

# 1. Watershed Resilience Program and Pilot Overview

## 1.1 Watershed Resilience Program Overview

To strengthen California's ability to adapt to climate change, the Department of Water Resources (DWR) launched the Watershed Resilience Program as part of the 2023 California Water Plan. This program emphasizes the need to assess climate risks at the watershed scale and develop strategies that address those challenges

---

*The Russian River Watershed Resilience Plan is building on a solid foundation of watershed planning, science, collaboration, and innovation by the engaged watershed community. They have come together now as a Watershed Network to ensure their efforts are coordinated towards a climate resilient future.*

---

through collaboration and integrated solutions. It builds on the foundation of the Integrated Regional Water Management (IRWM) Program, deepening its focus on climate vulnerability assessments, adaptation planning, watershed-based planning, multi-sector collaboration, and equity and inclusiveness. The program also prioritizes cross-sector collaboration across water supply, flood management, groundwater, water quality, forest and fire resilience, ecosystems, and land use. Initial funding from the 2021 and 2022 Budget Acts enabled DWR to launch five 2-year pilot planning projects. These pilots are applying and testing the watershed resilience approach in diverse regions across the state, laying the groundwork for future efforts. The five pilot watersheds were selected by DWR and include the Russian River, American River, Ventura River, Pajaro River, and Calaveras River watersheds.

(<https://water.ca.gov/Work-With-Us/Grants-And-Loans/watershed-resilience-program>)

Pilot watersheds received funding and guidance from DWR to convene broad, inclusive watershed networks of local agencies, Tribal governments, community leaders, non-profit organizations, and other partners. DWR envisions equity and inclusion as being a critical focus for watershed networks. These locally led networks collaborate across their watershed to quantify their greatest climate vulnerabilities and develop multi-benefit adaptation strategies and projects to increase climate change resilience. Lessons learned from these pilots will inform future State funding programs. If additional funding becomes available, DWR intends to incentivize this watershed resilience approach in other watersheds throughout the State.

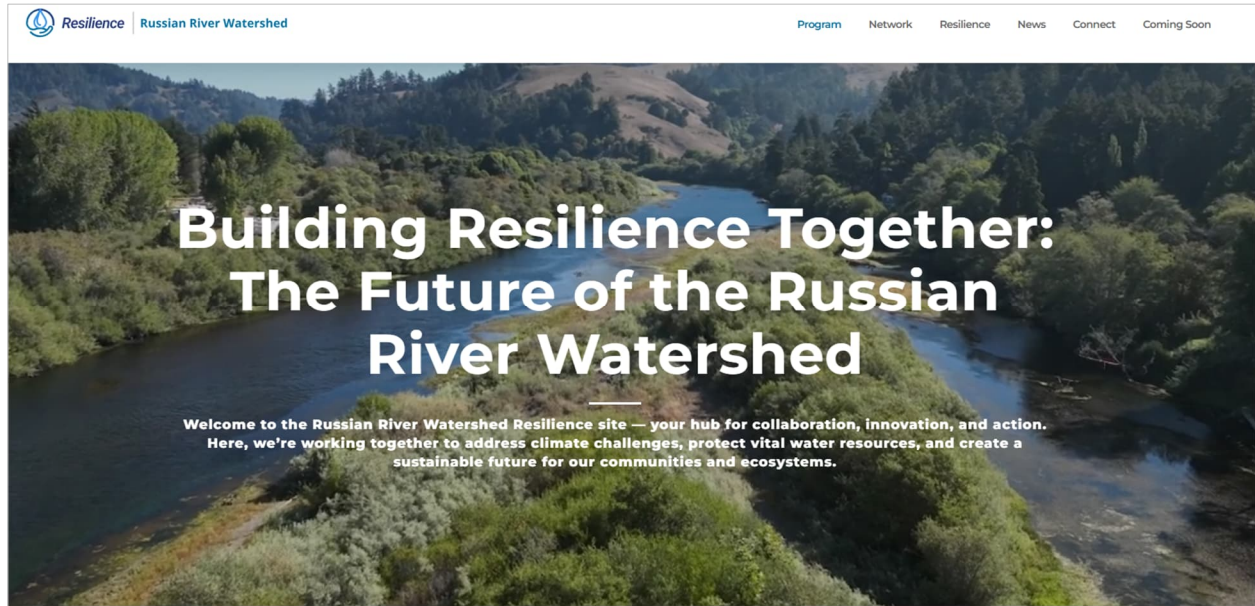
The Russian River Watershed Resilience Pilot (Pilot) was initiated in April of 2024 when DWR formally awarded grants to the five pilots. This Russian River Watershed Resilience Plan (WRP) describes and documents the process, analysis, and findings of the Pilot. Details about the Pilot and the Plan process can be reviewed at the Pilot website: <http://russianriverwatershedresilience.org> (Figure 1-1)

## 1.2 Russian River Watershed Resilience Pilot Overview

The Pilot, led by the Sonoma County Water Agency (Sonoma Water), is a \$2 million initiative funded by the California Department of Water Resources (DWR) to develop a climate-resilient management plan for the 1,500-square-mile watershed. The Pilot study area supports over 700,000 people, 238 streams, and critical habitats for endangered salmonids. The Pilot aligns with California's Water Plan Update 2023 and focuses on:

- **Climate Vulnerability Assessment:** Quantifying risks from reduced snowpack, drought, floods, and sea level rise.
- **Multi-Sector Integration:** Coordinating water supply, flood management, ecosystems, and land use planning across jurisdictional boundaries.
- **Equity-Centered Planning:** Engaging Tribes, disadvantaged communities, and agricultural stakeholders in decision-making.

Figure 1-1. Russian River Watershed Resilience Pilot Website



The Russian River Watershed Resilience website summarizes the process and provide data and documents about the Pilot and Plan.

### 1.3 Watershed Resilience Planning Process

The Russian River Watershed Resilience Pilot applies a five-step resilience planning framework. This framework is consistent with DWR’s Watershed Resilience Program resilience planning framework with locally tailored priorities specific for the Russian River watershed.

1. Set The Stage
2. Explore Hazards
3. Assess Vulnerabilities
4. Develop Strategies
5. Implement and Monitor

Watershed resilience involves deep understanding of the water resources and communities of the Russian River watershed, a review of current and future vulnerabilities in the watershed, and strategies that can help move the needle toward greater watershed resilience.

The framework consists of five main steps illustrated on Figure 1-2. At the center of this figure are three elements that are integral to each of the steps. The Watershed Network is the driving force for each of these steps, providing critical direction, input, and review. Equity is woven into the whole process beginning with the composition of the Network, ensuring there is an inclusive membership engaged, and

Figure 1-2. Watershed Resilience Planning Process



conducting an equity analysis and embedding equity criteria into the development of adaptation strategies to ensure that adaptation strategies address disproportionate impacts to vulnerable communities. Finally, performance tracking allows specific vulnerability indicators and metrics to be adapted to measure performance based on achievement of the Plan goals, the risks and objectives for each of the adaptation strategies.

1. **Set the Stage** – convene a diverse and inclusive watershed network, set vision and goals for this resilience planning effort, and identify the components, interdependencies, and bounds of the planning effort.
2. **Explore Hazards** – understand current state of the system, historical climate influences on the system, and future projections and uncertainty.
3. **Assess Vulnerabilities and Risks** – identify water resource and socio-economic indicators, assess the vulnerability of watershed systems to current — and a range of plausible future climate conditions — and use risk analysis to identify high -priority focus areas.
4. **Develop Adaptation Strategies** – identify and evaluate a wide spectrum of adaptation options for high -priority focus areas, consider sustainability principles, and recommend no- or low-regret strategies considering uncertainty.
5. **Implement and Monitor** – develop the timeline and triggers for implementing selected strategies through on-the-ground actions; fund, implement, and monitor the performance of actions; and adapt strategies as needed.

This plan documents the overall resilience process undertaken during the Russian River Watershed Resilience Pilot. A summary of the contents is below:

- **Chapter 2, Russian River Watershed and Study Area** describes the characteristics of the watershed including geography and patterns of settlement, including Tribal history in the watershed and current demographics. Additionally, the water resource sectors are defined and described.
- **Chapter 3, Building Resilience with a Watershed Network** describes the purpose and development of the collaborative watershed network formed and convened during the development of the WRP.
- **Chapter 4, Climate Change in the Watershed** presents the historic, current, and future climate hazards used as the foundation for risk and vulnerability analysis.
- **Chapter 5, Water Resource Vulnerabilities** presents the findings of the vulnerability and risk assessment for each of the water resources sectors, including water supply, groundwater, water quality, ecosystems, wildfire, recreation and hydroelectric.
- **Chapter 6, Adaptation Strategies to Increase Resilience** presents the range of adaptation strategies that were identified to increase resilience to the risks to water resource sectors and evaluates them against several performance criteria.
- **Chapter 7, Implementation Strategies** explores both governance and funding approaches that may be effective in future implementation of the identified adaptation strategies.
- **Chapter 8, Recommendations** lays out recommendations for next steps to transition from a plan to action.