Sonoma Water

Clean. Reliable. Essential. Every Day.

Dry Creek Habitat Enhancement

Public Policy Facilitating Committee Meeting

January 21, 2026

David Manning, Sonoma Water
Assistant General Manager, Environmental Resources
Tami Church, U.S. Army Corps of Engineers
San Francisco District
Environmental Planning, Section Chief

sonomawater.org

Agenda

- Dry Creek Project Background and Status (David Manning, Tami Church)
- Monitoring and Adaptive Management (Dr. Neil Lassettre, Dr. Gregg Horton)
- Project Maintenance (David Cook and Eric McDermott)

2008 Biological Opinion Dry Creek Objectives

Reduce water velocity for coho salmon summer and winter rearing by improving depth, cover, and habitat complexity

Enhance 6 of 14 miles of Dry Creek over 12 years using an adaptive management approach.

Dry Creek Habitat Enhancement Project Reaches And Timeline

Sonoma Water

US Army Corps of Engineers
San Francisco District

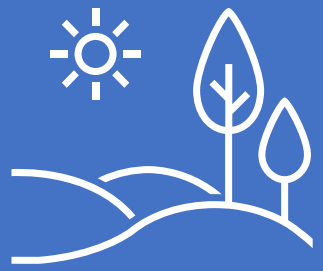
	MILESTONE 1	MILESTONE 2	DECISION POINT	MILESTONE 3
· Complete design phase · Permitting · Landowner agreements · Begin construction	1 mile of habitat in Dry Creek completed and work begins on miles 2 & 3	Complete enhancement of miles 2 & 3	Evaluate the success of the enhancement projects	Enhance 3 additional miles of habitat in Dry Creek for a total of 6 miles
2012	2014	2017	2018	2024

2025 Russian River Biological Opinion

"this large-scale restoration effort has addressed the lack of low water velocity areas and provided a significant increase in cover and water depth and, therefore, increased habitat suitability for rearing juvenile salmonids, particularly coho salmon."

"There is clear evidence that juvenile salmonids and steelhead are utilizing the completed 4.5 miles of habitat enhancements in Dry Creek. Nearly all life stages of all 3 species have been observed using the enhanced habitat reaches."

2025 BO Dry Creek Requirement



USACE and Sonoma Water to **continue habitat enhancement efforts in Dry Creek including adaptive management**, completion of a small-scale project, an additional mile of restoration (or alternative project), and long-term maintenance of completed projects by Sonoma Water.

Current Status

- Construction complete.
  - 24 Habitat reaches built between 2012 and 2024 (many with multiple sites)
  - 4.5-5.0 miles enhanced
- Corps planning to address Reach 10 sites.
- Alternative to last phase (Mile 6, Corps Phase III)
- Now in Monitoring and Maintenance phase
  - 5 Site-scale maintenance activities thus far
  - Planning to maintain multiple small sites in 2026

Sonoma Water

Clean. Reliable. Essential. Every Day.

Dry Creek Habitat Enhancement

Monitoring and Adaptive Management

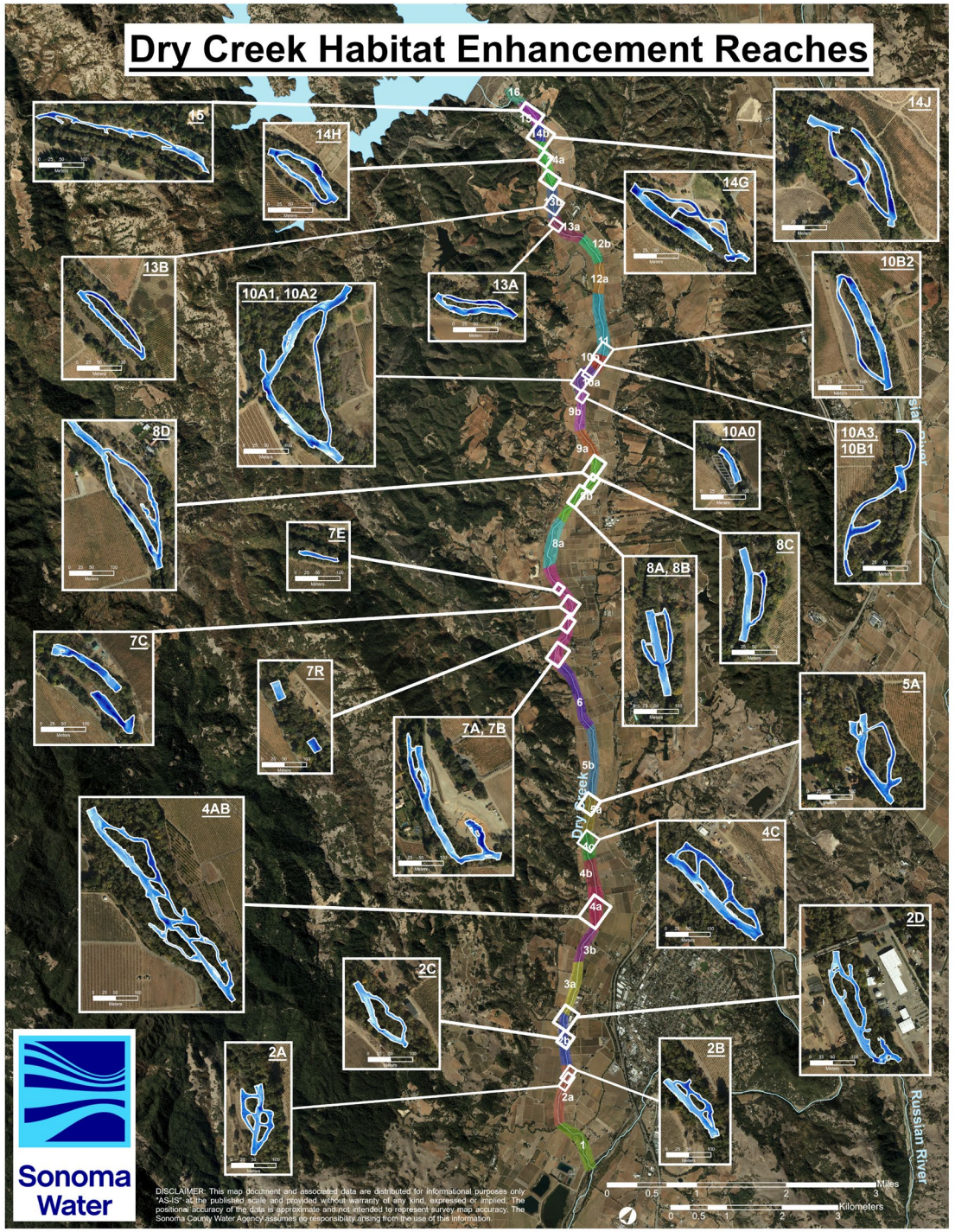
Neil Lassettre, PhD

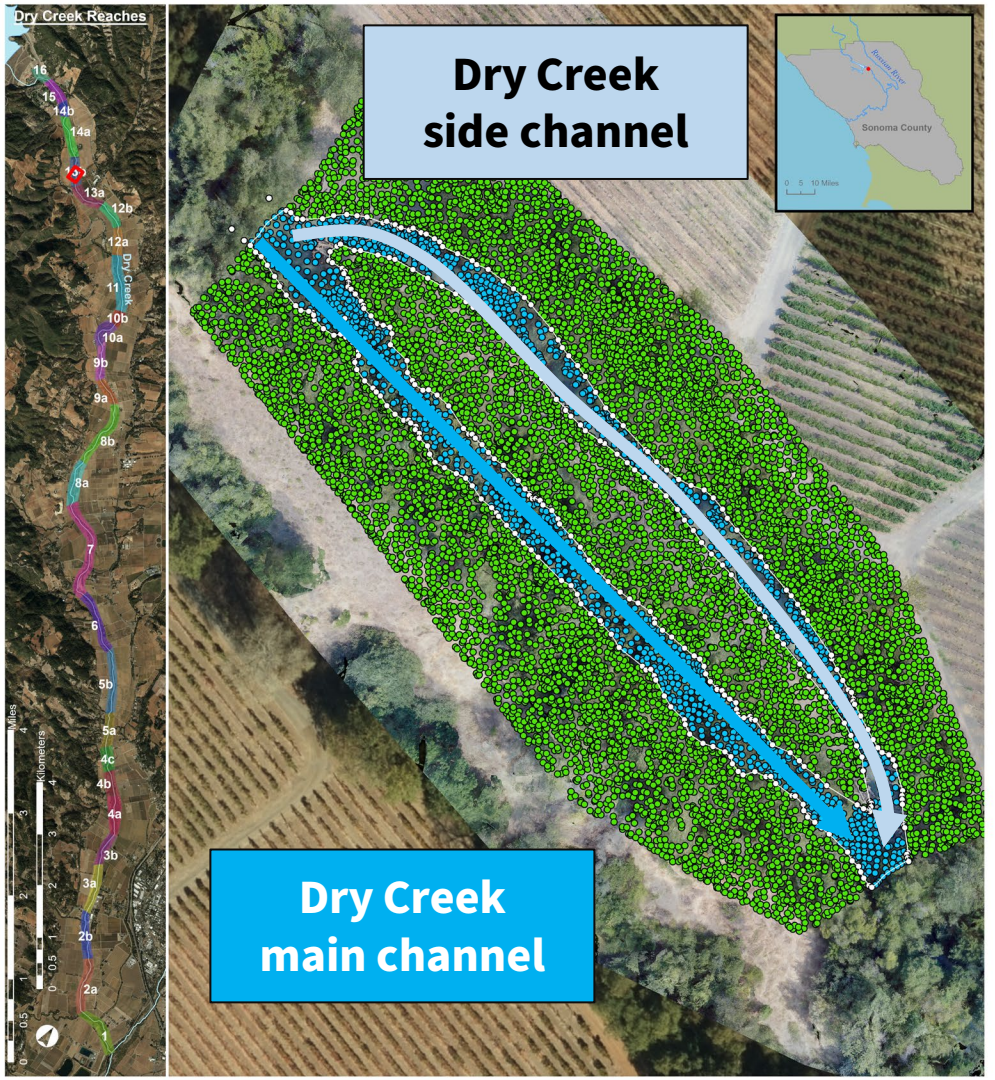
Gregg Horton, PhD

sonomawater.org

Dry Creek Habitat Enhancement Project Summary

- 2012
- 2013
- 2014
- 2016
- 2017
- 2018
- 2019
- 2021
- 2022
- 2023
- 2024





Post-Effective Flow, July 2024

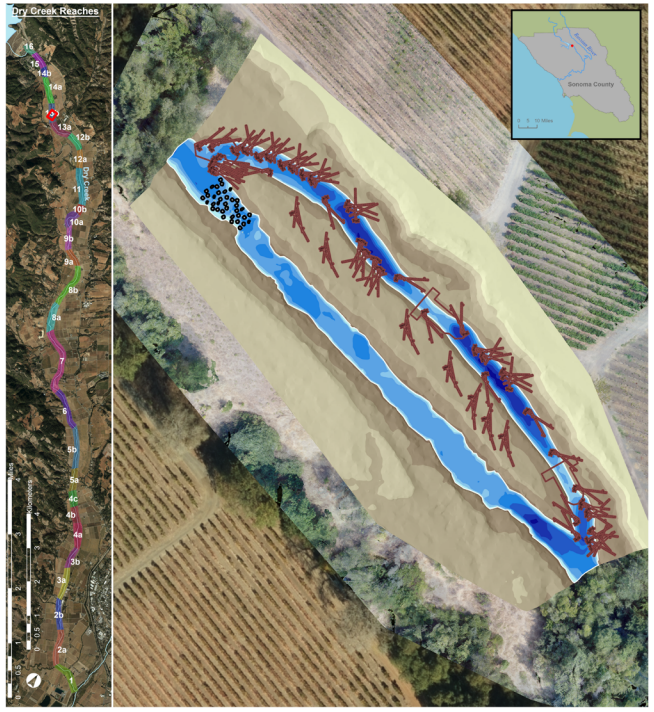
Feet
0 15 30 60 90 120 150
Meters
0 3 6 12 18 24 30

Reach Name: Foley, Gallo
Project Reach: 04
Enhancement Reach: 06
Inter-Fluve Reach: 13b
River Mile: 12.23 (River Kilometer 19.69)
Reach Length: 722 ft (220 m)

Sonoma Water

Map Date: 11/24/2025

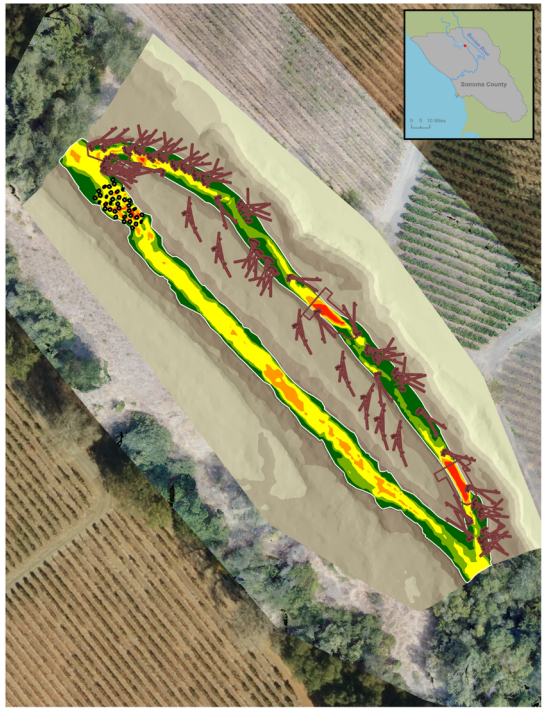
Depth Velocity Shelter



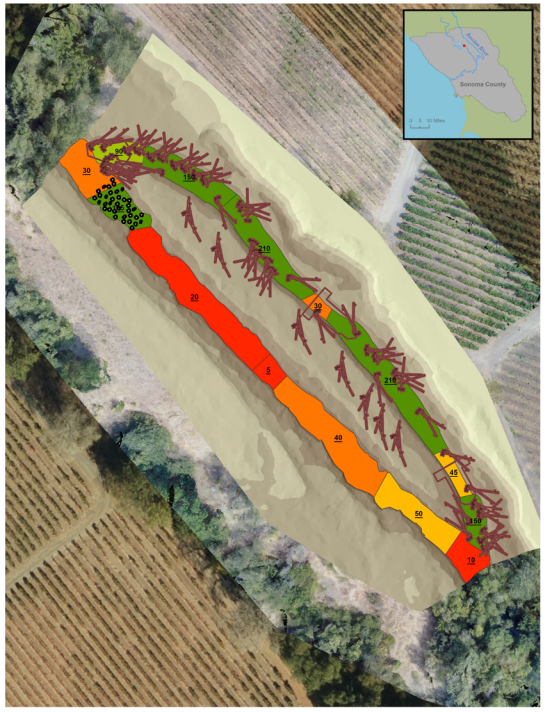
Sonoma Water

Map Date: 11/24/2025

DISCLAIMER: This map document and associated data are distributed for informational purposes only "AS-IS" at the published scale and provided without warranty of any kind, expressed or implied. The positional accuracy of the data is approximate and not intended to represent survey map accuracy. The Sonoma County Water Agency assumes no responsibility arising from the use of this information.



DISCLAIMER: This map document and associated data are distributed for informational purposes only "AS-IS" at the published scale and provided without warranty of any kind, expressed or implied. The positional accuracy of the data is approximate and not intended to represent survey map accuracy. The Sonoma County Water Agency assumes no responsibility arising from the use of this information.

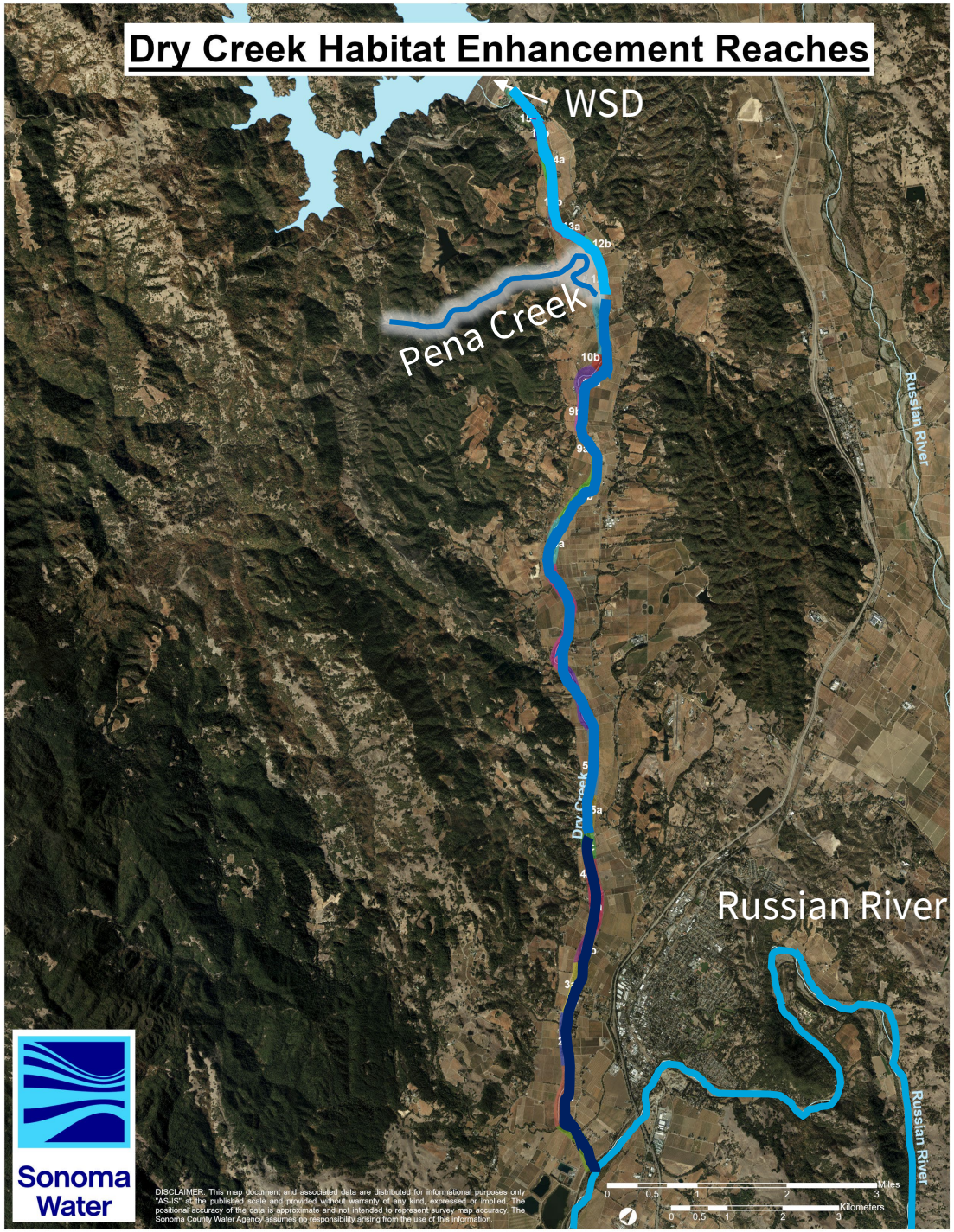


DISCLAIMER: This map document and associated data are distributed for informational purposes only "AS-IS" at the published scale and provided without warranty of any kind, expressed or implied. The positional accuracy of the data is approximate and not intended to represent survey map accuracy. The Sonoma County Water Agency assumes no responsibility arising from the use of this information.

Upper segment
Dam influence

Middle segment
Dam influence
Tributary input

Lower segment
Dam influence
Tributary input
RR backwater

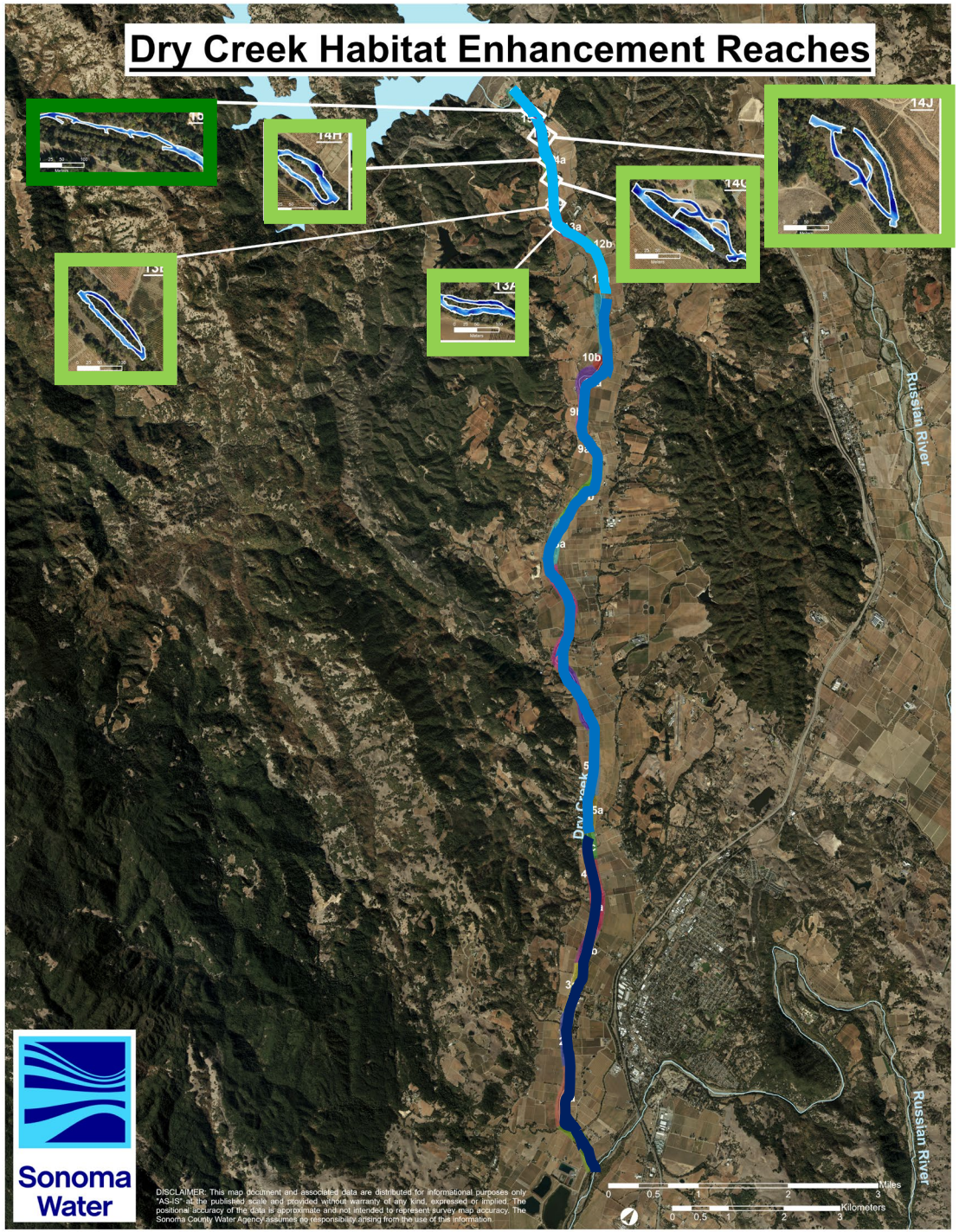


Upper segment
Dam influence

Stable
Occasional maintenance

Middle segment
Dam influence
Tributary input

Lower segment
Dam influence
Tributary input
RR backwater



15	Excellent
14J	Good
14H	Good
14G	Good
13B	Good
13A	Good

Dry Creek Habitat Enhancement Reaches

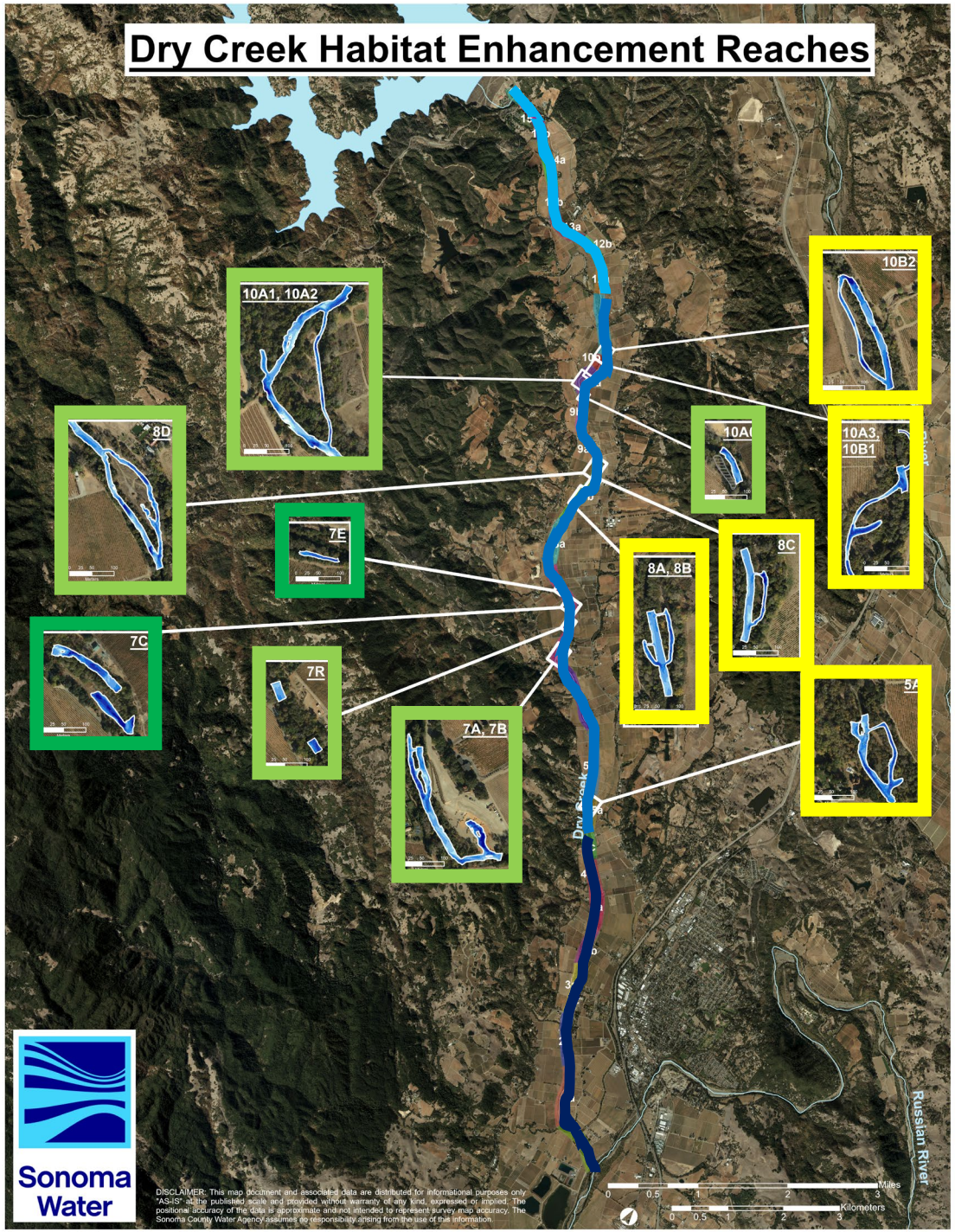
Upper segment
Dam influence

Stable
Occasional maintenance

Middle segment
Dam influence
Tributary input

Aggradation
Regular maintenance

Lower segment
Dam influence
Tributary input
RR backwater



10B2	Fair
10A3, 10B1	Fair
10A1, 10A2	Good
10A0	Good
8D	Good
8C	Fair
8A, 8B	Fair
7E	Excellent
7C	Excellent
7R	Good
7A, 7B	Good
5A	Fair

Dry Creek Habitat Enhancement Reaches

Upper segment
Dam influence

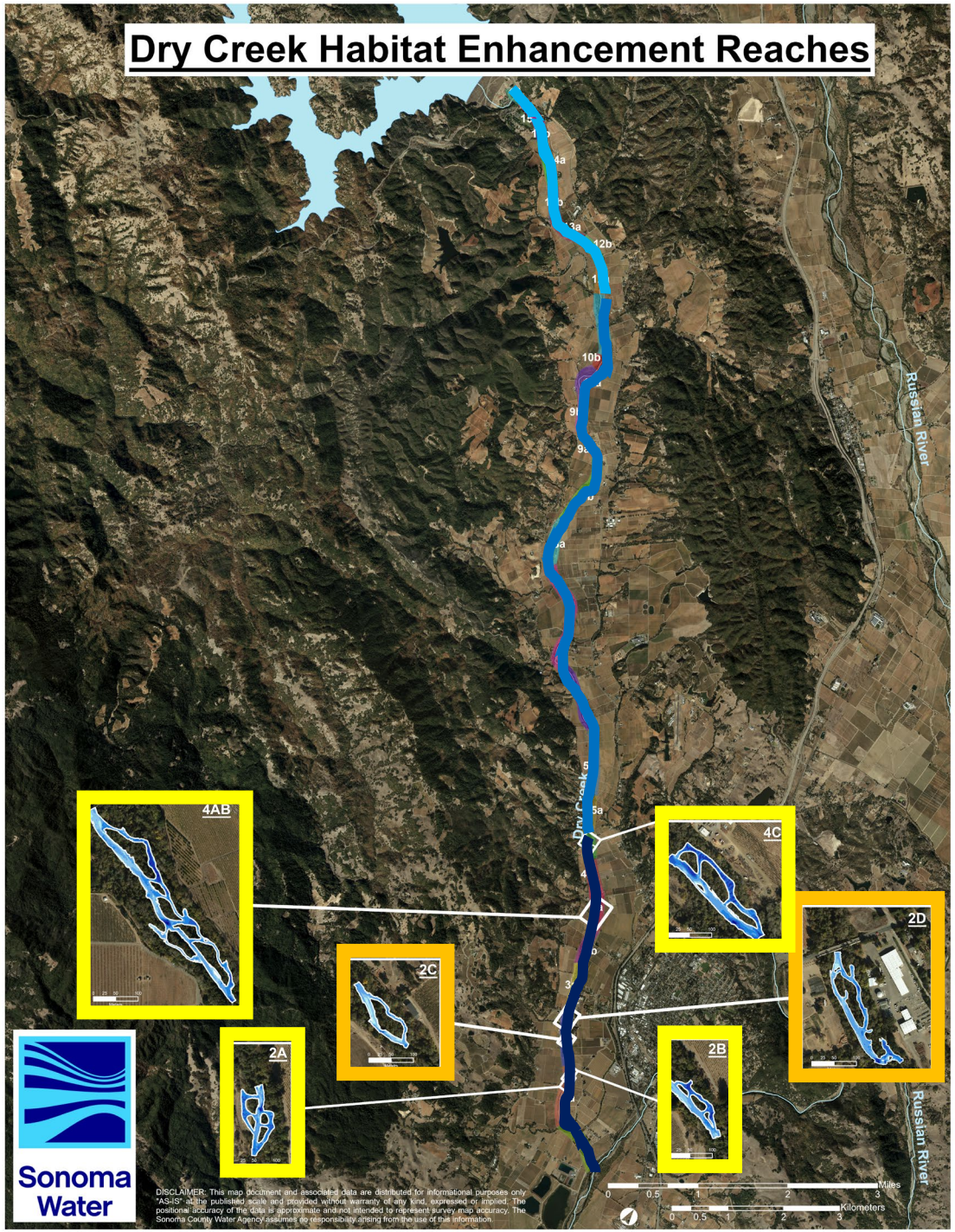
Stable
Occasional maintenance

Middle segment
Dam influence
Tributary input

Aggradation
Regular maintenance

Lower segment
Dam influence
Tributary input
RR backwater

Aggradation
Regular maintenance



4C	Fair
4AB	Fair
2D	Poor
2C	Poor
2B	Fair
2A	Fair

Upper segment
Dam influence

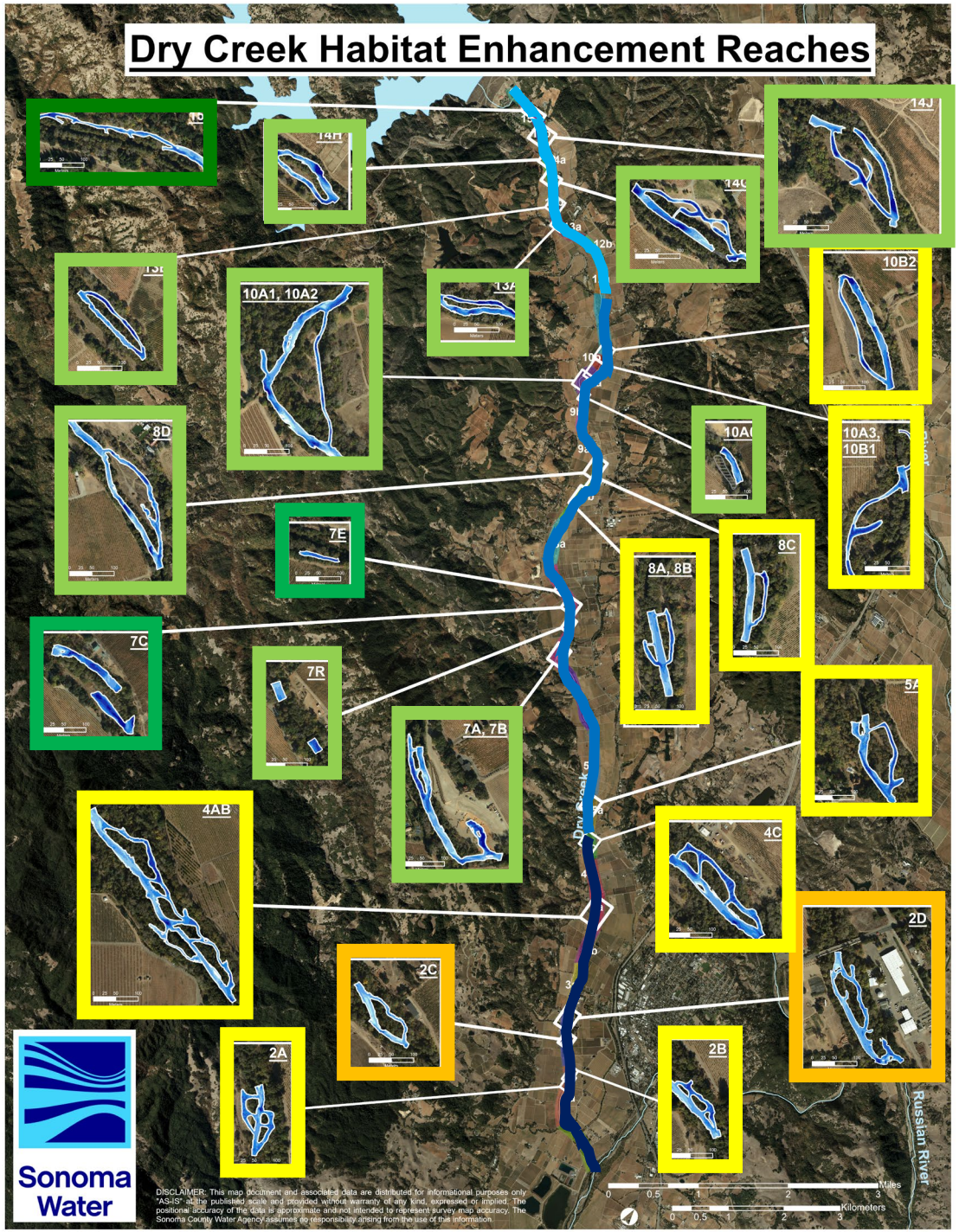
Stable
Occasional maintenance

Middle segment
Dam influence
Tributary input

Aggradation
Regular maintenance

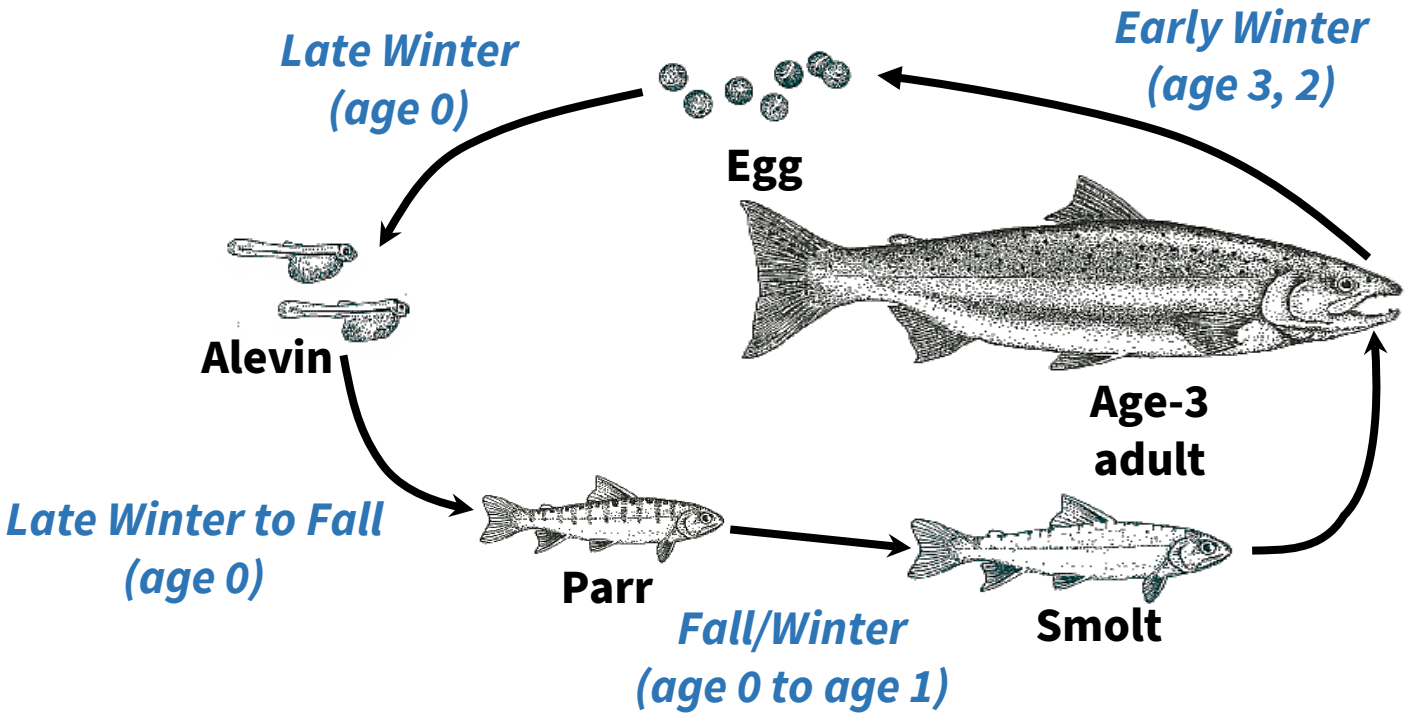
Lower segment
Dam influence
Tributary input
RR backwater

Aggradation
Regular maintenance



Reach	Rating
15	Excellent
14J	Good
14H	Good
14G	Good
13B	Good
13A	Good
10B2	Fair
10A3, 10B1	Fair
10A1, 10A2	Good
10A0	Good
8D	Good
8C	Fair
8A, 8B	Fair
7E	Excellent
7C	Excellent
7R	Good
7A, 7B	Good
5A	Fair
4C	Fair
4AB	Fair
2D	Poor
2C	Poor
2B	Fair
2A	Fair

Dry Creek Fish Monitoring



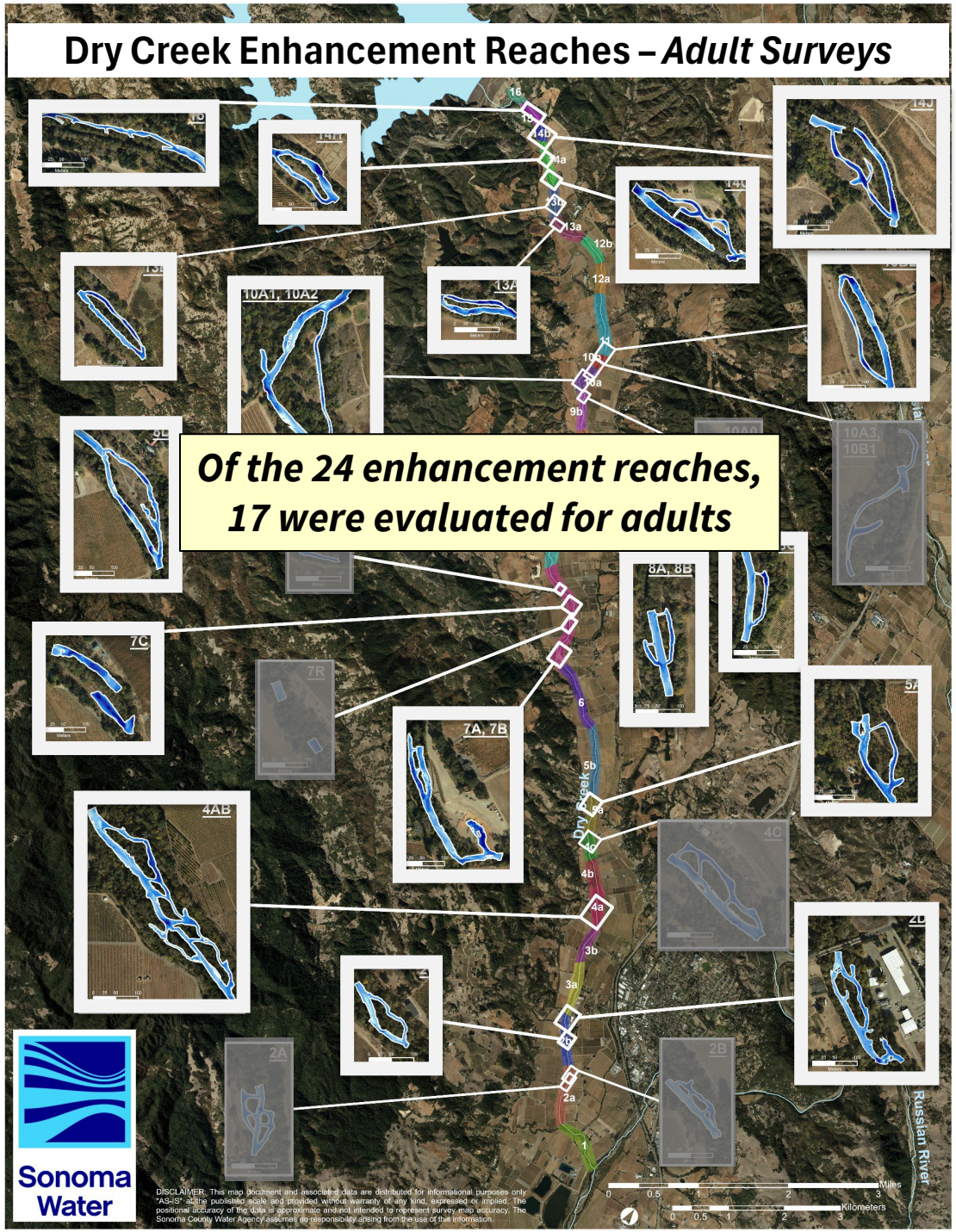
Dry Creek Fish Monitoring

- Adults
  - Electronic tag detections
  - Spawner surveys

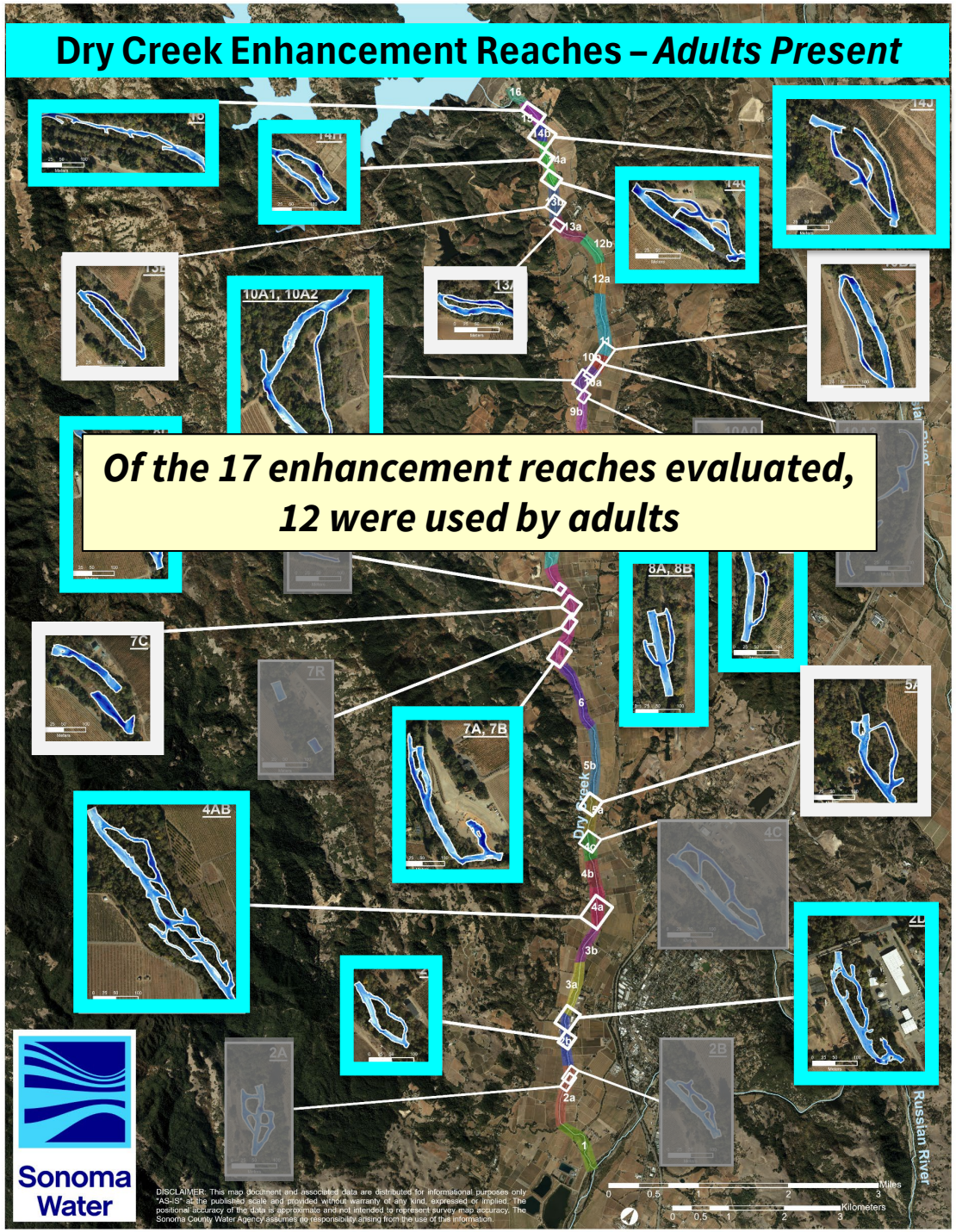
- Juveniles
  - Habitat use
  - Growth

- Juvenile – Smolt Survival
  - Electronic tag detections
  - Spawner surveys

Dry Creek Enhancement Reaches – *Adult Surveys*

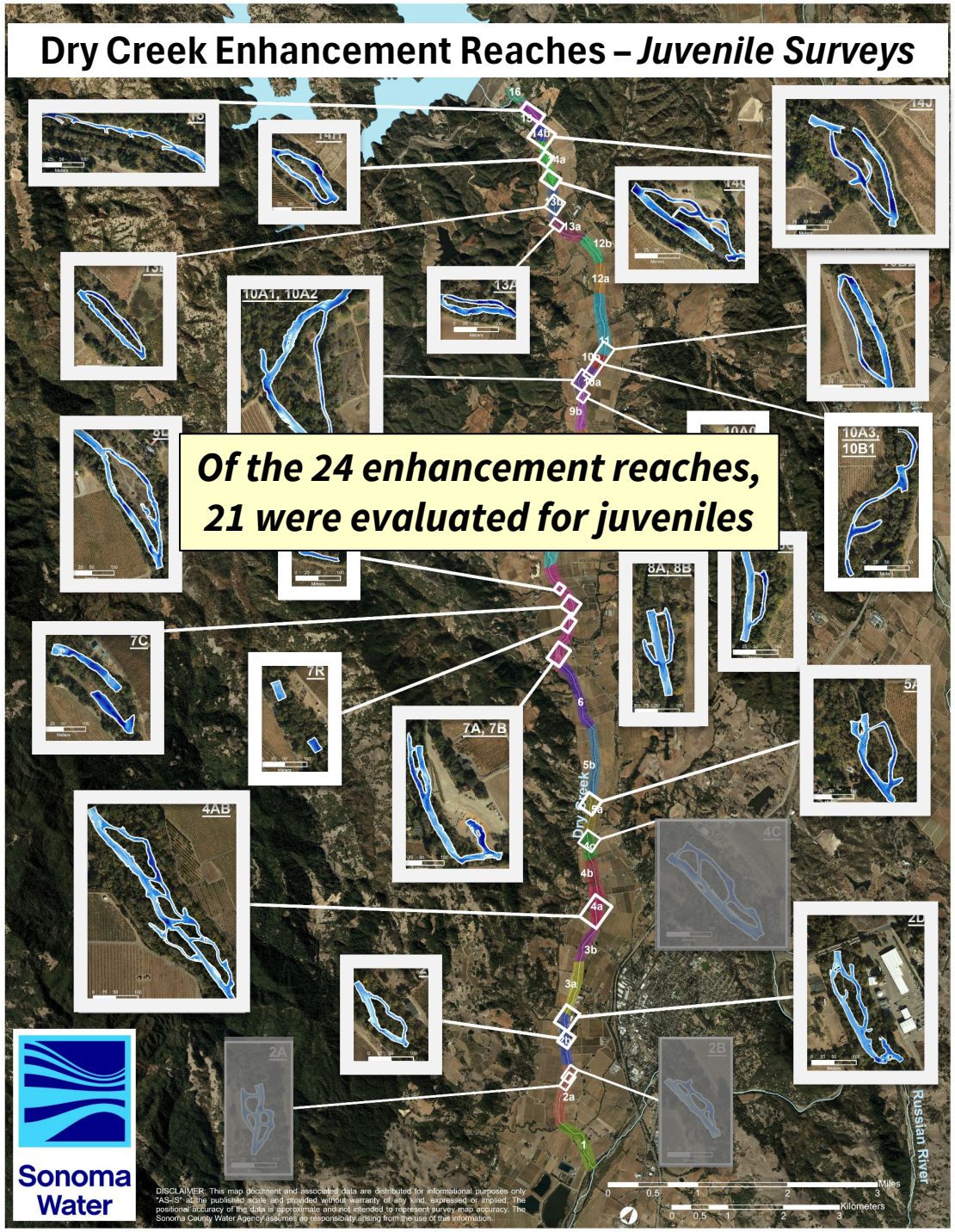


Dry Creek Enhancement Reaches – *Adults Present*

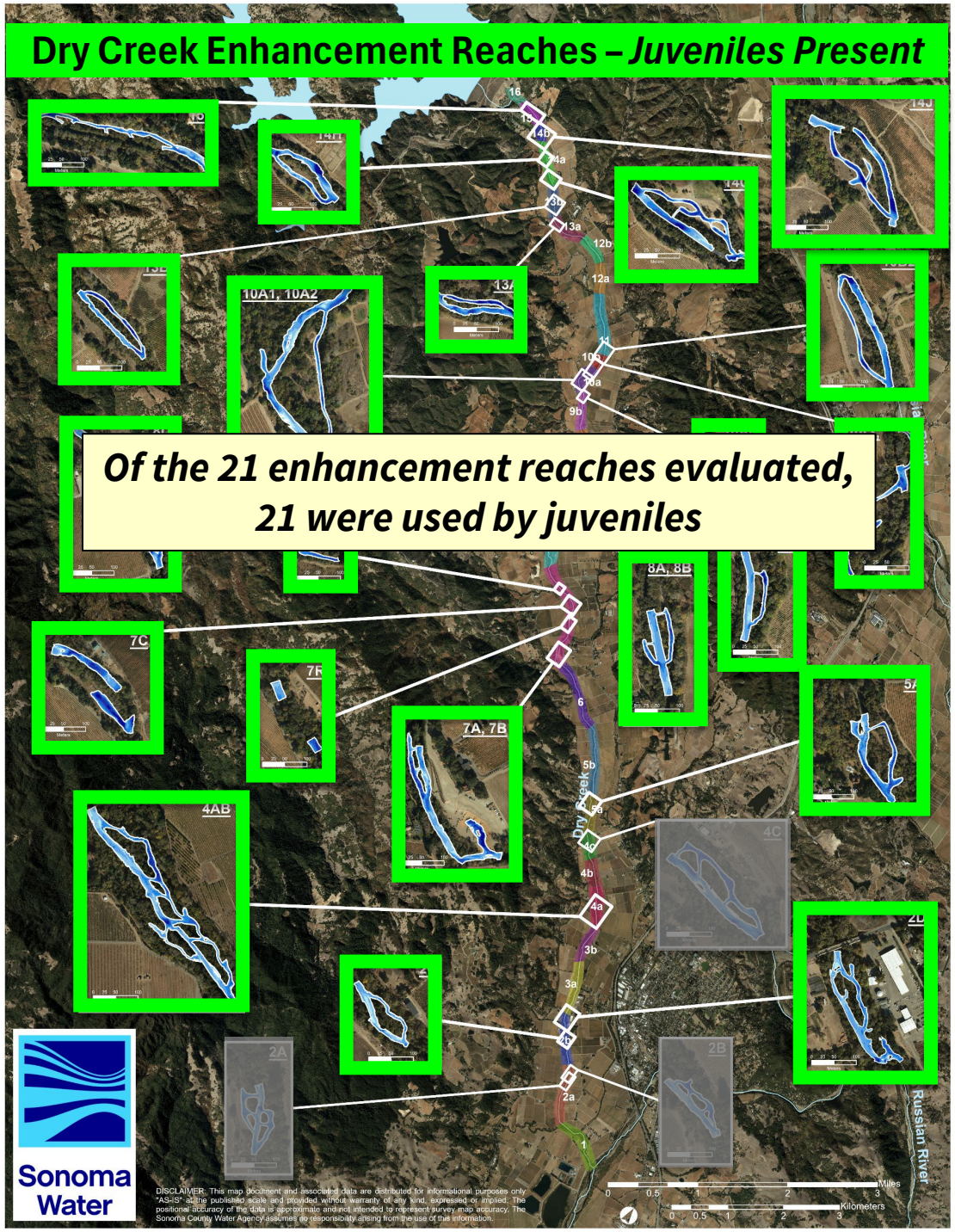


- Adult coho, Chinook and/or steelhead spawning is widespread in the enhancement reaches and a sizeable number of hatchery fish that have been released into Dry Creek have returned as adults.

Dry Creek Enhancement Reaches – *Juvenile Surveys*

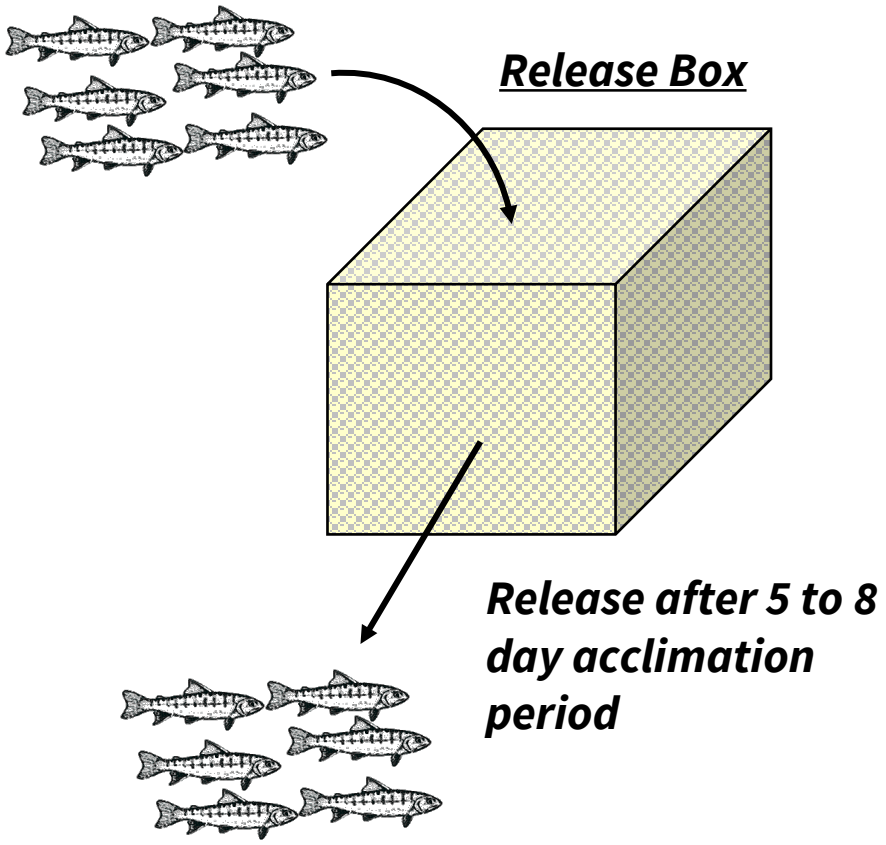


Dry Creek Enhancement Reaches – *Juveniles Present*

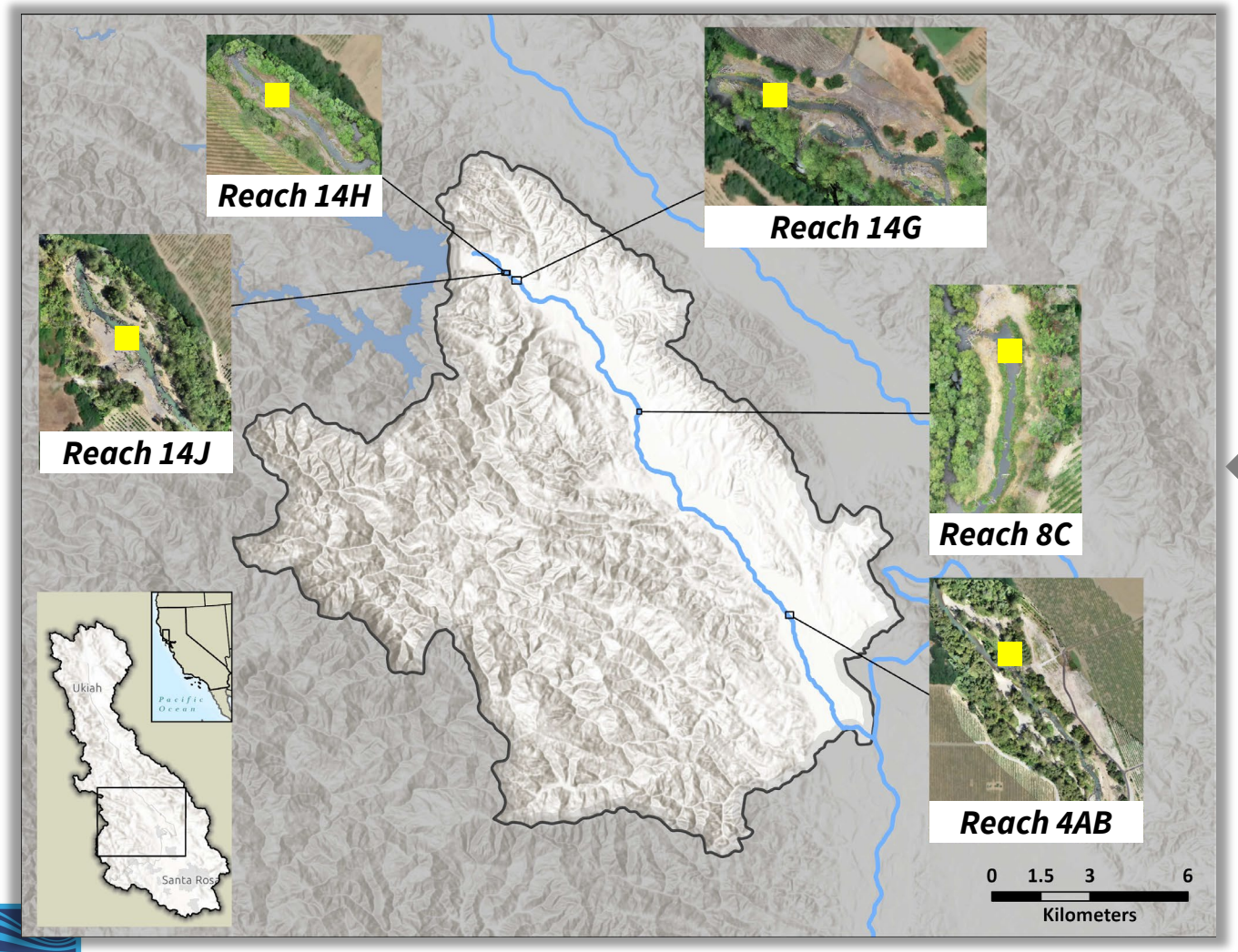


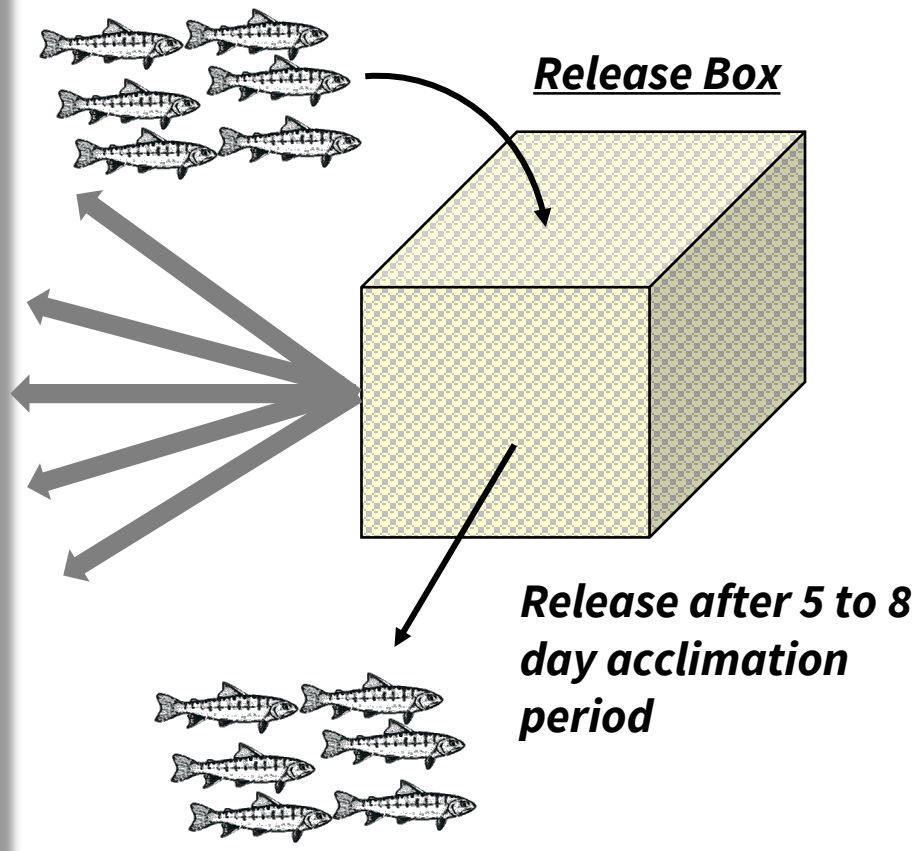
- Adult coho, Chinook and/or steelhead spawning is widespread in the enhancement reaches and a sizeable number of hatchery fish that have been released into Dry Creek have returned as adults.
- Juvenile coho have been observed in all 21 enhancement reaches surveyed for juveniles.
  - 77% of juvenile coho captured in enhancement sites were from naturally spawning adults.
  - Growth rates are ~3x greater in Dry Creek constructed habitat as compared to other coho tributaries of the Russian River.

Juvenile to Smolt Survival



Juvenile to Smolt Survival





- Adult coho, Chinook and/or steelhead spawning is widespread in the enhancement reaches and a sizeable number of hatchery fish that have been released into Dry Creek have returned as adults.
- Juvenile coho have been observed in all 21 enhancement reaches surveyed for juveniles.
  - 77% of juvenile coho captured in enhancement sites were from naturally spawning adults.
  - Growth rates are ~3x greater in Dry Creek constructed habitat as compared to other coho tributaries of the Russian River.
- Juvenile coho survival over the ~6 month period from release to smolt stage (24-42%) is similar (or higher) than what we see in other tributaries of the Russian River Watershed.

Sonoma Water

Clean. Reliable. Essential. Every Day.

Dry Creek Habitat Enhancement Maintenance Program

David Cook

Principal Environmental Specialist

Eric McDermott

Senior Environmental Specialist

sonomawater.org

Habitat Maintenance Program

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

Annual Planning and Notification

- Early Spring
  - Assess condition of enhancement sites
- Late Spring
  - Prioritize maintenance needs
  - Coordinate with landowners
  - Prepare work plan and notification
- Summer (June 15 – October 15)
  - Implement maintenance activities

Maintenance Example: Reach 8 in 2025

- Construction
  - Built in 2017
  - 1000 feet long
  - Large wood structures
  - Rearing habitat for juvenile coho and steelhead
- Maintenance Need
  - Channel filled with sediment over several years
  - Log jam at inlet exacerbated sedimentation and caused bank erosion

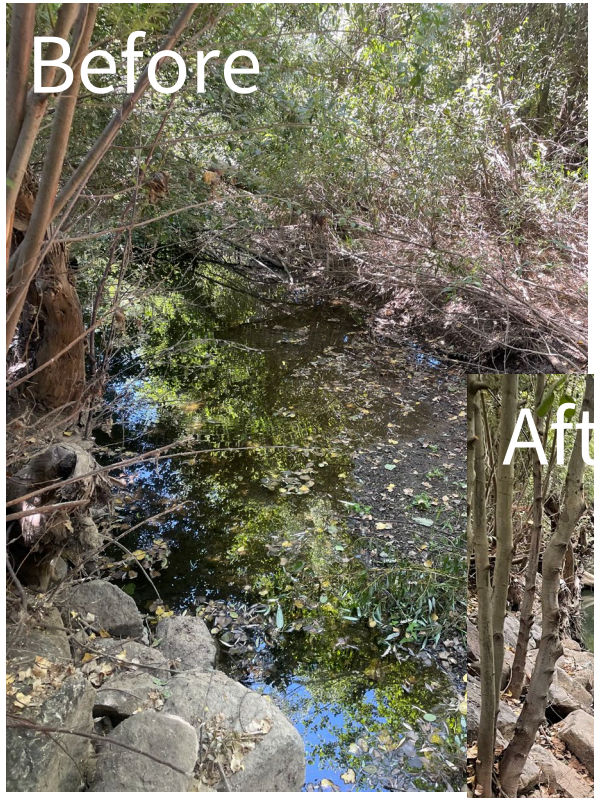
Log Removal

Excavation

Bank Stabilization

Inlet

Channel

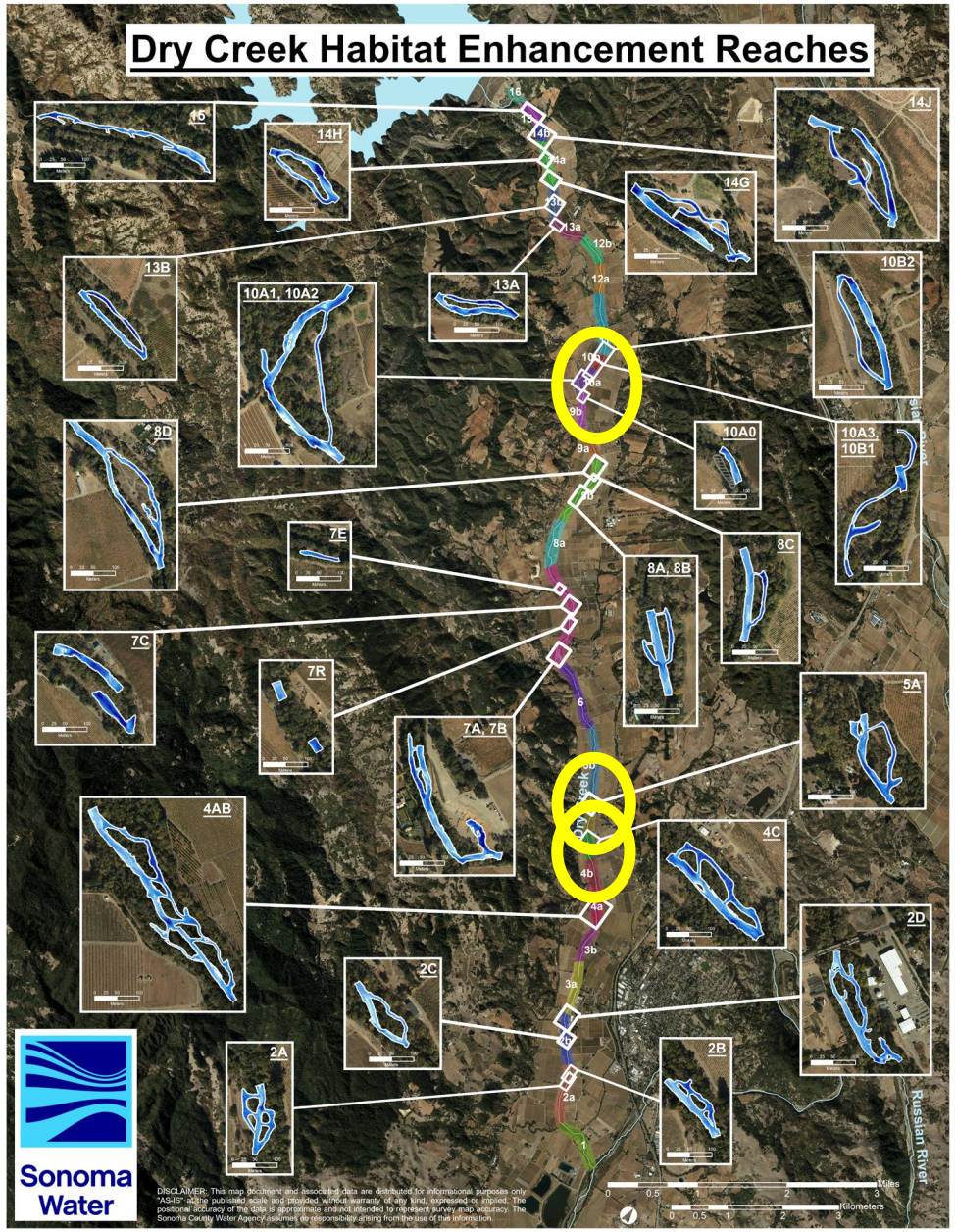


Salmon Spawning After Maintenance Fall 2025

Redd (nest) near side channel inlet

2026 Maintenance

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



Sonoma Water

sonomawater.org