ELK RIVER
WATERSHED STEWARDSHIP PROGRAM

Greetings, and **welcome** to our second Elk River Stewardship Newsletter. On behalf of the Elk River Stewardship Team we would like to **thank you** for taking the time to meet with us, attend our meetings, and remain engaged in this Stewardship Program. We also want to remind you how important your input is to this Program.

When the North Coast Regional Water Quality Control Board (RWQCB) initiated the Elk River Recovery Assessment in 2014, they recognized the need to accompany technical evaluations of the watershed with a coordinated outreach program to the Elk River community. That community includes, first and foremost, the landowners along the Elk River who are most affected by the water quality degradation, nuisance flooding, and tightened regulations, and who are essential to moving forward with actions to rehabilitate this watershed.

The Elk River community also includes regulatory agencies with public trust responsibilities in the watershed, the conservation stakeholders with interest in promoting recovery of the Elk River, and other citizens with an interest in the watershed.

Our success is dependent on your engagement. The **Elk River Watershed Stewardship Program** was initiated in 2019 utilizing a RWQCB grant provided to California Trout (CalTrout) and the Recovery Assessment technical team, including Northern Hydrology and Engineering and Stillwater Sciences. The Stewardship Program is helping interpret technical information and results from the Recovery Assessment for landowners, agencies, and stakeholders.

Photos by Michael Weir | CalTrout

The explicit purpose is to build the necessary foundation to identify and implement Actions to enhance conditions in the Elk River Watershed that benefit both landowners and natural resources.

OBJECTIVES

The following are objectives of the Elk River Watershed Stewardship Program:

- Coordinate directly with watershed residents; local, state, and federal resource agency staff; and other stakeholders to solicit input and transmit information on stewardship activities.

- Provide an umbrella under which specific working groups can coordinate resource management issues in a collaborative and transparent way.

- Build partnerships, interpret technical studies, and identify actions that are feasible, fundable, and broadly supported by stakeholders.

- Identify design approaches and associated mitigations that are acceptable to both landowners and permitting agencies.

- Establish a river-wide monitoring and adaptive management program to enable evaluation of recovery actions, track trends in water quality and habitat characteristics, and targeted populations of protected species.

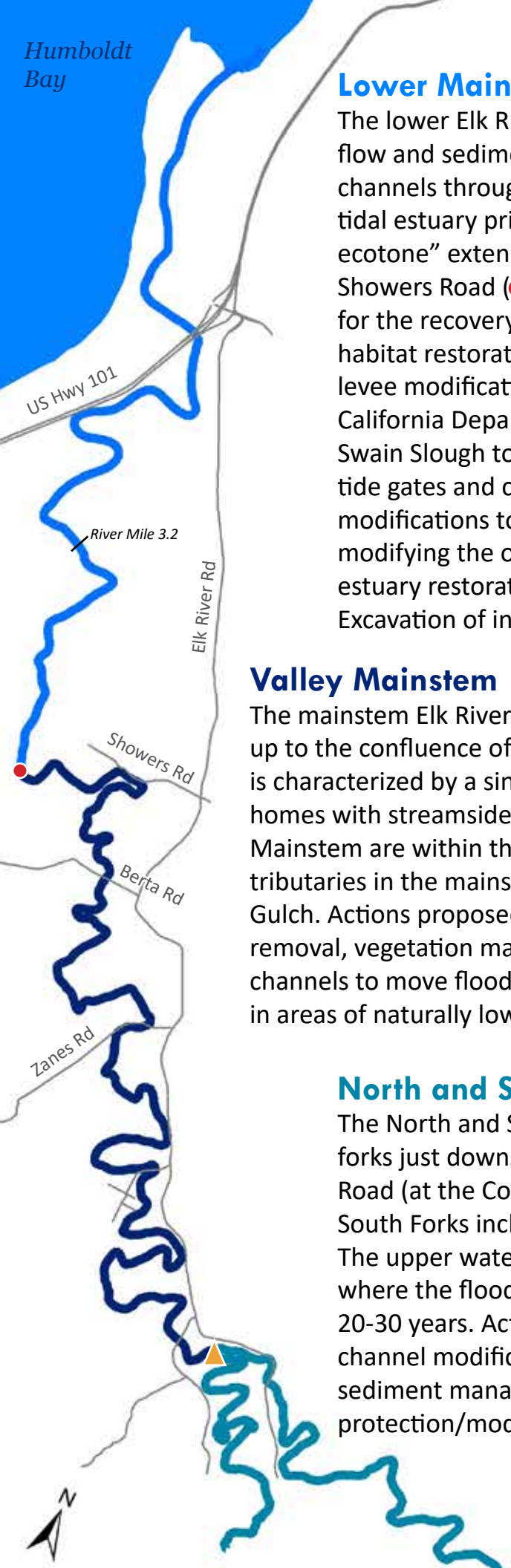
Presenting the Elk River Recovery Strategy

Throughout 2019, landowners engaged with the Stewardship Program to develop *Actions* to reduce nuisance flooding, and promote water quality and natural resource recovery. The Actions depicted in the enclosed map have preliminary landowner support and reflect the Elk River Recovery Strategy. These Actions integrate landowner input with the recommendations of the Elk River Recovery Assessment and have been developed with preliminary support from regulatory agencies.

The Actions depicted in the enclosed map do not commit the landowner to implementing any concrete action on their property. In the ongoing Stewardship planning phase, the project team will evaluate the Actions at a watershed and reach-specific scale. The evaluation will be conducted using the Hydrodynamic Sediment Transport (HST) model developed in the Recovery Assessment and other criteria.

Following presentation of the analysis, the Elk River Recovery Strategy will be developed into an Elk River Recovery Plan to guide implementation of the actions being proposed, including phasing, cost, funding, permitting, mitigation, and other considerations. An integral component of the Elk River Recovery Plan will be a coordinated monitoring and adaptive management program to monitor flooding, water quality, habitat, and protected species. Finally, the Elk River Recovery Plan will support Programmatic Environmental Review and fundraising efforts.

The landowner consultation process is iterative and ongoing. Landowner consultation will continue throughout all subsequent planning phases.



Lower Mainstem — Tidal estuary

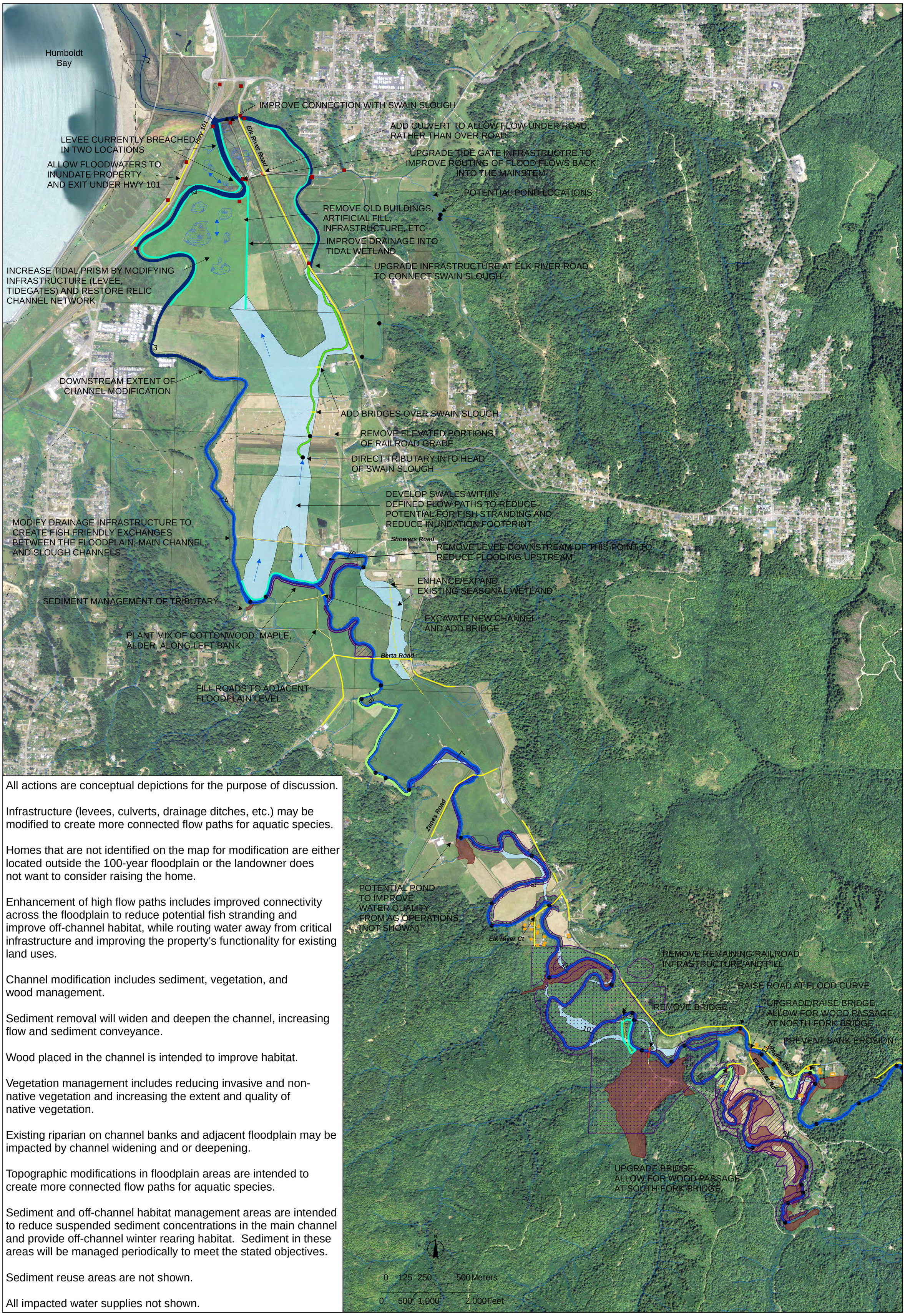
The lower Elk River is a tidal slough confined by levees where water flow and sediment are controlled by tidal action. A network of relict channels throughout the valley-bottom indicate a once extensive tidal estuary prior to agricultural conversion. This "stream-estuary ecotone" extends approximately 5 miles from Humboldt Bay to about Showers Road (●). The slough channels of the Elk River are important for the recovery of salmonid populations and represent enormous habitat restoration potential. Actions proposed in this reach include: levee modifications to enhance tidal activity on 99 acres owned by the California Department of Fish and Wildlife, restoring and reconnecting Swain Slough to better drain valley floodwaters, modification of tide gates and culverts, vegetation management, and topographic modifications to direct flood flows across the floodplain (such as by modifying the old railroad grade). These actions will complement other estuary restoration projects west of Highway 101 and Martin Slough. Excavation of in-channel sediment is proposed above River Mile 3.2.

Valley Mainstem

The mainstem Elk River extends approximately 5 miles from Showers Road up to the confluence of the North and South Forks (▲). The fluvial mainstem is characterized by a sinuous, narrow channel and broad floodplains. Most homes with streamside property and all of Elk River Courts within the Fluvial Mainstem are within the 100-year floodplain. There are six bridges and several tributaries in the mainstem including Railroad Gulch, Clapp Gulch, and Shaw Gulch. Actions proposed in the fluvial mainstem include: in-channel sediment removal, vegetation management, raising roads, homes, and bridges, bypass channels to move flood flows through tight river bends, and sediment trapping in areas of naturally low topography and where tributaries enter the mainstem.

North and South Forks

The North and South Forks extend from the confluence of the two forks just downstream of the intersection of Elk River Road and Wrigley Road (at the Concrete Bridge), into the upper watersheds. North and South Forks include residential, public, and commercial landownership. The upper watershed is steeper and transitions into low-gradient areas where the flood elevations have increased by many feet over the past 20-30 years. Actions proposed in the North and South Forks include: channel modification, vegetation management, creation of off-channel sediment management and habitat features, and infrastructure protection/modification (homes, roads, bridges).



All actions are conceptual depictions for the purpose of discussion.

Infrastructure (levees, culverts, drainage ditches, etc.) may be modified to create more connected flow paths for aquatic species.

Homes that are not identified on the map for modification are either located outside the 100-year floodplain or the landowner does not want to consider raising the home.

Enhancement of high flow paths includes improved connectivity across the floodplain to reduce potential fish stranding and improve off-channel habitat, while routing water away from critical infrastructure and improving the property's functionality for existing land uses.

Channel modification includes sediment, vegetation, and wood management.

Sediment removal will widen and deepen the channel, increasing flow and sediment conveyance.

Wood placed in the channel is intended to improve habitat.

Vegetation management includes reducing invasive and non-native vegetation and increasing the extent and quality of native vegetation.

Existing riparian on channel banks and adjacent floodplain may be impacted by channel widening and or deepening.

Topographic modifications in floodplain areas are intended to create more connected flow paths for aquatic species.

Sediment and off-channel habitat management areas are intended to reduce suspended sediment concentrations in the main channel and provide off-channel winter rearing habitat. Sediment in these areas will be managed periodically to meet the stated objectives.

Sediment reuse areas are not shown.

All impacted water supplies not shown.

- ELK RIVER CENTERLINE
- STREAMS
- RAILROAD
- SELECTED PARCELS
- COASTAL ZONE
- EXISTING WATER CONTROL STRUCTURE

INFRASTRUCTURE MODIFICATION

- CROSSING
- HOME
- LEVEE
- RAILROAD
- ROAD
- FARM ROAD

- TRIBUTARY JUNCTION ENHANCEMENT
- HIGH FLOW PATH ENHANCEMENT
- SLOUGH CHANNEL MODIFICATION
- ESTUARY ENHANCEMENT
- CHANNEL MODIFICATION
- SEDIMENT AND HABITAT MANAGEMENT AREA

- WETLAND CREATION

VEGETATION ENHANCEMENT

- ENHANCE EXISTING VEGETATION
- PLANTING

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Stillwater Sciences

Map Sources:
Roads, cities: ESRI 2016

PHASE 1 Elk River Recovery Assessment (ERRA)

- Conceptual Model and Hydrodynamic Sediment Transport Model Development (Complete)
- ERRA Recovery Framework Report (Complete)
- Pilot Project Implementation (In progress)

PHASE 2 Preferred Recovery Strategy

- Develop site-specific actions in consultation with landowners and regulatory agencies
- Present Preferred Strategy at Feb. 27 Public Meeting (Complete)
- Modeling and analysis of Preferred Recovery Strategy
- Modeling and Analysis of Vegetation Management
- Present results of analysis including preliminary impacts and cost considerations.

We are here

PHASE 3 Develop Elk River Recovery Plan

PHASE 4 Regulatory Compliance

- Conduct programmatic environmental review

PHASE 5 Planning and Design

- Engineering design of landowner-supported actions
- Permitting

Phased Implementation of Projects

NEXT STEPS While the Stewardship team is very excited by the progress we achieved during our landowner outreach phase in 2019, we are still early in the process that leads to implementation of Recovery Actions. There is a lot of work ahead. The chart to the left outlines the general process and steps necessary to reach the implementation phase.

Building on the science and recommendations of the Recovery Assessment, as refined and supported by landowners, we're now in the process of analyzing the proposed actions to evaluate their effectiveness in achieving the objectives of the Stewardship Program.

We will continue to update the Elk Community with periodic newsletters, public meetings, and further outreach to landowners. Please feel free to share this newsletter widely, and contact CalTrout's North Coast office with any questions or comments at elkstewardship@caltrout.org, or (707) 825-0420, or the Regional Water Quality Control Board at (707) 576-2689.

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