



MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Helgeson, Brown, Mital, Simpson and Carlson

FROM: Mel Damewood, Chief Water Engineering & Operations Officer and
Karl Morgenstern, Water Quality & Source Protection Supervisor

DATE: November 22, 2017

SUBJECT: Strategic Plan for Protecting the McKenzie Watershed (2018-2028)

OBJECTIVE: Discussion toward approval of a 10-year strategic plan and budget

Issue

A draft 10-year Drinking Water Source Protection (DWSP) Strategic Plan and budget has been prepared for protecting the McKenzie Watershed using a planning timeframe of 2018-2028. The draft strategic plan shows how the Drinking Water Source Protection program is focusing on and aligning with EWEB's new strategic direction and the affordability initiative. The purpose of this correspondence is to give the Board opportunity to provide feedback and direction ahead of the January 2018 meeting where the Board will be asked to approve the 10-year strategic plan for the source protection program.

Background

EWEB relies on the McKenzie River watershed for power generation from its hydroelectric facilities at Carmen-Smith, Leaburg, and Walterville and as a sole source of drinking water for the City of Eugene. EWEB has been a responsible steward of the river, including for social/recreational purposes, for over a century. EWEB's water customers place a high value on the importance of the McKenzie River as an excellent source of drinking water, as indicated by consistently high rankings in EWEB customer surveys over the last 10 years and in U of O/OSU customer and business surveys (2013-2014). This places EWEB in a unique position to effectively safeguard this key community resource as a core customer value.

In 2001, the Board approved the initial source protection goals, objectives, and strategic direction outlined in the program implementation plan, which has guided program development until now. Since 2001 EWEB's DWSP program has been building the programmatic infrastructure for a risk-based watershed protection approach that: a) is collaborative and builds lasting relationships with partners, stakeholders, landowners and communities; b) leverages partner and outside funding/resources; c) is based on best available science; d) addresses multiple economic, social and environmental issues that align with partner efforts for shared investments; and e) is evaluated over time for effectiveness. As the DWSP program was launched based on this approach, it became apparent that this was an effective formula for attracting grant funding. EWEB used grant funds to help build and test collaborative watershed protection programs such as the McKenzie Watershed Emergency Response System, Healthy Farms Clean Water, Septic System Assistance, Pure Water Partners, and others (Reference: Board Memo's dated 8/15/2015, 10/25/2013, and 9/5/2013, as well as Table 1).

Over the last year, staff have been developing a 10-year strategic plan that shifts the DWSP program focus to align with EWEB's new strategic plan and the affordability initiative.

Discussion

The strategic planning period is from 2018-2028, which captures the transition from developing and building (2001-2017) to running programs, monitoring and adjusting (2018+). The 2017/2018 transition phase will involve establishing long-term interagency collaborative agreements that align and share resources, funding, and responsibilities for watershed protection, and better integrate source protection with Hayden Bridge operations and electric Generation. The DWSP Strategic Plan proposes spending levels that match the priorities outlined in the plan, which total approximately \$5.7 million over the next five (5) years, including \$4.6 million in programs and \$1.1 million in capital. Details are provided in the attached 10-year strategic plan for Board review and discussion.

Staff also completed a comprehensive Strategic Planning Technical Report that supported this planning process and development of the attached plan. The technical report provides extensive and detailed information about every aspect of the source protection program and the threats to Eugene's drinking water, and is available to the Board if requested.

Recommendation

This information is provided to inspire feedback and to facilitate a discussion with the Board (scheduled for January 2018) on source protection priorities and direction over the next 10-years.

Requested Board Action

No action is required at this time. Based on Board feedback and direction, a proposed final 10-year DWSP Strategic Plan will be brought back for additional Board discussion and approval in January 2018. Please provide comments and feedback to Frank Lawson, Mel Damewood, and Karl Morgenstern.

**EWEB's Drinking Water Source Protection
10-Year Strategic Plan
(2018-2028)**

Drinking Water Source Protection (DWSP) Program Goal:

To measure the balance between watershed health and human use over time and implement actions that maximize the benefits EWEB receives through its investments in the McKenzie River Watershed.

Primary Objectives to Accomplish the Goal:

1. Plan and implement actions that maintain source water quality in a way that balances risks with benefits in partnership with others;
2. Prioritize source protection efforts that provide the greatest benefit to water treatment and electric generation in the McKenzie Watershed; and,
3. Promote public awareness and stewardship of a healthy watershed through targeted actions and programs.

Based on these goals and objectives, our long-term strategic approach is to operationalize source protection efforts in a way that aligns priorities, leverages resources, and integrates with partner actions and leadership through long-term agreements.

Main Programmatic Elements for Long Term Source Protection:

EWEB's drinking water source protection program follows the American Water Works Association (AWWA) G-300 standards for developing, implementing, and measuring effective source protection programs. The following summarizes the main programmatic elements of EWEB's approach to protecting the McKenzie Watershed. The attached map provides a geographic prioritization of EWEB investments and the main threats addressed by each program (see attached map).

Water Quality and Watershed Health Monitoring (Entire Watershed)

EWEB will measure and collect information on water quality in the McKenzie Watershed that informs water treatment operations around toxins, emerging contaminants, trends,

episodic events that impact the river and treatment, and other changes in watershed health.

1. *Constituent monitoring* consists of quarterly baseline monitoring, storm event monitoring during first flush winter and spring storms, and investigative monitoring that focuses on episodic events.
2. *Harmful algal bloom monitoring* is conducted in the upper watershed between April to September to assess and quantify algal type and production of toxins in reservoirs and at intake.
3. *Continuous monitoring* occurs at various USGS and EWEB operated gaging stations in the lower and middle portion of the watershed to assess changes in general water quality, stream flow, and optical properties (UV and florescence) in real time to identify potential problems and trends that may impact drinking water quality and treatment.
4. *Monitoring data management and analysis* is conducted to interpret water quality trends, identify emerging issues, increase knowledge and understanding of watershed conditions and impacts from climate change, and provide regular reporting to treatment plant, management, Board and public through a variety of outlets.

McKenzie Watershed Emergency Response System (MWERS) (Entire Watershed)

EWEB will maintain a watershed emergency response system in close partnership with first responders that allows for efficient and effective response to hazardous material spills, which will reduce the magnitude and duration of impacts to the McKenzie River. This GIS-based web application provides critical information to first responders by allowing them to search for pre-determined spill response strategies, equipment, critical resources, and personnel; generate reports with travel times based on flow rates; and coordinate and communicate response efforts. Partners conduct interagency annual training and drills using interagency spill response trailers staged throughout the watershed to maintain and hone skills using this equipment and test pre-determined response strategies.

Urban Runoff Mitigation (Lower Watershed Focus)

EWEB will implement actions that mitigate, treat, and/or eliminate urban runoff from all five stormwater outfalls upstream of the Hayden Bridge intake. Project work will include constructing wetlands that will treat and buffer urban runoff and capture hazardous material spills for cleanup. These will be located immediately upstream of the Hayden Bridge intake at the 52nd Street outfall and at the confluence of Cedar Creek with the McKenzie River. These two wetland projects will treat/buffer urban runoff from four of the five outfalls above EWEB's intake. The remaining stormwater outfall will be addressed by re-routing stormwater runoff from the 42nd Street stormwater basin to the Q Street channel. This will eliminate outfall discharges to Keizer Slough. This will be a City of Springfield project that leverages EWEB investments in the 52nd Street wetland project.

Pure Water Partners (PWP) (Middle and Lower Watershed Focus)

EWEB will invest in the protection of riparian and floodplain forests as effective natural systems for treatment of pollutants, mitigation of floods, reduction of sediment, and increasing fish habitat that benefits water treatment and electric generation. EWEB's Pure Water Partners program is designed to reward good stewardship through incentives to landowners who maintain healthy riparian areas over the long term while facilitating restoration on degraded portions of their properties. Through this program, partner agencies conduct riparian health assessments to measure and identify riparian conditions on landowner properties that need restoration or which qualify for protection of healthy riparian forests. EWEB (or future Pure Water Partners legal entity) enters into long-term agreements with interested landowners that outline allowable uses in a management plan, provide incentives/compensation to the landowner, and/or assist the landowner in finding funding for restoration work. The McKenzie Watershed Conservation Fund, managed by Cascade Pacific Resource Conservation & Development (dba Pure Water Partners), manages funding from multiple sources (EWEB, Metropolitan Wastewater Management Commission, USFS Willamette National Forest, Oregon Watershed Enhancement Board, foundations, business sponsors, etc.) for protection and restoration actions on the ground. A governance structure will be developed by 2019 to create the Pure Water Partners as a legal entity that oversees and directs Fund management and could hold landowner agreements.

The PWP program boundary is based on mapped areas in the watershed that have a high likelihood of inundation and where healthy riparian forests would have the greatest benefit to treat pollutants, reduce erosion, mitigate flood impacts, and increase fish habitat.

Acquisition/conservation easement opportunities in high priority areas will become more plentiful as the PWP program engages hundreds of landowners. Establishing a mechanism to take advantage of these opportunities is critical to moving the 15-20 year PWP agreements into permanent protection. The McKenzie Watershed Council currently manages Generation funds (per FERC license Articles 412 and 413) for acquisitions & conservation easements that are then held by the McKenzie River Trust, and this mechanism could be used to leverage future opportunities that arise through PWP.

Septic System Assistance (Middle and Lower Watershed Focus)

EWEB will work with McKenzie homeowners to reduce the impacts of septic systems on water quality. The septic system financial assistance program provides a 50% cost-share assistance to homeowners to pay for inspection, pump-out, and completion of minor repairs. Homeowners with failing septic systems may apply for zero-interest loans (loan program is currently administered by EMS) to repair or replace these failing systems.

Healthy Farms Clean Water (Middle and Lower Watershed Focus)

EWEB will work with McKenzie farmers to reduce chemical use and increase riparian buffers that benefit water quality. The Healthy Farms Clean Water program focus areas include reducing chemical use and storage on farms by offering cost-share and technical assistance from partners to reduce pesticide use through on-farm projects, agricultural chemical removal events, nutrient management and organic certification. In the future, farmers can access zero-interest loans (administered by EMS) for projects that benefit water quality, allowing them to leverage Federal NRCS funds that require landowner match. This program recognizes the value of farmland as a preferred floodplain land use to increased development.

Healthy Forests Clean Water (Middle and Upper Watershed Focus)

EWEB will work with partners to increase forest health that reduces wildfire risks, protects water quality, increases fish and wildlife habitat, and generates revenue for watershed restoration that benefits water treatment and electric generation. The Healthy Forests Clean Water program consists of two main components. First, EWEB participates in a stewardship contracting collaborative process with the US Forest Service and other watershed partners. Through this effort, retained receipts generated from timber harvests on federal lands stay in the watershed and can be used to fund restoration projects on the Willamette National Forest and on private land through the Pure Water Partners program. The second part is to manage EWEB's Leaburg Forest to increase habitat that benefits Generation FERC license requirements and protect water quality while generating revenue through small patch cuts and thinning.

For more details about each of these programmatic elements and the threats they are designed to address, please see EWEB's Strategic Planning Technical Report (2018-2028). This comprehensive report was developed to support the planning process that generated this strategic plan.

Operationalizing Source Protection

There are two elements to operationalizing the DWSP program: one is through greater integration with Hayden Bridge and electric Generation; and the other is through establishing programmatic infrastructure that allows consistent and predictable engagement across the main DWSP elements by EWEB and its partners.

EWEB's source protection staff will work to integrate the DWSP program with Hayden Bridge, provide value to water treatment decisions and increase efficiency of water quality work. Some of these efforts will include spill notification, response, and monitoring; reducing analytical costs through shared use of outside laboratory services and using the Hayden Bridge Water Quality Lab for regular DWSP analysis; using daily operator logs to add source protection observations, trends, and events that add value to treatment decisions; providing seasonal and episodic event information around organic carbon load, characteristics, DBP potential, and

taste & odor issues; looking at emerging watershed issues, trends, impacts, changes, timing, and flows; and, exploring efficiencies that can be achieved by working with the water quality lab.

Source protection will also support the McKenzie Hydroelectric Generation facilities through testing and maintaining effective spill response capabilities that could reduce impacts from EWEB hydro-plant releases, providing habitat mitigation opportunities that leverage partner investments and resources to increase scope and impact of Generation efforts, and strengthening relationships with key partners (USFS, DEQ, ACOE, ODFW, MF&R, Lane County, ODOT, USGS, UO, OSU) that add value to Generation operations and FERC license management.

Finally, operationalizing source protection is happening through establishment of: programmatic infrastructure (largely completed) allowing for more efficient, effective, and consistent approaches by EWEB and its partners to watershed protection and restoration actions; and, long-term IGAs and agreements with partners to memorialize roles, responsibilities, funding, and priorities. Staff will continue to report on metrics/measurements of success and engage our customers through the PWP program, website and other venues.

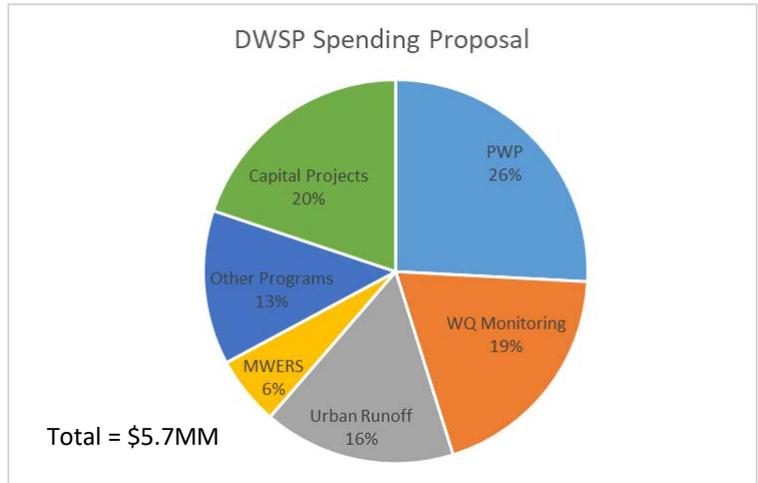
Alignment with the 2017 EWEB Strategic Plan

EWEB's Source Protection Program aligns with EWEB's 10-Year Strategic Plan by fostering customer confidence (phase I) through the protection of drinking water source(s) and allowing EWEB to maintain excellent water quality. Source protection can also support the development of emergency water sources (decentralized wells) through water quality monitoring of wells and small scale source protection assistance in the immediate area around these wells, which aligns with resilient delivery (phase II). Source protection opens up opportunities for customers to be involved in other services through EWEB around ecosystem service markets and carbon off-set markets (phase III). Source protection efforts align well with the organizational core values, especially with being responsible through local stewardship of critical natural resources with prudent use of our customer's limited funds. In response to the affordability initiative, the source protection program reduced costs by 10-15% without impacting the programs capability to effectively do this important work on behalf of our customers. Finally, EWEB's mission statement to 'enhance our customers' vitality by delivering drinking water [and electric services] consistent with the values of our customer owners' is very relevant to the source water protection program. Customer surveys consistently show water quality and watershed protection as the highest values and priorities for EWEB.

Financial Impact of the DWSP Strategic Plan:

The DWSP Strategic Plan proposes activities over the next decade, including a 5-year outlook of expenditures of approximately \$5.7 million with \$4.6 million allocated to programs and \$1.1 million in capital investment. EWEB spending levels on DWSP will typically range from \$1.0 - \$1.5 million in any particular year. The DWSP Strategic Plan proposes spending in the following areas.

<u>Strategic Area</u>	<u>5-Year Spending</u>
PWP	\$1,470,000
WQ Monitoring	\$1,100,000
Urban Runoff	\$920,000
MWERS	\$330,000
Other Programs	\$740,000
Capital Projects	\$1,130,000
Total	\$5,690,000



The DWSP program supports EWEB revenue generation of approximately \$900,000. Additionally, the external programs and projects included in EWEB's DWSP Strategic Plan (e.g. Pure Water Partners) is forecasting outside funding sources of approximately \$3 million over the next five years.

McKenzie Watershed Source Protection - General Focus Areas

Lower McKenzie

Primary Threats:
 Urban Runoff
 Truck Spills
 Rural Residential/Septic
 Agriculture
 Illegal Camps
 Industrial Releases

Programs:
 Urban Runoff Mitigation (D)
 Septic System Assistance (D)
 Healthy Farms Clean Water (Ag)
 Pure Water Partners (D, Ag)
 Illegal Camping (D)
 Baseline Monitoring (All)
 Storm Sampling (All)
 Continuous Monitoring (All)
 MWERS (S)

Middle McKenzie

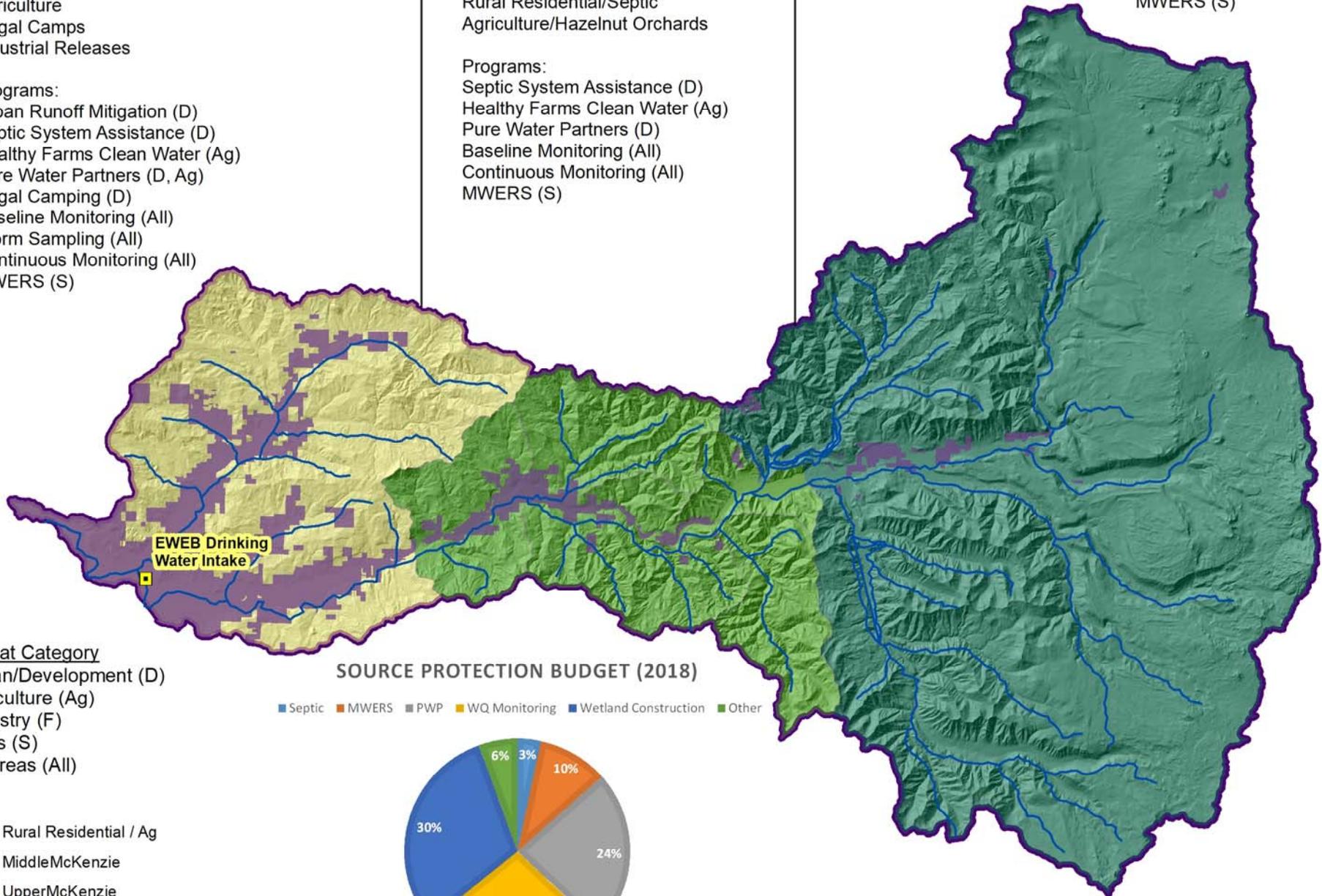
Primary Threats:
 Truck Spills
 Forest Fires/Fire Suppression
 Private Industrial Forestry Activities
 Rural Residential/Septic
 Agriculture/Hazelnut Orchards

Programs:
 Septic System Assistance (D)
 Healthy Farms Clean Water (Ag)
 Pure Water Partners (D)
 Baseline Monitoring (All)
 Continuous Monitoring (All)
 MWERS (S)

Upper McKenzie

Primary Threats:
 Truck Spills
 Forest Fires/Fire Suppression
 Harmful Algal Blooms (HABs)

Programs:
 Stewardship Contracting (F)
 Baseline Monitoring (All)
 HAB Monitoring (All)
 MWERS (S)



Threat Category

- Urban/Development (D)
- Agriculture (Ag)
- Forestry (F)
- Spills (S)
- All Areas (All)

- Rural Residential / Ag
- MiddleMcKenzie
- UpperMcKenzie
- Lower McKenzie
- McKenzie Watershed Bndry

SOURCE PROTECTION BUDGET (2018)

- Septic
- MWERS
- PWP
- WQ Monitoring
- Wetland Construction
- Other

