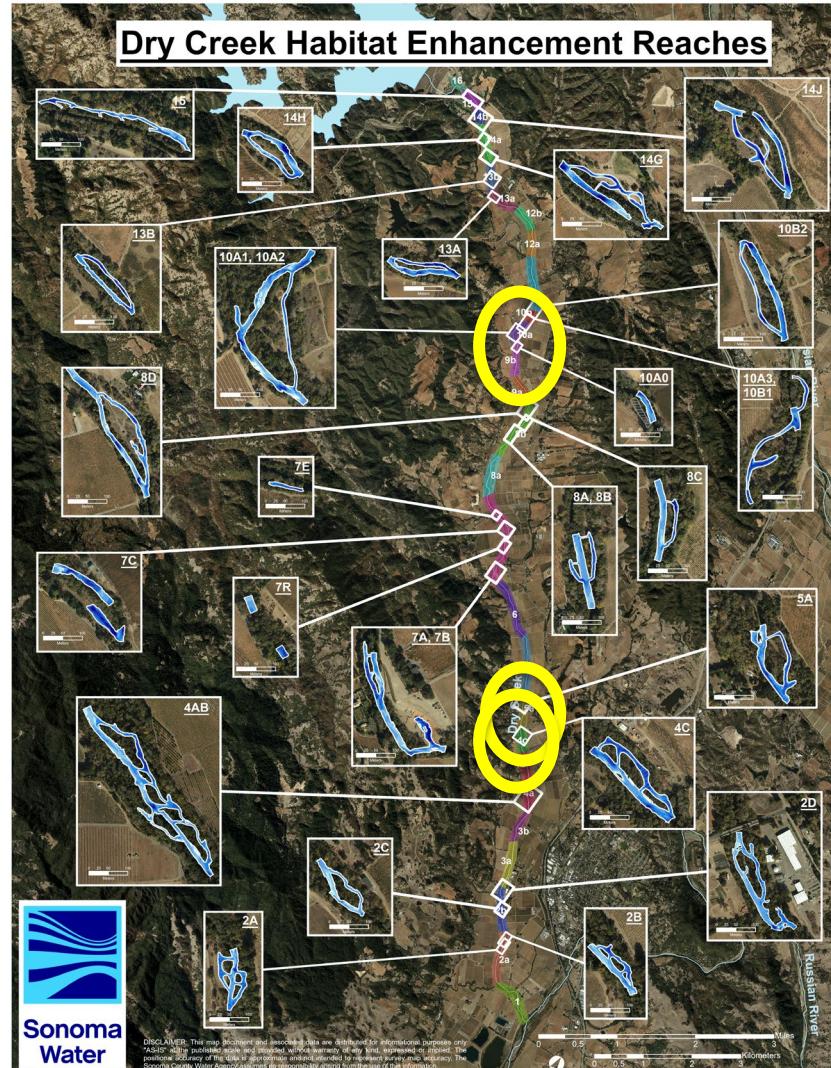


After



2026 Maintenance

- Anticipated sites
 - Reach 4, 5, 10
 - Needs ground truth in spring
- Anticipated maintenance
 - Tree trimming
 - Fish rescue, if needed
 - Sediment removal



Reach 4C: Side Channel Maintenance

2024



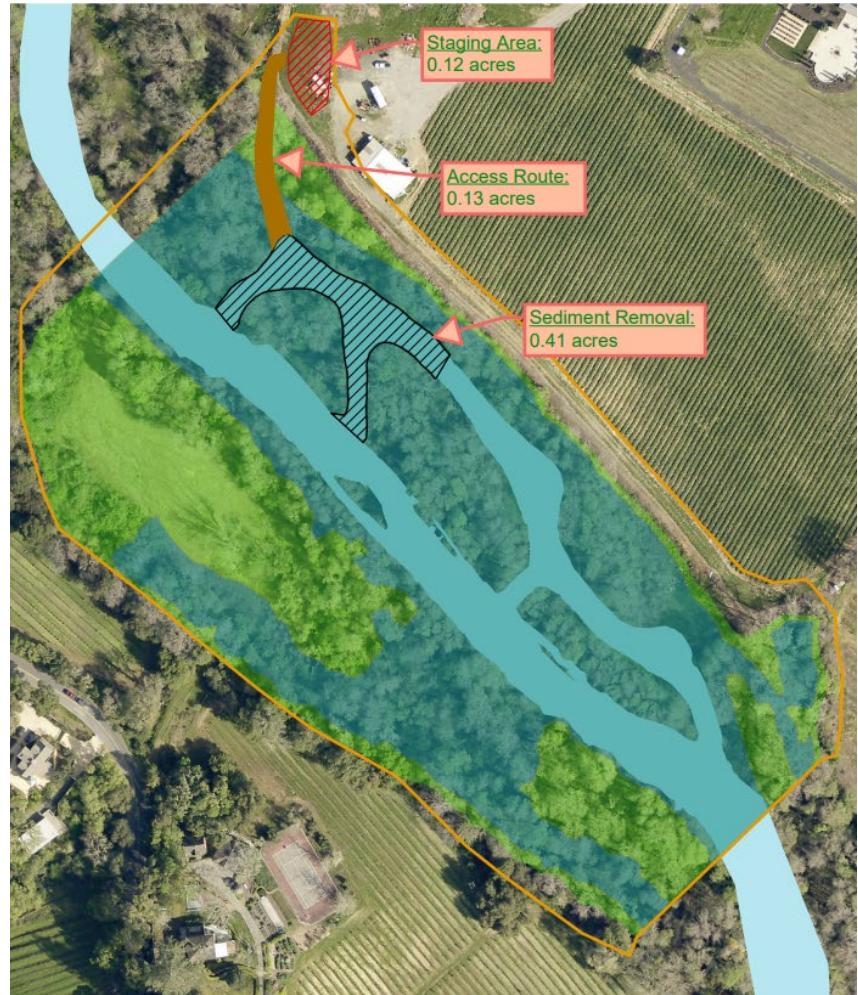
2025



~ 1,000cy of sediment

Annual Notification

- Work plan of proposed maintenance
- Prepared each spring
- Submitted to regulatory agencies



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Enhancement 4C

Waters of the U.S.	Sediment Removal
Waters of the State	Temporary Access Route
Project Area	Staging Area



0 20 40 60 80 100 120 140 160
Feet

Meters

0 5 10 15 20 30



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