MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

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

FROM: Steve Newcomb, Environmental Management Department Manager, and Karl Morgenstern, Environmental Management Supervisor

DATE: August 18, 2015

SUBJECT: Watershed Protection Program Overview

OBJECTIVE: Information Only

Issue

This memo provides information about EWEB's current investments in drinking water source protection and how the program addresses the highest priority threats to the source of Eugene's drinking water. EWEB staff is currently in the process of developing a draft strategic plan for source water protection that assesses efforts to date and where to focus future energy during the next 10 years. It is anticipated that this plan will be completed by the end of 2015. Board members specifically requested more information about the Berggren Demonstration Farm, details of which are presented below.

Background

In October 2013, the EWEB Board was provided a comprehensive overview of EWEB's Drinking Water Source Protection program (see Board Memo dated 10/25/2013). The 2013 Board memo provides the background and context for this update.

Although EWEB depends on the McKenzie watershed to supply clean and safe drinking water for the City of Eugene, EWEB owns very little land in the watershed and does not have any jurisdictional authority over other landowners. In this context, EWEB has pursued a variety of partnerships with local, state, and federal agencies and other organizations in order to protect water quality and the overall health of the watershed.

EWEB invests nearly $670,000 annually to implement and maintain a comprehensive drinking water source protection program. This funding is often matched with a similar amount of outside funding. Based on years of research and analysis, the highest priority threats to water quality in the McKenzie Watershed are:

- Hazardous material spills from transportation accidents and releases from commercial and industrial facilities.
- Pollution runoff from east Springfield's urban stormwater system, which has five outfalls immediately upstream of EWEB's Hayden Bridge intake.
- Cumulative impacts associated with development along the river (septic systems, chemical use, vegetation removal in riparian areas, and loss of agricultural and forest lands to future development).
- Agricultural impacts associated with pesticide and fertilizer use, livestock access to

waterways, and vegetation removal in riparian areas.
- Climate change impacts that may result in larger and more frequent flooding events, longer dry seasons, more frequent and severe wildfires, and increasingly volatile weather patterns.

Over the last 14 years, EWEB has invested in risk-based watershed protection programs that: a) are collaborative and build lasting relationships with partners, stakeholders, landowners and communities; b) leverage outside funding and resources; c) are based on best available science; d) address multiple economic, social and environmental issues; e) are sustainable over the long term; and, f) are monitored for effectiveness. Following is a list of the major initiatives that have been implemented with various partners (please see http://eweb.org/sourceprotection for more information). This list addresses the highest priority threats in the watershed.

- McKenzie Watershed Emergency Response System (MWERS)
- Comprehensive Water Quality Monitoring
- Healthy Farms Clean Water
- Septic System Assistance
- Voluntary Incentives Program
- Urban Runoff Mitigation
- Research and Education
- Pollution Prevention Coalition/EcoBiz Certification
- Leaburg Demonstration Forest

Discussion

Investments in source water protection are designed to address the highest level risks to water quality in the basin. These investments are leveraged with other sources of funding to increase the effectiveness of the program. Table 1 summarizes some of the major initiatives EWEB has funded over the last few years and shows the amounts of outside funding that the program has attracted on an annual basis. ***For a detailed summary of program objectives, costs, future directions, threats addressed, data used, trends, partners, and climate change impacts associated with all of the source protection programs see Attachment A.***

Table 1
Summary of Major Source Protection Initiatives
2014-2015

Program	Purpose	2014 Costs[1]	2014 Outside Funding[2]	2015 Budget[1]	2015 Outside Funding[2]
MWERS	Ensure a well-coordinated response to hazardous material spills that contains and stabilizes incidents within initial hours	$43,000	$6,000	$47,000	$10,000
Water Quality Monitoring	Maintain a comprehensive water quality monitoring program to assess the health of the McKenzie River over time and evaluate effectiveness of Source Protection efforts.	$185,000	$43,000	$179,000	$60,000
Healthy Farms Clean Water	Work closely with McKenzie farmers and ranchers to increase and protect riparian buffers and reduce chemical use	$115,000	$145,000	$100,000	$180,000
Septic System Assistance	Work with McKenzie homeowners and small communities to encourage proper maintenance, repair and replacement of septic systems	$28,000	$15,000	$31,000	$20,000
Voluntary Incentives Program	Engage landowners who own land in riparian areas and reward good stewardship that provides long-term protection of these critical areas while encouraging and assisting with restoration of degraded riparian forests	$191,000	$120,000	$195,000	$130,000
Urban Runoff Mitigation	Work with City of Springfield to treat and reduce pollution impacts from stormwater runoff	$32,000	$15,000	$36,000	$20,000
TOTAL		$594,000	$344,000	$588,000	$420,000

[1] – Cost estimates include labor and O & M and do not account for all source protection programs (see Attachment A for complete list of investments).

[2] – Leveraged fund estimates from outside sources includes only cash and not in-kind services (i.e., underestimates true value of leveraged resources).

Berggren Demonstration Farm
In May 2013, the EWEB Board was provided a comprehensive overview of the Berggren Demonstration Farm to answer specific questions from Commissioner Mital (see Board Memo dated 5/24/2013). The 2013 Board memo provides the background and context for this brief update.

Link to 2013 Board Memo

http://eweb.org/public/commissioners/meetings/2013/130604/Corr_BerggrenFarmUpdate.pdf

The Berggren Demonstration Farm is administered by a unique partnership between the McKenzie River Trust (landowner), the McKenzie Watershed Council (riparian restoration), Cascade Pacific Resource Conservation and Development (farm operations and education) and EWEB. The purpose of the farm is to demonstrate how sustainable agriculture can be integrated with habitat conservation and restoration efforts along the McKenzie River and to provide educational opportunities to both students and farmers.

EWEB has supported the farm as an integral part of EWEB's Healthy Farms Clean Water (HFCW) program since 2011. The goals of the HFCW are to protect critical drinking water resources and to increase the economic viability of farming so that farmland stays as farmland within the McKenzie watershed. This is especially important as Oregon has an aging farmer population faced with difficult decisions around keeping their farmland or selling it to a developer for (often) more money. EWEB's Source Protection Program supports agricultural land as a land use in the floodplain that is more compatible with and protective of water quality than housing and other types of development.

In late 2014, the Board approved two years of funding for the demonstration farm at $60,000/year. It is anticipated that in 2016 only half of these funds will be needed (i.e., $30,000). These investments are leveraged with grants from USDA, Meyer Memorial Trust, Ford Family Foundation, and other funders. The farm plays a key role by: 1) providing K-12 outdoor education venues; 2) U of O internship and environmental leadership opportunities; 3) supports a regional young farmer apprentice program; 4) supports McKenzie farmers through cooperatives, workshops, local market development, and coordination of HFCW efforts with local farmers; and, 5) provides university research opportunities. The farm is operated to promote a variety of ecologically-appropriate farming practices such as planting riparian buffers, livestock and pasture management to reduce erosion, composting/manure management, stormwater runoff treatment, establishment of native pollinator habitat, organic farming practices, accessing new local food markets, water and energy conservation, and use of renewable energy on farms.

Starting in 2016 farm operations will stand on its own under lease agreement between the farmer and McKenzie River Trust. As indicated earlier, EWEB is scaling back its financial contribution to the demonstration farm as the partners enter a more in-depth planning process. EWEB and its partners are exploring outside funding opportunities to develop an Incubator Farm program that is administered at the demonstration farm and nearby land recently purchased by MRT (old Ezell property), which contains 11 acres of prime farmland. An Incubator Farm program gives beginning farmers access to land via a land leasing agreement. This creates a low-risk environment for farmers to test out operating a farm and identify local markets. Farmers would have access to classes and workshops on all aspects of farming, from business-planning to on-the-ground applications that

promote best management practices that protect water quality. After a specified number of years, farmers would 'graduate' from the program with practical experience of working on-the-ground and ideally be able to purchase land on which to farm. The Incubator Farm concept would address a large problem in the watershed, namely the lack of younger, beginning farmers and the difficulty they have getting started and finding land. This supports EWEB DWSP program by keeping farmland in production using watershed-friendly practices and supporting local markets.

Voluntary Incentives Program
In July 2014, the Oregon Watershed Enhancement Board (OWEB) invested $150,000 (with $124,000 in EWEB match) to pilot the Voluntary Incentives Program (VIP) concept with 15 landowners, including farmers, residents, and non-industrial private forest landowners. The VIP pilot project worked closely with partners and landowners to build and test the infrastructure necessary to protect and restore riparian forests by aligning investment from multiple sources and assessing use of existing and new markets that value water quality, riparian shade, erosion and flood mitigation, and critical habitat for Endangered Species Act (ESA) species. Program infrastructure includes landowner protection and restoration agreements, watershed fund design/fiscal management, watershed monitoring using LiDAR, finalization of the VIP program boundary, riparian health assessments, incentives from businesses, funding agreements, a watershed health web dashboard, and targeted outreach efforts. EWEB and partners are in process of completing the VIP Pilot Project final report (due 8/30/2015). The University of Oregon and a team of western water/utility experts associated with Carpe Diem West are evaluating the effectiveness of the pilot project to assist with program enhancement and redesign that will facilitate transferability to other watersheds.

In July 2015, OWEB invested an additional $146,000 to assist with fixing issues identified in the pilot, developing methods to capture the return on investment, and providing funds to continue moving forward with the pilot project landowners who want to enter into VIP agreements for protection and/or restoration. EWEB has entered into funding MOUs with OWEB and the Metropolitan Wastewater Management Commission to align funding through the VIP for riparian forest restoration. EWEB submitted a 3-year $750,000 USDA Natural Resource Conservation Service (NRCS) Conservation Innovation Grant proposal to fund full program roll-out in the McKenzie Watershed and to expand the VIP into the Middle Fork and Coast Fork Willamette watersheds (expect to hear by 9/1/2015 if successful or not). In addition, EWEB partnered with the McKenzie Watershed Council, USFS and other partners to submit a 6-year $4.5 million grant proposal under OWEB's Focused Investment Program that would fund watershed restoration and protection priorities identified in the McKenzie Watershed Action Plan, of which VIP is a key piece.

Recommendation
Staff recommends to continue funding source protection at current levels in the 2016 budget while staff complete development of a long-term strategic plan for the Drinking Water Source Protection program that builds on current efforts and expands into the Middle and Coast Fork Willamette Watersheds (plan to be completed in December 2015). This draft strategic plan can inform conversations with the Board on program direction, priorities, and costs that meet EWEB's objectives for long-term source water protection through alignment and leveraging of outside resources/funding for implementation.

Requested Board Action
No action is requested at this time.

Attachment A

Program	Purpose/Objectives	Main Program Components	Threats Program Addresses	Data Collected/Used	General Trends/Oberservations	Active Partners
McKenzie Watershed Emergency Response System (MWERS)	Ensure a well coordinated response to hazardous material spills that contains and stabilizes incidents within initial hours	Annual interagency drills and training. Four fully equipped spill response trailers. GIS-based response plan/web application.	High priority threats from Hwy 126 truck and vehicle accidents, urban spills to stormwater system and commercial/industrial facility releases.	Fire Marshal Hazardous Material Facilities. ODOT vehicle accident data. OERS spill incident data. GIS Spill Equipment Inventories. Emergency Contact Database. GIS Critical Resources for Protection. GIS Spill Response Strategies.	Small spills occurring on periodic basis. No major spills since 1993. Events in 2015 included a car in the river this past year (2015) that took many weeks to remove, as well as a significant spill of diesel into Johnson Creek.	Region 2 HazMat Team, McKenzie Fire & Rescue, Eugene/Springfield Fire, Springfield Public Works, ODOT, USFS, EWEB Generation & Hayden Bridge, SUB, Lane County Sheriff, Lane County Public Works, Army COE, US EPA
Water Quality Monitoring Program	Maintain a comprehensive water quality monitoring program to assess the health of the McKenzie River over time and to provide a scientific basis for evaluating the effectiveness of Source Protection mitigation strategies that address known impacts and emerging threats to drinking water quality.	Watershed baseline monitoring for long-term trend analysis. Harmful algal bloom monitoring in reservoirs. Storm event monitoring to assess landuse impacts. Water Quality data compilation, analysis, reporting and presenting. Emerging contaminant tracking, assessment and monitoring. Managing and updating large water quality SQL database and website to disseminate data to public and partners.	Assessment of medium to high priority threats associated with urban runoff, agriculture, forestry, reservoir operations, septic systems and development for water quality impacts and longer term trends.	Baseline water quality sampling. Student QA Splits (urban stormwater and Camp Creek). Storm event pesticide data. Passive sampling data. Harmful algal bloom data. Storm event optical properties and dissolved organic carbon data.	Increasing trends over time for *E. coli* bacteria. Higher pesticide concentrations and frequency of detections associated with urban runoff and areas with increased development. Algal bloom trends appear to be occurring at higher levels and with new species (data back to 1990). Dissolved organic contaminants found at persistently low levels on regular basis at intake. Lack of health standards exist for majority of pesticides and organic chemicals detected.	U.S. Geological Survey, USFS, SUB, McKenzie Watershed Council, City of Springfield, Oregon Health Authority, Army COE
Healthy Farms Clean Water Program	Work closely with McKenzie farmers and ranchers to increase and protect riparian buffers and reduce chemical use while increasing the economic viability of farming to help keep farmland as preferred floodplain landuse.	Hazelnut orchards filbert worm mating disruption and nutrient management project. Blueberry growers nonchemical alternative solutions to addressing mummyberry. Berggren Demonstration Farm. Local Food Connection Annual Event. Support for organic certification of McKenzie farms. Support for removal of old ag chemicals from farms. Support for nutrient management on farms. Support for projects that reduce bacteria inputs into water, such as exclusion fencing for cattle and solar pumps.	Medium-high priority threats from agriculture and high priority threats from increased development in floodplain.	68 farms participate in HFCW program (track acres & specific data associated with activities farms are involved in - organic certification, nutrient mngt, chemical reduction, pesticide removal, etc.). GIS crop type data. Pesticide use by crop type. Storm event runoff data (pesticides, organic carbon, nutrients, optical properties). Number of farmers participating in workshops and meetings at the demonstration farm, number of students involved in farm projects and/or internships.	Reduced amount of old agricultural chemicals removed from farms (2007-2012). Reduced nitrogen fertilizer use on hazelnut orchards. Reduced pesticide use on hazelnut orchards. Increased number of farmers participating in workshops. Increased organic certification of farms. Increased farmer and buyer interest in sourcing locally grown food. Pesticides found in storm event runoff from ag fields.	OSU, OSU Extension, USDA NRCS, Northwest Center for Alternatives to Pesticides. Willamette Farm & Food Coalition, LCC, U of O, Meyer Memorial Trust, Cascade Pacific RC&D, Upper Willamette SWCD, McKenzie River Trust, McKenzie Watershed Council, Oregon Tilth, Oregon Hazelnut Commission, McKenzie farmers

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Healthy Forests Clean Water Program	Develop a watershed forestry approach that increases conservation-based forestry, reduces wildfire risk, reduces chemical use while increasing the economic viability of forestry to keep forestland as a preferred land cover.	USFS Stewardship Contracting Program. Leaburg Demonstration Forest. Wildfire prevention and response efforts (participation on East lane Forest Protection Association Board). GIS tracking of timber harvest and chemical applications.	Medium priority threats from industrial forest management activities and low priority threats from USFS/BLM forest management activities. High priority threats from increased development in F-2 forestlands (small woodlot owners).	GIS timber harvest locations/acres and pesticide and fertilizer application areas. Storm event runoff data (pesticides, organic carbon, nutrients, optical properties). USFS timber harvest activities. Wildfire activities and acres burned. Volume and type of trees within Leaburg Forest.	Increased timber harvests on private lands. Reduced timber harvests on federal lands (currently approximately 15% federal/85% private). Increased turbidity events in creek basins with significant logging (Quartz and Gate Creeks). Low levels of pesticides found in storm runoff from creek basins with spray activities.	USFS, Oregon Depaertment of Forestry, East Lane Forest Protection Association, OSU, U of O, McKenzie Watershed Council, McKenzie River Trust, Cascade Pacific RC&D, Oregon Wild, Cascadia Wildlands, Upper Willamette SWCD.
Septic System Assistance Program	Work with McKenzie homeowners and small communities to increase maintaince, repair and replacement of septic systems to ensure proper treatment of human waste.	Septic system inspection cost share (50%). Septic system repair and replacement zero-interest loans.	High priority threats from septic systems and development.	All septic system locations (>4,100 septics). Locations and results of septic inspections (over 600 inspected), and pump-outs, reasons for need for repair or replacement of systems (109 systems failing) funded under SAP. Location, work done, and 0% interest loans. Water quality impacts from septic cluster areas (surface water and groundwater). Septic system repair, replacement or new installation permits.	Systems are old - average age of McKenzie septic systems inspected is 24 years (design to last 20-30 years). Areas with high densities of septics have higher water quality impacts. Homeowner education about septic maintenance needs is significantly increasing. More failing systems are found and moving toward repair or replacement. Development continues to occur and septic systems are still sited close to river.	McKenzie homeowners, Oregon DEQ, McKenzie septic contractors, Blue River Economic Development Corp., Blue River residents, LCC
Voluntary Incentives Program	Engage hundreds of landowners with riparian forest areas and reward good stewardship that provides long-term protection of these critical areas while encouraging restoration of degraded riparian forests.	Landowner education series and demonstration landscaping project. Ripairan forest boundary delineation and mapping. LiDAR analysis of canpoy cover in riparian forest boundary. Landowner riparian health assessment. Landowner agreements. Fiscal management. Marketing and outreach. Monitoring and compliance.	High priority threats from development and septic systems, medium high priority associated with agriculture.	Modeled ripairan forest ecosystem boundary (>9,000 acres). Canopy cover in privately owned ripairan forest (30% good, 40% impacted, 30% signficantly degraded). House and structural footprints for each building in watershed. Building permit activities and locations. Future build-out data. Landuse zoning and tax lot information.	Increased development over last 30 years on smaller lots close to river. Currently over 4,100 homes exist above intake with 200 homes in floodway and within 50 feet of river, over 680 homes are within 100 feet of river, 1,150 homes in 100-year floodplain. Future buildout indicates nearly 1,000 new homes can be built based on current zoning and development code with majority in floodplain.	OSU, U of O, McKenzie River Trust, McKenzie Watershed Council, Upper Willamette SWCD, LCOG, Cascade Pacific RC&D, USFS, Freshwater Trust, Landowners, Local and national businesses

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Program	Purpose/Objectives	Main Program Components	Threats Program Addresses	Data Collected/Used	General Trends/Oberservations	Active Partners
Outdoor Education Program	Provide comprehensive outdoor education opportunities for K-12 students in McKenzie, Springfield and Eugene school districts and internship/research opportunities for U of O, OSU and LCC students associated with water quality, natural resource management and watershed sciences so the next generation of leaders are well versed in these complex issues and challenges.	Camp and Cedar Creek Education Basins. Berggren Demonstration Farm. Leaburg Demonstration Forest.	High priority threats from development impacts and urban stormwater runoff, medium high pirority threats from agriculture and medium priority threats from forestry.	Water quality and macroinvertebrate data collected and analyzed in Camp and Cedar Creeks. Farm to School data (schools sourcing local foods). Number of students involved/educated. Number of internships. Research projects and results.	Reduced education funding, fewer teachers, increased class sizes means reduced opportunities for students to learn in outdoor/real world environments that provide skills for future careers that benefit watershed protection. Reduced quality of food at schools. Reduced internship opportuntiies for U of O and LCC students.	McKenzie School District, 4J School District, Springfield School District, LCC, U of O, USGS, EWEB PIE and School Education Program, USFS, McKenzie Watershed Council, SUB, Lane County Education
Urban Runoff Mitigation Program	Work with City of Springfield to treat and reduce pollution impacts from stromwater runoff above EWEB's Hayden Bridge intake.	52nd Wetland Treatment Project (currently have a grant from Oregon Drinking Water Program to design and implement). 42nd Street stormwater diversion project. Child care center stormwater treatment. Oregon Industrial Lumber stormwater runoff treatment.	High priority threats from urban runoff immediately upstream of Hayden Bridge.	GIS layers on Springfield stormwater system infrastructure. City of Springfield Phase II NPDES permit plan activities. Water quality data collected and analyzed for 42nd Street, 52nd Street, 64th Street, 69th Street and 72nd Street stormwater channels and outfalls. Also monitoring WQ impacts to Cedar Creek and Keizer Slough.	Storm event monitoring of pollution runoff in stormwater outfalls above intake indicate the highest levels of pesticides, bacteria, nutrients and other contaminants in the watershed. Streams and river generally dilute these levels to trace/low concentration and/or non detection. City of Springfield has become more active in implementing treatment upstream of outfalls per NPDES permit requirements.	City of Springfield, SUB, McKenzie Watershed Council, ODOT, ODFW, ODEQ, Rainbow Water District, International Paper, Weyerhauser, USGS, Springfield School District

Attachment A

Program	General 2013 Costs[1]	2013 Outside Funding Leveraged[2]	General 2014 Costs[1]	2014 Outside Funding Leveraged[2]	General 2015 Budget[1]	Long-term Funding Needs (Annual Staff Time and O & M Costs)	Long Term Objectives	Long Term Benefits	Climate Change Impacts
McKenzie Watershed Emergency Response System (MWERS)	$37,000	$5,000	$43,000	$6,000	**$47,000** Anticipated 2015 Outside Funding = $10,000	**$55,000 - $60,000** for training, drills, equipment, GIS web application development and maintenance, and expansion into Middle and Coast Fork Willamette Watersheds.	Region 2 HazMat leads drills, training, equipment maintenance. MWERS becomes regional system including metro area and Middle & Coast Fork Willamette (2nd Source). EWEB maintains GIS web application. A new GIS Web application will facilitate better and more immediate communication around spills. New application will enable multiple users to update real-time information on response status.	Close relationships with first responder community allows better coordinated responses to other disasters. Align budgets with partners to reduce costs to EWEB and partners. Reduced short and long term impacts and cleanup costs to drinking water source from spills.	Anticipate more extreme weather events; better coordination with partners protects EWEB's infrastructure.
Water Quality Monitoring Program	198,000	$61,000	185,000	$43,000	**$179,000** Anticipated 2015 Outside Funding = $60,000	**$170,000 - $190,000** for real-time sensors and monitoring equipment at key locations in watershed, maintenance and calibration of equipment, baseline monitoring. Focused water quality investigations (as necessary), and data management and website update and maintenance.	Develop watershed monitoring network with partners that reduces costs while providing meaningful data to understand changes in water quality from landuse changes as well as climate change impacts. This may include real-time sensors and monitoring equipment at various locations in watershed that provide data to all partners.	Develop less expensive surrogate measurements for water quality that allow spatially more robust monitoring of watershed water quality and health, which would focus more in-depth investigations as necessary. Leverage partnerships to assist with funding, data management and equipment.	Allows documentation of changes in watershed conditions over time that may inform design of mitigation and/or resiliency strategies for EWEB.
Healthy Farms Clean Water Program	124,000	$180,000	115,000	$145,000	**$100,000** Anticipated 2015 Outside Funding = $180,000	**$60,000 - $80,000** for continued engagement and expansion of the HFCW Program to include placement of conservation easements to protect buffers, zero-interest loans for farmers for activities that lead to reduced chemical use, reducing risk for growers to transition to organic practices or reduce chemical use, and data management on agricultural activities and program impacts. These costs do not include devleopment of land acquisition program that would allow acquisition of key farmland properties, placement of conservation easements on critical areas for protection, then resaling properties to beginning farmers trained in water quality protection farming practices ($100,000 - $150,000/year).	Provide support for McKenzie agricultural community to reduce chemical use, increase buffers to protect riparian forests, increase economic viability by reducing operating costs (chemical, water & energy) and increasing revenue (local markets that pay more, organic certification, new crops). Work with local partner agencies to seek grant funding for an incubator program, which would provide beginning farmers with the financial, educational, and on-the-ground support to embark on a farming career. This provides influx of young farmers to take over from older farmers facing pressures to sell their land to developers.	Reduces amount of pesticides, nutrients, bacteria and other contaminants that impact EWEB's treatment capabilities and/or DBP formation (this may avoid future regulatory and treatment costs). Increased economic development for McKenzie and Eugene community by protecting farmland, protecting riprian forests and encouraging local markets that increase local economic activity. Reduce conversion of farmland to housing development.	Increases watershed and community resilience by protecting floodplain in face of more extreme weather events and building a local food system that can feed community.

Attachment A

Program	General 2013 Costs[1]	2013 Outside Funding Leveraged[2]	General 2014 Costs[1]	2014 Outside Funding Leveraged[2]	General 2015 Budget[1]	Long-term Funding Needs (Annual Staff Time and O & M Costs)	Long Term Objectives	Long Term Benefits	Climate Change Impacts
Healthy Forests Clean Water Program	35,000	$0	42,000	$0	**$58,000**	**$40,000 - $50,000** for continued engagement in Stewardship Contracting collaborative, Leaburg Forest management, and working with industiral timber to increase buffers and reduce chemical use. Work with City of Eugene to provide pathway to off-set carbon emissions to meet carbon nuetral goals.These costs do not include development of land acquisition program that would allow acquisition of key forestland properties that could generate revenue via carbon market and conservation focused timber harvests ($100,000 - $150,000).	Continue support for the McKenzie Stewardship Group that helps guide and support increased restorative harvests on USFS and BLM land while providing incentives for industrial and private forest owners to incorporate more conservation forestry that reduces chemical use and diversifies income streams while protecting riparian forests.	Maintains and increases healthy forest cover as key protection of water quality of drinking water source. Builds support for predicatable and sustainable timber harvests from federal forests in a way that benefits watershed health and restoration. Diversifies private forest management to provide income from carbon/conservation based forestry. Improves local economic conditions in watershed and Eugene community. Reduces conversion of F-2 forestland to housing development. Avoided future treatment costs associated with loss of forest cover, increased sedimentation and organic carbon, loss of filtration capabilities of forests.	Increases watershed resilience by protecting riparian forests and reducing wildfire and disease risks on federal forests in the face of more extreme weather events. Increases carbon sequestration to meet City of Eugene carbon nuertral goals and builds the local economy around more restorative forestry, conservation markets and local supply of timber to the community. Leaburg Forest management would improve the health of the forest and wildlife habitat, provide for canal saftey, generate revenue, and provide educational and recreational opportunities for the public.
Septic System Assistance Program	$26,000	$14,000	$28,000	$15,000	**$31,000** Anticipated 2015 Funding = $20,000	**$25,000 - $30,000** for continuing cost share program.	Education of homeowners on maintenance and care of septic systems leads to proactive repair and replacement of failing systems to reduce risks from untreated sewage inputs into river.	Reduced water quality impacts and better awareness of homeowners around good stewardship responsibilities. Avoided future treatment costs associated with increased DBPs, pharmaceuticals and personal care products.	Reduces nutrient loads to river as increasing temperatures could lead to more algal blooms.

Attachment A

Program	General 2013 Costs[1]	2013 Outside Funding Leveraged[2]	General 2014 Costs[1]	2014 Outside Funding Leveraged[2]	General 2015 Budget[1]	Long-term Funding Needs (Annual Staff Time and O & M Costs)	Long Term Objectives	Long Term Benefits	Climate Change Impacts
Voluntary Incentives Program	175,000	$130,000	191,000	$120,000	**$195,000** Anticipated 2015 Outside Funding = $130,000	**$275,000 - $300,000** for developing program that protects and restores healthy riparian forests by providing incentives to landowners in return for long-term protection and restoration of these critical areas for water quality.	Provide incentives for good stewardship that educates landowners along the river, allows protection of nearly 3,000 acres of healthy riparian forests while providing opportunity to restore a large portion of the over 7,000 acres of degraded riparian forests.	Riparian forests provide critical functions for continued clean water, including pollution filtration, septic waste uptake via root systems, erosion control, flood mitigation, temperature control to reduce algal growth, ESA fish habitat (helps EWEB hydroelectric projects). Provides education for hundreds of landowners along the river about good stewardship and what it looks like. Reduces future development in these critical areas. Assists in economic development and increased capacity of partner organizations to work with landowners. Engagement of businesses sponsorship and outside investment in McKenzie.	Increased watershed resiliency by protecting riparian forests in face of more extreme weather events. Reduced property damage and flushing of contaminants into river. Mitigation of increasing temperatures, reducing algal bloom impacts and formation of DBPs.
Outdoor Education Program	$41,000	$23,000	31,000	$10,000	**$25,000** Anticipated 2014 Outside Funding = $8,000	**$30,000 - $40,000** for assisting with funding for outdoor education basin coordinators who work directly with schools and teachers to incorporate water quality monitoring, field chemistry, field biology, geography (GIS and mapping), and statistical analysis into classroom instruction. Align with existing EWEB Partners In Education program. Student stipends for internships and some funding for research projects that directly benefit watershed protection efforts. Funds would also help maintain database and websites that house student data for analysis.	Integrate and align funding from local, state, and federal partners to create outdoor education creek basins for each area high school that build on data collected by former student teams. Connect and align specific partner agencies and organization monitoring needs with student water quality monitoring teams so data collected and analyzed helps fill these needs and attract funding support. Integrate with LCC and U of O research and internship programs to conduct deeper analysis of watershed characteristics and science that mentors and benefits high schools students and agency partners.	Provides comprehensive education opportunities around watershed science, water quality and natural resource management that helps prepare community youth for future careers and understanding the complexities of developing long term solutions in the face of changing climates. Short term benefits are having focused work conducted in various creek basins that can lead to research and deeper thinking around current problems and solutions. Long term benefits are developing the next generation of leaders that are interested and trained in these issues and can develop solutions that benefit EWEB and the community.	Education, research and data analysis of watershed issues is conducted in the face of a changing climate. Can provide long term data sets in various creek basins that can be used to see impacts from climate change over time and help develop integrated solutions.

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Program	General 2013 Costs[1]	2013 Outside Funding Leveraged[2]	General 2014 Costs[1]	2014 Outside Funding Leveraged[2]	General 2015 Budget[1]	Long-term Funding Needs (Annual Staff Time and O & M Costs)	Long Term Objectives	Long Term Benefits	Climate Change Impacts
Urban Runoff Mitigation Program	$23,000	$10,000	32,000	$15,000	**$36,000** Anticipated 2015 Outside Funding = $20,000	**$40,000 - $50,000** for assisting with development of other wetland treatment buffers upstream on 52nd Street, diverting 42nd Street stormwater to Q Street channel, and working with Child Care Center and Oregon Industrial Lumber to mitigate stormwater runoff. Track City of Springfield storwater mitigation activities, comment on NPDES permit renewal and coordinate with SUB on other stormwater issues.	Develop strong partnership with City of Springfield to prioritize stromwater treatment and mitigation efforts for systems that discharge upstream of intake. Align and leverage funding to increase development of treatment projects and education programs. Use NPDES permit as tool to leverage this partnership.	Development of stormwater treatment structures (e.g., wetlands, bio swales, infiltration galleries, stormwater diversions, etc.) removes contaminants and provides buffers to McKenzie River during storm event flushes and spills to stormwater drains. Avoids/reduces future treatment costs and regulatory costs.	Provides more resiliency and treatment during extreme events that flush pollutants from urban areas. Lowers water temperatures and reduces algal blooms that can lead to DBP formation.
TOTALS	**$659,000**	$423,000	**$667,000**	$354,000	**$671,000**				
Water Funded	**$470,000**		**$473,000**		**$475,000**				
Electric Funded	**$169,000**		**194,000**		**$196,000**				
						2015 Outside Funding = $428,000			

[1] - Gross estimate of costs (includes labor and O & M) due to Work Asset Management (WAM) system implementation. Not able to track costs at project level.

[2] - Leveraged funds from outside agencies and partners includes only cash and not in-kind services (i.e., under estimates true leveraged resources).