

Appendix F

Russian River Watershed Resilience

Pilot Study Area Delineation



Appendix F. Russian River Watershed Resilience Pilot Study Area Delineation

F.1 Introduction

This appendix describes the development of the study area boundary that is used for the Russian River Watershed Resilience Pilot (Russian River WRP). This study area boundary builds upon the Russian River watershed boundary identified in the California Department of Water Resources' (DWR's) *California Watershed Resilience Assessment* (DWR 2024). The boundary developed for the Russian River WRP maintains the watershed-level focus of the *California Water Plan Update 2023* (DWR 2023).

This appendix describes the differences between the study area boundary and the Russian River watershed boundary delineated by DWR (2024).

F.2 Description of Previous Study Area Boundaries

California Water Plan Update 2023 recommended a watershed-scale approach to developing solutions to California's water management challenges (DWR 2023). In response, DWR proposed a series of watershed resilience assessments. A total of 48 watersheds were delineated across the state, following U.S.

Geological Survey Hydrologic Unit Code (HUC)-8 boundaries. While some of the 48 watersheds were delineated by combining several HUC-8 watersheds, the Russian River watershed is consistent with the HUC-8 boundary. Figure F-1 shows the Russian River watershed from this effort. Water from the Russian River watershed is also used as water supply for some agencies in the North Bay watershed.

Figure F-1. Russian River Watershed



Source: DWR 2024

F.3 Study Area Boundary

For the Russian River WRP, the study area boundary adopts the HUC-8 Russian River watershed delineation from the *California Watershed Resilience Assessment* (DWR 2024) and adds adjacent areas that receive Russian River water supply. Figure F-2 shows the watershed study area. The study area includes all, or portions of, the following HUC-8s: Russian River (18010110); portions of San Pablo Bay (18050002) overlapping with Sonoma Water service areas; and portions of Tomales-Drake Bays (18050005) overlapping with Sonoma Water service areas. Figure F-2 shows the Russian River hydrological watershed with an outline in green and the adjacent areas that receive Russian River water in the hatching.

The boundary encompasses the entire Russian River watershed, including the following:

- Important hydrological features such as Lake Mendocino and Lake Sonoma
- Potter Valley, Ukiah Valley, Santa Rosa Plain, and Alexander Valley groundwater basins
- Laguna de Santa Rosa and Russian River Estuary

The adjacent areas that receive Russian River water, also termed 'plus' areas, encompass portions of the North Bay watershed (i.e., Sonoma Water service areas) including Sonoma Valley and Petaluma Valley groundwater basins, and Sonoma Water service areas in Petaluma, Valley of the Moon, Sonoma, Novato, and Marin Water's service area. This 'plus' area expansion ensures that this effort considers the hydrologic and hydrogeologic conditions of the Russian River watershed that affect water supply to all relevant communities, infrastructure, and populations.

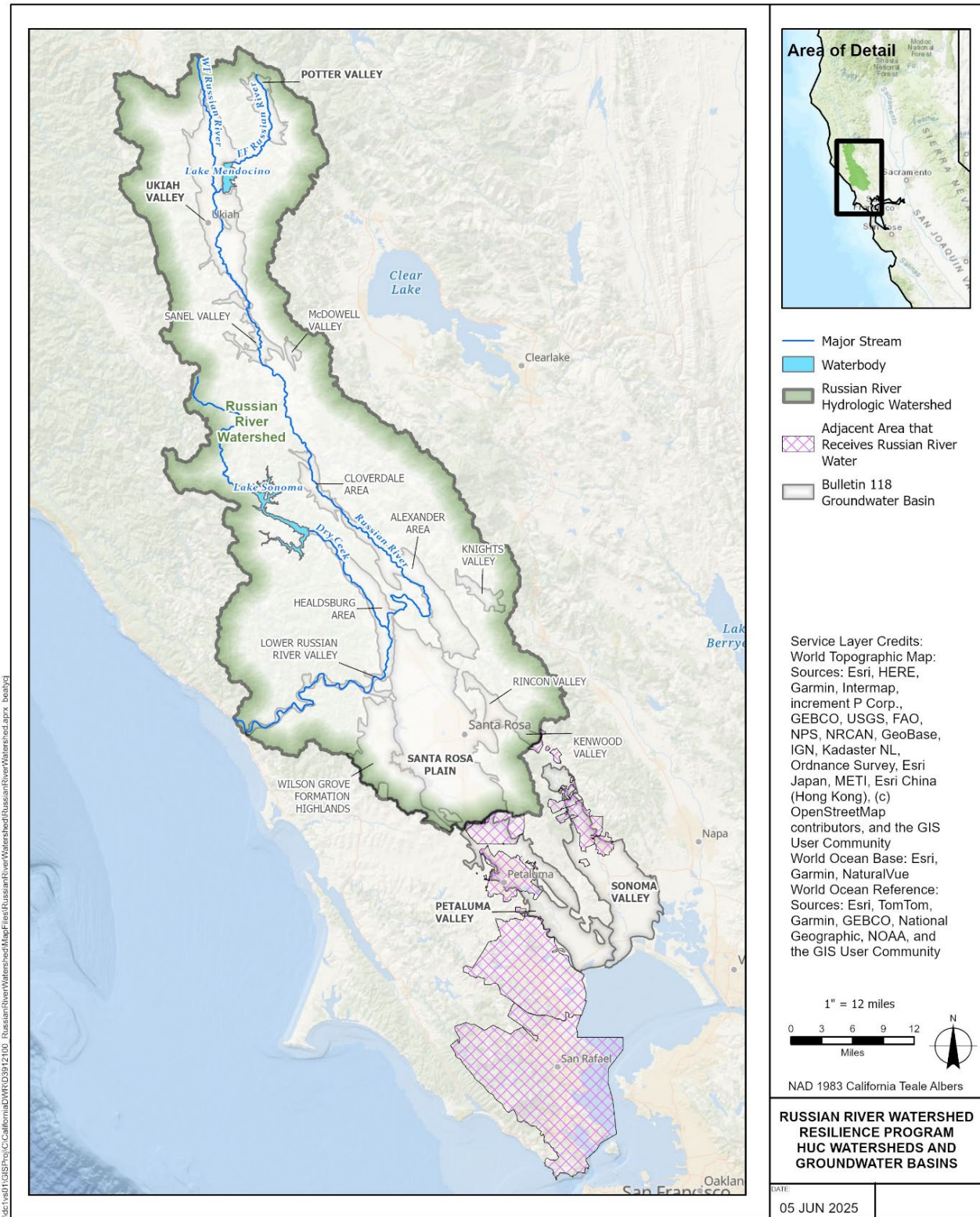
The study area boundary includes two major reservoirs that affect flows in the Russian River watershed: Lake Mendocino and Lake Sonoma.

1. Lake Mendocino, located in the upper Russian River watershed near Ukiah, releases stored water into the Russian River to meet minimum instream flow requirements and downstream water demands for the Upper Russian River, a 63-mile stretch of the Russian River from Coyote Dam to the confluence of Dry Creek.
2. Sonoma Water makes releases from Lake Sonoma (located in the lower watershed) into Dry Creek to meet minimum instream flow requirements and downstream demands for a 14-mile stretch of Dry Creek to the confluence of the Russian River, as well for the 31-mile stretch of the Russian River from the confluence of Dry Creek to the Pacific Ocean near Jenner.
Sonoma Water also diverts water from the Russian River at its Wohler and Mirabel diversion facilities located near the town of Forestville.

The Russian River also receives trans-basin imports from the Eel River through the Potter Valley Project (PVP), a hydroelectric facility owned and operated by Pacific Gas & Electric. Imports from the PVP are released into the upper reach of the East Fork Russian River approximately 12 miles upstream of Lake Mendocino. Finally, the proposed watershed area includes reservoirs managed by Marin Water and North Marin Water District. North Marin Water District and Marin Water supplement their local water supply with Russian River water that is delivered through Sonoma Water's transmission system.

The comprehensive climate vulnerability and risk assessment for the Russian River WRP will be conducted for the Russian River hydrologic watershed. A limited evaluation of water supply (surface water and groundwater) will be conducted in the areas outside the Russian River watershed that are included in the study area boundary.

Figure F-2. Russian River Watershed Resilience Pilot Study Area



F.4 References

California Department of Water Resources (DWR). 2023. *California Water Plan 2023 Update*. December. <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2023/Final/California-Water-Plan-Update-2023.pdf>.

California Department of Water Resources (DWR). 2024. *California Watershed Resilience Assessment*. Prepared as part of the Watershed Resilience Program. July. <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2023/Supporting-Documents/California-Watershed-Resilience-Assessment.pdf>.

Sonoma Water. 2021. *Sonoma Water Climate Adaptation Plan*. October. https://www.sonomawater.org/media/PDF/Environment/Climate%20Adaptation%20Planning/SW_CAP_Final_October_2021.pdf.



Funding for this project has been provided in full or in part from the Budget Act of 2022 and through an agreement with the State Department of Water Resources.