



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Schlossberg, Brown, Carlson, Barofsky and McRae
FROM: Karl Morgenstern, Watershed Restoration Program Manager
DATE: August 27, 2021
SUBJECT: McKenzie Watershed Recovery and Restoration Plan, 2022-2023
OBJECTIVE: Provide General Direction for Budget Development and October Board Meeting

Issue

The Holiday Farm Fire burned 173,000 acres and destroyed over 430 structures in the middle McKenzie Watershed inflicting significant damage and threatening the long-term viability of Eugene's sole source of drinking water. EWEB currently leads the Watershed Recovery Task Force in response to the fire and is using the Pure Water Partners (PWP) program to leverage resources and funding to mitigate fire impacts and conduct watershed restoration activities that protect water quality. The following discussion outlines the next phase of watershed recovery efforts EWEB is planning with ready partners for 2022 and 2023.

Background

In 2018, EWEB's Board of Commissioners approved a 10-year strategic plan to protect the McKenzie Watershed as EWEB's sole source of drinking water. The programs and partnerships formed to implement this strategic plan are now fundamental to the timely response to the Holiday Farm Fire (HFF) and the building blocks of watershed restoration efforts over the longer term.

The devastation from the HFF resulted in immediate and longer-term threats to water quality. On October 6, 2020, the Board passed Resolution 2024 authorizing \$1,000,000 for immediate response to this direct threat to Eugene's drinking water (see Board Memo dated 9/25/20). EWEB and the PWP team took actions in the first 6-7 months to stabilize ash and debris, assess and install erosion control measures, and revegetate riparian and floodplain areas on high priority properties. Details of these activities are contained in the Board Memo dated 1/20/2021. This large amount of work was successfully accomplished because of the long hours and dedication of EWEB's partners: the McKenzie Watershed Council (MWC), Upper Willamette Soil & Water Conservation District (UWSWCD), McKenzie River Trust (MRT), and the Lane Council of Governments (and their subcontractor Land Craft Design & Consultation).

On March 2, 2021, the Board authorized \$3.9 million for budget year 2021 to design and implement the next phase of watershed recovery and restoration work (see Board Memo dated 1/20/2021). This work would be funded through a newly established "watershed recovery surcharge" collected on monthly water bills starting in July and sunsetting in 60 months. The Watershed Recovery Fee provides stable, reliable funds to continue time-sensitive restoration work while staff seek numerous avenues for outside funding and resources to complement or offset EWEB customer investments.

The following is a chronological summary of the Watershed Recovery Task Force's 2021 restoration efforts to date:

- The PWP team completed burn assessments, planting plans, and secured 7-year agreements with 89 landowners, which allowed crews to plant approximately 210,000 native trees and shrubs in high priority burned riparian and floodplain areas. EWEB requested FEMA reimbursement for 75% of the planting costs.
- Immediately following planting efforts, the PWP team switched to implementing treatments to reduce fire fuels (e.g. thinning, pruning, chipping, and mechanically removing burnable vegetation) on 35 priority properties using the Northwest Youth Corps (NYC) and contractors. This work was accomplished under a tight timeline due to use of Oregon Department of Forestry (ODF) grant funds that had to be spent by June 30, 2021. EWEB funds also supported this work.
- Due to drought conditions and the stress on recently planted seedlings, the PWP team began rapid assessments of the 89 properties to assess plant mortality and identify those that could benefit from wood chip mulch and/or irrigation. The NYC and contractors were deployed to 35 high priority sites to improve replanting success rates.
- Once the ODF-funded fuels work was completed, EWEB and the PWP team transitioned to a longer-term restoration focus and revised the property assessment process to include collecting site information on fuels reduction needs, invasive vegetation issues, potential erosion problems, and revegetation needs. As part of this transition, numerous contracts were sent out to bid to replace those issued under the emergency response phase.
- As of mid-August, the PWP team has completed nearly 60 property assessments (out of the 89 sites) using the new rapid assessment survey tools to identify fuels reduction and invasive weed treatments, revegetation needs, and erosion control best management practices (BMPs).
- The PWP team is also encouraging naturescaping concepts and suggesting Firewise best practices when providing recommendation to landowners following these property assessments. The PWP is also supporting an effort to create Firewise communities in the McKenzie Watershed.
- New GIS applications have been essential to both data collection needed for the HFF response efforts and for prioritizing work on the ground. GIS work completed in 2021 included revamping the public facing dashboard, updating the field applications that support property assessment data collection, completing LiDAR and ortho imagery flights of the McKenzie (50% funded by the USGS), and conducting GIS analysis/prioritization of F-2 lands or smaller woodlots impacted by the HFF that have special replanting needs.
- EWEB partners (i.e., MWC, USFS, and MRT) completed two large scale floodplain restoration projects: upper Deer Creek (USFS) that involved relocating EWEB transmission lines and Finn Rock Reach (FRR) Phase 1, as well as a tributary large wood project on lower Deer Creek (Bureau of Land Management (BLM)). Design and survey work is progressing on three new projects areas that include Quartz Creek, South Fork McKenzie Delta Campgrounds area, and FRR Phase 2. These projects are all located in heavily burned areas where potential for landslides and erosion is high. Slowing flows and trapping sediment through natural processes provides significant water quality benefits.
- MRT has acquired 5 floodway parcels with destroyed homes (totaling over 20 acres) and hopes to be closing on two more parcels over the next few months. These properties provide unique opportunity for floodplain restoration after the built infrastructure is removed.
- The landowner incentives program has approved five zero-interest loans for septic system replacements and Lane County has authorized one application to support a landowner to rebuild farther away from the river. Three additional 'smart rebuild' applications are currently in review.

- EWEB continues to maintain a network of real-time water quality stations as an early warning system for Hayden Bridge operators and source protection staff. In addition, twenty-eight (28) monitoring events have been conducted in 2021 to assess the impacts of the HFF on water quality. Lack of heavy rain events has helped maintain high water quality in the McKenzie that is comparable to pre-fire conditions.
- EWEB, MWC and MRT engaged the State legislature on numerous occasions to convey the need for additional funds to support watershed restoration as a vital component to fire recovery efforts. The State legislature approved a \$4 million allocation to EWEB for watershed restoration and \$1.5 million has been earmarked for septic system repairs, replacements, and upgrades in the HFF impacted area.

Discussion

As the chronology above summarizes, the 2021 budget amendment was essential to support the transition from emergency response to long-term watershed restoration work.

This investment aligns with EWEB's 10-Year Strategic Plan by fostering customer confidence (phase I) and resilient delivery (phase III) through the protection of drinking water source(s) and preservation of EWEB's excellent water quality. It is also aligned with customers' highest priority EWEB service – providing a clean and reliable drinking water source. To maintain water quality in the face of post-fire impacts requires a multi-barrier approach. This starts with actions at the source to mitigate water quality risks, sensors to provide early warning to Hayden Bridge filtration plant so operators can optimize treatment, and then on-going monitoring within the distribution system to maintain water quality from source to tap.

The watershed restoration plan includes three categories of investment that the Board can dial up or down based on fiscal considerations and other factors to achieve the right balance for the greatest benefit: 1) risk-based early actions; 2) longer-term resilience actions; and 3) strategic actions that focus on carbon sequestration as part of watershed restoration. The following discussion summarizes the various actions that are planned for 2022 and 2023 as watershed restoration planning matures and outside funding support is better understood.

Risk-Based Actions

Activities in this category are intended to directly mitigate risks to water quality by focusing actions on properties in and around severely burned areas. Actions include implementing erosion control measures and establishing native vegetation, as well as incentivizing landowners to 'rebuild smarter' along the river. The PWP team conducts a streamlined property assessment for any landowner who requests this assistance and signs an access agreement. The assessment provides a scaled ranking for the level of risk associated with erosion issues, fuel loads, invasive weed problems, and revegetation needs. This helps prioritize the work conducted by the Northwest Youth Corps and contractors as part of a 7-year PWP Watershed Stewardship agreement signed by the landowner. As indicated previously, the PWP team is currently conducting assessments on potentially hundreds of properties that will inform the fall workload and winter planting season.

Landowner incentive programs are designed to encourage moving homes and infrastructure away from the river's riparian area and out of the floodplain, essentially making it cost neutral to the landowner by providing up to \$7,000 in grants. In addition, EWEB provides grants and zero interest loans for septic system upgrades to protect water quality. The State legislature approved \$1.5 million for McKenzie septic system upgrades, repairs and replacement within HFF impacted area, although the parameters for these funds are still under development.

Table 1 summarizes the estimated EWEB costs for risk-based work completed in 2021, as well as planned for fall 2021, 2022 and 2023.

Table 1: Summary of Risk-Based Actions and EWEB Costs

Activity	2021	2022	2023
PWP Operations ¹	\$350,000	\$550,000	\$550,000
Erosion Control & Hydroseeding	\$200,000	\$100,000	\$50,000
Fire Fuels Reduction/Invasive Weed Removal	\$250,000 ²	\$550,000	\$450,000
Revegetation and Vegetation Maintenance	\$300,000	\$600,000	\$600,000
Landowner Rebuilding Incentives	\$50,000	\$100,000	\$100,000
Water Quality Monitoring	\$250,000	\$250,000	\$250,000
Total Cost for Risk-Based Actions	\$1,400,000	\$2,150,000	\$2,000,000

¹ – PWP Operations includes MWC, UWSWCD, MRT, LCOG and EWEB staff costs for landowner outreach, property assessments, developing restoration agreements and management plans, managing contractors, and documenting work.

² – ODF funded an additional \$200,000 in fuels reduction work and will likely fund future work as well.

As indicated in Table 1, the early actions associated with the risk-based activities are concentrated in the initial couple of years to address erosion issues and influence rebuilding decisions. EWEB and the PWP team are pursuing outside funding opportunities with Oregon Watershed Enhancement Board (OWEB), ODF, BLM, and FEMA to support this work.

Resiliency Actions

The primary purpose of resiliency actions is to support and create long-term functional and healthy floodplain ecosystems below burned landscapes that decrease flow velocity and encourage the development of side channels and other complex habitat. These actions create a depositional environment where sediment drops out, nutrients and metals are attenuated, and water is stored on the landscape, reducing downstream flood impacts, all of which benefit water quality and reduce impacts on downstream drinking water treatment processes. Well-saturated floodplains have proven effective as firebreaks, reducing the severity of wildfire damage, as well as providing exceptional habitat for salmonids, amphibians, and other aquatic and avian species.

Two prominent floodplain restoration projects, Deer Creek and FRR Phase 1, and one smaller tributary large wood project on lower Deer Creek were completed in 2021. The recently completed Deer Creek floodplain restoration project provided a solid fire break on the western edge of the Knoll Fire near the Carmen Smith project. For smaller tributaries that don't have a wide floodplain, large wood placement projects are planned to establish areas that slow down the flow, retain and drop out sediment, and provide good fish habitat. The criteria used to prioritize this work is summarized in Table 2.

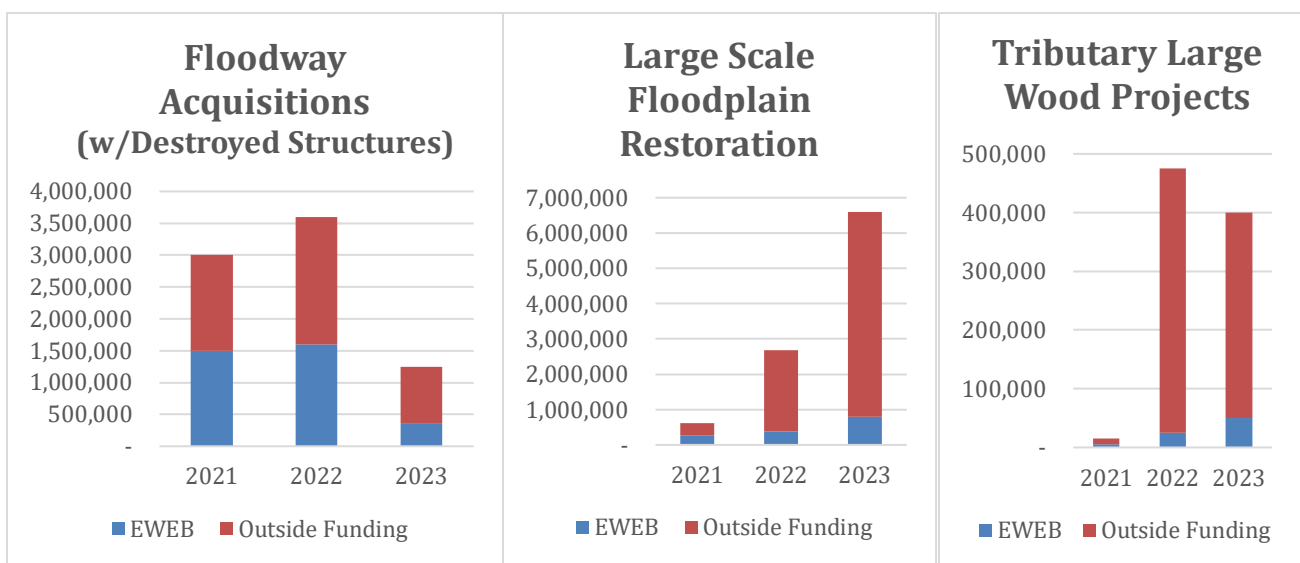
Based on the prioritization criteria, the floodplain team (i.e., EWEB, MWC, MRT, and the USFS) plans additional significant floodplain restoration projects in the South Fork in 2022, and FRR Phase 2 and Quartz Creek in 2023. Other priority areas include Ennis Creek, lower Gate Creek, and middle McKenzie River. Tributary large wood projects are moving forward in North Fork Gate Creek with planning starting in Martin Creek.

Table 2: Resiliency Actions Prioritization Criteria

Floodway Property Acquisitions	Tributary Large Wood Projects	Large Scale Floodplain Restoration Projects
Opportunity to acquire	Landowner opportunity that supports project	Ownership/Conservation Easement
Proximity to waterways	Water quality improvements	Water quality improvements
Proximity of destroyed structure to riparian, floodway, floodplain	Size of burned landscape drained	Size & gradient of floodplain
Tax lot size with destroyed structure	Nearby source of large wood	Size of burned landscape drained
Adjacency to other conservation lands	Project accessibility	Project Costs and ability to permit project
Habitat enhancement potential	No structures or infrastructure impacted	No structures in permit area
Property identified as priority from GIS analysis	Habitat enhancement potential	Habitat enhancement potential
Overall costs relative to other available parcels	Project Costs	Nearby source of large wood

Resiliency actions also include working with willing landowners who lost their homes in the HFF to consider selling at fair market value, but for conservation. These actions are focused on properties with structures/infrastructure within the floodway. MRT shares the cost of these acquisitions with EWEB 50/50 and provides long term stewardship of these properties. EWEB is funding the removal of infrastructure and site stabilization work. Longer term restoration of these properties is incorporated in the Risk-Based work. Table 2 summarizes the criteria used to prioritize floodway acquisitions.

Figure 1: Summary of Resiliency Actions (EWEB and Outside Funding)



Because of the high value these floodplain restoration projects provide, the state legislature approved \$4 million to support implementation of this work. FEMA Hazard Mitigation Program Grant

(HMGP) funds (\$4.5 million) and congressional appropriations (\$2 million) are being pursued with a high likelihood that at least a portion of these outside funds will support these resiliency efforts.

As indicated in Figure 1, EWEB funding is focused on planning, design, hydraulic modeling and permitting of floodplain restoration projects and floodway acquisitions. FEMA HMGP planning funds will also be used to support development and permitting of future floodplain restoration projects. Outside funding that is secured (\$7,300,000) and pending (\$7,200,000) will be used for large scale restoration work, tributary large wood projects, and floodplain land acquisitions.

Strategic Actions

The one investment in the strategic actions category is to continue research and piloting of carbon sequestration projects that provide benefits to watershed restoration (see Table 4). The focus of the U of O research is around enhanced carbon sequestration associated with the large-scale floodplain restoration projects as they create depositional environments where carbon can become secured in the subsurface and is protected from release during future fires, which directly relates to the resiliency projects. This research will inform future carbon sequestration opportunities that will be funded from other sources. These carbon sequestration opportunities that provide watershed restoration benefits will be brought forward to the Board for discussion as they become more developed with a potential path forward.

Summary

Table 3 summarizes the total watershed restoration costs anticipated for remainder of 2021 and in 2022 and 2023. In all cases, EWEB’s investments will be leveraged against other funding sources. These include FEMA grants, State legislature funding, congressional appropriations, OWEB and ODF grants, BLM and USFS funding, as well as other wildfire recovery funding opportunities that become available. Staff continues to explore any and all opportunities to access additional support towards recovery of our watershed.

Table 3: Summary of Watershed Restoration Actions and EWEB Costs

Action	2021	2022	2023	Total
Risk-Based Activities	\$1,400,000	\$2,150,000	\$2,000,000	\$5,550,000
Resiliency Projects	\$1,750,000	\$1,975,000	\$1,150,000	\$4,875,000
Strategic actions related to carbon sequestration	\$150,000	\$150,000	\$150,000	\$450,000
Total Cost for Watershed Restoration	\$3,300,000	\$4,275,000	\$3,300,000	\$10,875,000

The Watershed Recovery surcharge is anticipated to raise \$12.3 million and will sunset in 2025. The surcharge is sufficient to cover the anticipated work outlined for 2021 to 2023 (\$10,875,000), which is the bulk of watershed restoration actions. The remaining \$1.4 million will be leveraged with outside funding (e.g., FEMA) to cover maintaining this work in 2024-2025 (see Figure 1).

TBL Assessment

EWEB’s investments in risk-based, resiliency, and strategic actions to restore the McKenzie Watershed after devastating impacts from the Holiday Farm Fire will increase sequestered carbon, create significant economic benefits to local businesses and employment for impacted families, and protect the water quality of the McKenzie River for years to come. EWEB’s restoration investments have led to employment of McKenzie residents and use of local businesses in support of this work.

Recommendation

This backgrounder is to facilitate a discussion with the Board around recommended investment levels for 2022 and 2023. The Watershed Recovery surcharge is sufficient to fund this critical work during these initial years following the HFF. Outside funding is primarily concentrated in resiliency actions with EWEB funding focused on risk-based actions. As outside funding becomes available the Board can choose to dial back EWEB investments to reduce surcharge impacts on customers or maintain the surcharge to increase the scale of watershed restoration work given the current opportunities available. By mid-2022 the outside funding picture will be much clearer providing the Board the opportunity to decide best path forward. This feedback and direction will be used to craft the 2022 water budget to fund watershed restoration work. Staff recommend that the 2022 budget follow the anticipated expenditures outlined in Table 3.

Requested Board Action

Staff seek input and direction from the Board regarding the proposed investments in watershed restoration described herein.