Programmatic Recommendations for EWEB's Voluntary Incentive Program

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Final Report

Prepared for:

Eugene Water & Electric Board

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Community Planning Workshop

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EXECUTIVE SUMMARY

The McKenzie River is the sole source of drinking water for nearly 200,000 people. In 2001, the Eugene Water & Electric Board (EWEB) established a Water Source Protection Program to evaluate and mitigate risks to water quality.[1] As part of its Source Water Protection Program, EWEB is exploring the possibility of rewarding good stewards of land within the McKenzie Basin. The protection of riparian land is a best practice management technique for the protection of drinking water supplies across the country.

The purpose of this report is to provide EWEB with a framework for implementing the proposed Voluntary Incentives Program (VIP). To prepare this report, CPW facilitated four public meetings with landowners from the McKenzie River basin, interviewed VIP partners, and engaged in case study research to inform the design of the VIP.[2]

EWEB Voluntary Incentive Program Vision

The goal of the Voluntary Incentive Program is to **maintain water quality through the protection of intact and healthy riparian areas along the McKenzie River**. Surveys of EWEB ratepayers and McKenzie Basin landowners suggest broad support for source water protection efforts. In 2011, Oregon State University and the University of Oregon investigated how public water districts/utilities and corporations can acquire funding and provide incentives to pay for ecosystem services.[3] The research included two surveys: (1) EWEB residential ratepayers, and (2) property owners with riparian areas living in the McKenzie River Basin. The purpose of these surveys was to gauge support for watershed protection programs such as the VIP.

The survey results indicated that approximately 75% of EWEB ratepayers are supportive or very supportive of a line item assessment fee that would assist in funding the VIP. Additionally, landowner respondents showed the most support for participating in a voluntary incentives program that benefits water quality (44% were somewhat, very, or extremely likely), followed by protecting and maintaining healthy floodplain areas (41% were somewhat, very, or extremely likely) and streamside forests (39% were somewhat, very, or extremely likely).

The Voluntary Incentive Program has five main programmatic objectives:[4]

[1] http://www.eweb.org/sourceprotection

[2] http://www.eweb.org/sourceprotection/lac

[3] Susan Lurie et al. "Payment for Ecosystem Services Marketplace Development at the Local Scale: The Eugene Water & Electric Board as a Local Watershed Services Marketplace Driver". 2012

[4] Institute for Natural Resources, "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentives Program". February 2012

- Protect and restore riparian and floodplain areas
- Reward good land stewards
- Maintain transparency
- Maintain effective communication
- Provide an avenue to other stewardship initiatives

Recommended EWEB VIP Administration

To achieve programmatic objectives, VIP will focus on properties that have healthy riparian areas within a pre-defined boundary. EWEB will work with several partners to implement various aspects of the program. This section summarizes recommendations related to VIP administration.

Program Area Boundary

The VIP program area boundary includes approximately **8,213 acres of riparian and floodplain areas** along the McKenzie and its tributaries, of which **3,498 acres is vegetated. The average vegetation cover ratio for taxlot sections within the boundary is 55%.** This includes approximately **198 miles of river and stream frontage (on both banks)** and **2,696 individual tax lots**. There are **2,188 permanent structures** in the boundary with an **average size of 1,513 ft^2**.

Partner Roles

EWEB will implement the VIP through several program partners. This structure is logical because (1) programmatic partners possess expertise that EWEB lacks; (2) partners are already providing related services (riparian assessment, landowner outreach, technical assistance and stewardship consultation etc.) in the McKenzie River Basin; and (3) implementation through partnerships is more financially efficient than internal EWEB hiring and administration. The core partners include:

- **Cascade Pacific RC&D: Cascade Pacific Resource Conservation & Development** will serve as the fiscal agent for the VIP program. They will manage the fiscal transactions between EWEB and landowners, other VIP partners, and corporate and local business sponsors as part of the menu of incentives.

- **LCOG: Lane Council of Government's** role in the VIP is to provide technical assistance on property assessment and monitoring using their Geographic Information System (GIS) capacity. LCOG's services will include remote sensing using Laser Imaging Detection and Ranging (LiDAR) data and other tools that will inform the assessment and monitoring process.

- **UWSWCD: Upper Willamette Soil and Water Conservation District's** role in the VIP is to provide the assessment and/or monitoring of property within the boundary. They will work with EWEB to establish and evaluate program eligibility and will maintain positive relationships with landowners after signing agreements.

- **MRT: McKenzie River Trust** will provide technical support for the development of landowner agreements and play a role in the referral services designed as incentives within the VIP. The referrals will be for landowners interested in engaging into a more permanent conservation easement.

- **MWC: McKenzie Watershed Council** will work to develop and administer the riparian assessment for program eligibility and perform monitoring of landowner properties enrolled in the VIP.

Fiscal Administration

Administering the VIP involves a range of costs, both operational and administrative. Operational costs are the overhead expenses of running the VIP. This includes materials, equipment, travel, office-space and staff time. Administrative costs are the expenses of administering the VIP. This includes outreach, agreement negotiation, fiscal administration, attorney fees, monitoring, data collection and analysis, and landowner payments. Because of the unique nature of the program, it is difficult to estimate the proportion of funding that will be needed for administration.

The VIP, like other elements of EWEB's source water protection efforts, will require a stable funding source. As part of its overall activity, EWEB staff is pursuing multiple funding sources to establish watershed protection programs that are fiscally sustainable. The long-term vision is to develop a stable Watershed Investment Fund (WIF) that relies on a variety of sources.

- Current programmatic funds

- OWEB grant money

- Private/Public grants and donations

- A ratepayer assessment that could potentially be a flat fee or tiered

Recommended VIP Implementation Structure

As envisioned, the VIP process includes four programmatic elements: (1) outreach and recruitment, (2) property assessment for eligibility into the VIP, (3) landowner agreements, and (3) property monitoring for compliance.

Landowner Recruitment and Outreach

This section describes strategies for communicating about VIP and recruiting interested landowners. The recruitment and outreach methods that follow build from input received through the landowner advisory committee. The voluntary nature of the program necessitates that considerations be made to build trust between EWEB and the landowners in the basin. Landowners from the advisory committee indicated the importance of relationship building and creating mutual trust between the landowners and EWEB and its program partners.

The VIP administration and partners should facilitate the trust building process by maintaining **transparency, inclusivity, flexibility, and consistency throughout the programmatic process.**

Assessment of Landowner Eligibility

The criteria for entering the program are not strictly rule-based determinations; rather, the process will use observations and partner expertise to determine a landowners' eligibility. The assessment process will utilize LiDAR imagery, program partner expertise and reference sites to evaluate the riparian habitat on a landowner's property.

EWEB is working in partnership with The Freshwater Trust of Portland, Oregon to develop a set of reference sites in riparian areas throughout the McKenzie Watershed. The reference sites will be used as a set of real and objective criteria to assist in describing the characteristics that contribute to an ecologically beneficial riparian habitat.

Agreement Negotiation

Landowner agreements are a tool for finalizing a relationship with a landowner who is interested in joining the VIP. The programmatic goals of inclusiveness and flexibility should be used when approaching contracts. With this ideology, agreement negotiations will be less strict and formal, and should allow for a greater number of landowners to more comfortably enroll in the program.

VIP agreements will include legal agreement clauses found in most land conservation documents, such as the length of the agreement and the type of payments or 'services' received via program partners. The main components of the landowner agreements will be decided between EWEB, Cascade Pacific RC&D and the landowners themselves.

Agreements should clearly establish who is responsible for what actions, what stewardship requirements need to be fulfilled, how results will be demonstrated, and who is managing the program.

Monitoring

Monitoring for the VIP program ensures program reliability and accountability for all program stakeholders. Additionally, monitoring allows for the collection and representation of important data and achievements of program objectives. Lastly, monitoring is designed to develop and maintain relationships between the landowners and the monitoring partners. Consistency and transparency in the monitoring process allows EWEB to maintain open communication and clear expectations of program participation.

The structure of the monitoring is planned as a three-step process.

1. Initial Assessment: Remote sensing and Aerial Photographs
2. Ground Truthing: On-the-Ground Assessment
3. Self Reporting: Annual photo point reporting

VIP Pilot Project Concept

The first phase of VIP implementation is the 2014-15 VIP Pilot Project. The pilot will allow EWEB, VIP partners, and landowners to test and refine programmatic elements. The pilot program allows VIP partners and landowners to adjust and make recommendations to improve the VIP before expanding it to more landowners.

The VIP pilot project will be used to assess the overall feasibility of the VIP by examining key components of the program. The pilot project will allow EWEB to examine and refine specific components of the Voluntary Incentive Program.

These key objectives of the pilot project are to:

1) Evaluate the feasibility of the VIP
2) Refine VIP partner roles and program criteria
3) Establish projected budget needs
4) Develop a website/dashboard to inform landowners and ratepayers
5) Build relationships through continued outreach and recruitment

The pilot program will entail data collection about the processes, percent FTE for program partners, payments to landowners and other budgetary issues that are considered for the program. As part of the program it will be an expectation of landowners, program partners and internal members from EWEB to evaluate the effectiveness of the program and to provide reports to EWEB managers to determine the feasibility for expanding the VIP.

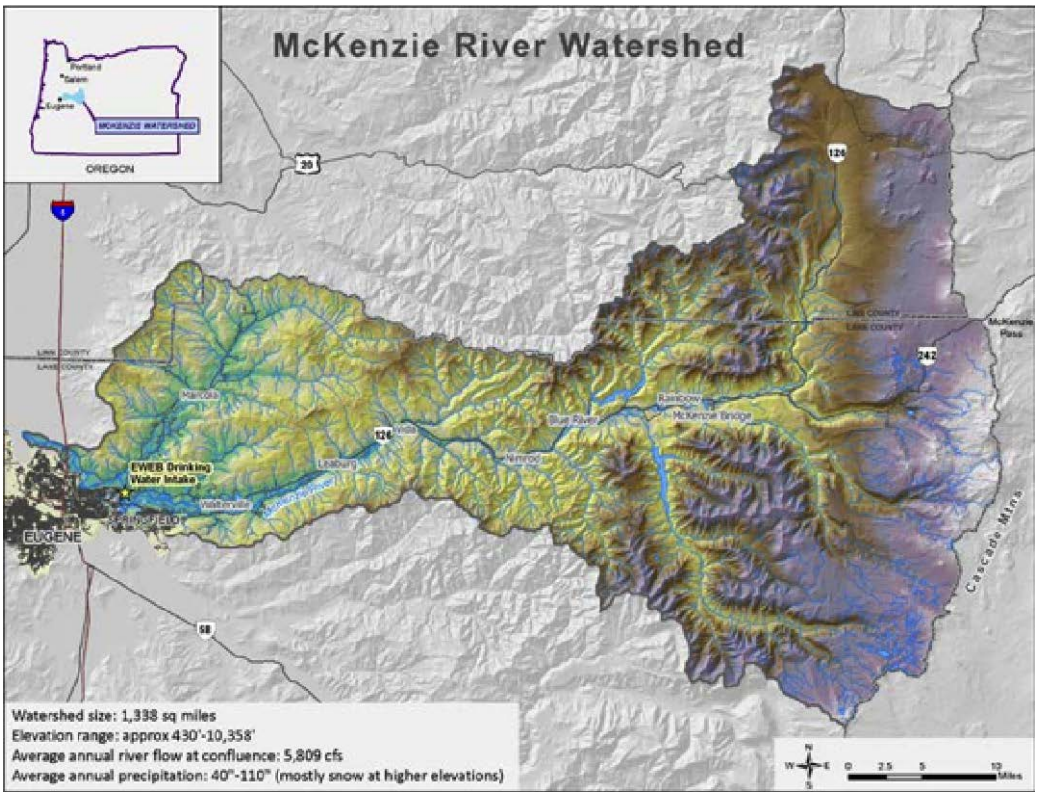
CHAPTER I: INTRODUCTION

The McKenzie River (Map 1-1) is the sole source of drinking water for nearly 200,000 people. In 2001, the Eugene Water & Electric Board (EWEB) established a Source Water Protection Program to evaluate and mitigate risks to water quality.[5] The overall concept of source water protection is to measure the balance between watershed health and human use over time and implement actions that maintain a healthy balance for production of exceptional water quality.

As part of its Source Water Protection Program, EWEB is exploring the possibility of rewarding good stewards of land within the McKenzie Basin. The protection of riparian land is a best practice management technique for the protection of drinking water supplies across the country.

This report details the programmatic elements of EWEB's proposed Voluntary Incentive Program. Its purpose is to act as a guide and informational tool for EWEB to use when discussing the option of employing a Voluntary Incentive Program as a potential addition to its source water protection program.

Map 1-1. The McKenzie River Watershed



[5] http://www.eweb.org/sourceprotection

Background

The Eugene Water & Electric Board (EWEB) was formed in 1911 to provide reliable and safe drinking water to residents in the greater Eugene area. Today, nearly 200,000 EWEB customers rely on the McKenzie River as their sole source of drinking water.[6] EWEB is the largest customer owned public utility in Oregon and has a five-member citizen elected board of commissioners. The utility also owns property in the McKenzie Basin associated with its electric generation facilities as well as islands, riparian areas, and upland properties.[7]

In recent years, the McKenzie River has shown increasing levels of turbidity, toxins and other materials from human activities. In August 2000, EWEB completed a Drinking Water Source Protection plan to protect the McKenzie River.[8] The concept of source protection is to balance watershed health with human use and implement strategies that maintain exceptional water quality in the McKenzie watershed. EWEB oversees several initiatives designed to maintain this balance (see Chapter 2).

EWEB's source water protection plan identifies key threats such as increased development in riparian areas and runoff from agricultural land as possible detriments to the water quality of the McKenzie.[9] A 2009 development analysis by the University of Oregon's Community Planning Workshop identified development in the McKenzie River Basin as one of the key risks identified as part of EWEB's planning process.[10] Construction, major earthworks on sensitive soils and slopes, septic systems, impervious surfaces and other activities lead to the deterioration of riparian areas.

In 2010 Lane County proposed changes to the Floodplain Ordinance as well as a new Drinking Water Overlay Zone to strengthen drinking water protections on the McKenzie River. The proposed ordinance placed additional restrictions on development and other activities in sensitive floodplain and riparian areas. Landowner concerns over these restrictions ended the proposed regulatory attempt.

In an effort to seek other ways to maintain water quality, EWEB staff reached out to engage landowners in voluntarily stewarding riparian habitat. These efforts created a foundation for EWEB's Voluntary Incentive Program (VIP). The VIP capitalizes on existing community interest to protect high quality riparian habitat and rewards landowners who engage in positive land stewardship activities. The goal of the VIP is to protect *intact and healthy* riparian areas along the McKenzie

[6] Community Planning Workshop, 2009, "McKenzie River Basin Risk Atlas"

[7] Eugene Water & Electric Board 2001, "Proposal for the implementation of the Drinking Water Source Protection Program."

[8] http://www.eweb.org/public/documents/water/WaterProtectionPlan.pdf

[9] Eugene Water & Electric Board. August 2000. "EWEB Source Water Protection Plan." pp. 23-26.

[10] Community Planning Workshop. 2009. "EWEB Source Water Protection Project: Best Management Practices and Model Ordinance Review."

River and major tributaries from degradation caused by human development. The VIP will also support and provide avenues for restoring riparian forests in degraded areas where landowners want to voluntarily engage in restoration activities.

Purpose and Methods

In 2012, EWEB contracted the University of Oregon's Community Planning Workshop (CPW) to assist in the development and design of the VIP. The purpose of this report is to provide EWEB with a framework for implementing the VIP. Following are descriptions of the main programmatic aspects explored by CPW:

- **Establish the roles of VIP partner organizations**. The VIP program is designed to leverage the expertise and capacity of partner organizations that have experience with conservation in the McKenzie River Basin. Included within this report is a description of the potential contributions of the various partner organizations slated to work with EWEB on the VIP.

- **Assemble and facilitate discussions with an advisory committee of landowners in the McKenzie River Basin.** A landowner advisory committee was formed from interested landowners and used as a method for increasing transparency about the program and gauging the interest and opinions about various aspects of the VIP.

- **Develop guidelines for landowner VIP contract agreements.** The guidelines for landowner agreements are in the process of construction using comments and advice from the landowner advisory committee and the University of Oregon law school.

- **Develop an outreach and communication strategy for program implementation.** Aspects of the communication and outreach strategies were explored so that EWEB has a more informed idea about where to begin targeting communications and information to landowners and ratepayers.

CPW facilitated four public meetings with landowners from the McKenzie River basin, interviewed VIP partners, and engaged in case study research to inform the design of the VIP.[11] The following discussion describes the methods taken to gather the necessary information and feedback to synthesize for this report.

Program Partner Interviews

Beginning in February 2013, CPW facilitated a series of interviews with partner organizations to discuss their potential roles in the Voluntary Incentive Program. The purpose of these interviews was to determine each partner's respective role and identify opportunities, issues and concerns in implementing the VIP. CPW met with representatives from the McKenzie River Trust, McKenzie Watershed Council, Upper Willamette Soil and Water Conservation District and Cascade Pacific Resource Conservation and Development.

[11] http://www.eweb.org/sourceprotection/lac

During these interviews, the partner representatives shared information about their organizations and discussed their organization's perceived role and the requirements of that role. The partners addressed a number of key questions such as their organization's capacity to assist with the program, the resources they would require to fulfill identified roles, and concerns about participating in the VIP.

Landowner Advisory Committee

EWEB began the process of engaging landowners interested in the program with an initial general interest meeting in February 2013. This initial landowner meeting was for all interested landowners in the McKenzie Basin who wanted to learn more about the VIP. After that initial meeting, a smaller group of landowners was convened as the 'land owner advisory committee'. The primary role of the committee was to provide feedback and guidance about various programmatic aspects of the VIP. It also provided an opportunity to form relationships with influential landowners and to build upon the programmatic objectives of inclusivity and transparency.

CPW provided meeting facilitation assistance and used presentations, videos, graphics, questionnaires, activities, and facilitated discussions to lead the landowner advisory committee through the process. The feedback from the landowners was synthesized into meeting minutes and recommendations for the implementation of the program as a measure for source water protection.

Case Study Research

Throughout the process of developing the necessary material and understanding for this report, the CPW team explored case studies of similar programs in the United Stated and other regions. This information provided background about the opportunities and constraints placed on an entity like EWEB when developing a unique program like the VIP.

The data and information collected from the case study research from areas such as New York City and Central Arkansas provided relevant details about how unique watershed protection policies have been developed and implemented.

Organization of this Report

The remainder of this report is organized as follows:

Chapter 2: Framework describes EWEB's source water protection program in more detail, provides an overview of "payment for ecosystem services," and describes the Voluntary Incentive Program (VIP) as currently conceptualized.

Chapter 3: VIP Administration details the components of the internal management of the program; it provides a description of the program area boundary, the administrative partners and describes potential funding sources for the program.

Chapter 4: Proposed VIP Implementation Structure describes the program elements in detail including outreach, land assessment, agreements, and monitoring.

Chapter 5: 2014 VIP Pilot Project provides an overview of the proposed VIP implementation test scheduled for 2014. The chapter describes specific recommended activities for the VIP Pilot.

This report also includes two appendices:

Appendix A: Landowner Advisory Committee Meetings Minutes provides agendas, meeting topics and other information and discussions from the (CPW) facilitated meetings with landowners from the McKenzie River Basin.

Appendix B: Program Partner's Administrative Costs includes cost schedules and expected financial considerations of program partners who are contracted to perform program work for the (VIP).

CHAPTER II: FRAMEWORK

This chapter provides a framework for the Voluntary Incentive Program as one element of EWEB's larger Drinking Water Source Protection Program. It begins with an overview of EWEB's source water protection program, then describes strategies for watershed management, assessment of ratepayer support and landowner interest in the VIP, and concludes with a summary of the programmatic goals and objectives of the Voluntary Incentive Program.

EWEB Source Water Protection Program

Under the federal Safe Drinking Water Act, local drinking water providers are required to assess and protect public drinking water sources. To meet these requirements, EWEB developed the Source Water Protection Plan in 2000. The plan provided the impetus for EWEB's current Source Water Protection Program. The Program's main goal is "to measure the balance between watershed health and human use over time, and to implement actions which maintain a healthy balance for production of exceptional water quality."[12]

EWEB's Source Water Protection Program aims to protect the McKenzie River as a reliable source of excellent drinking water for present and future generations. To accomplish this the program has two main objectives: (1) to prevent, minimize and mitigate activities that have known or potentially harmful impacts on source water quality; and (2) to promote public awareness and stewardship of a healthy watershed in partnership with others.[13]

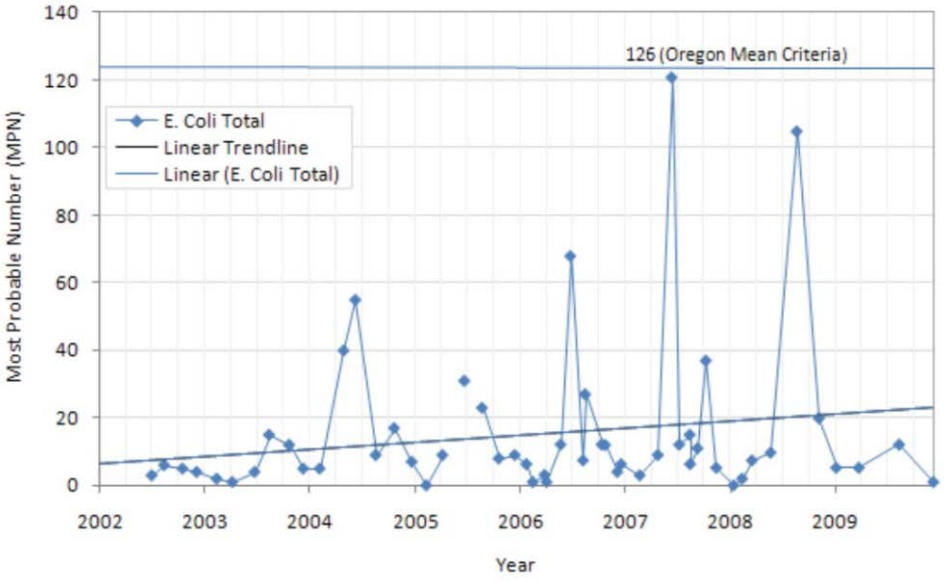
While current drinking water quality of the McKenzie River is excellent, human activity and development in the watershed poses significant challenges for the long-term provision of clean, safe drinking water. The conversion of land from forest to agriculture and residential has led to a decline in the Watershed's natural capital. Healthy riparian areas, for example, provide a wealth of ecosystem services that help mitigate the negative impacts of development and directly benefit water quality.

Increased human activity in the McKenzie Basin has led to deteriorating water quality. Periodic water quality testing has shown increasing levels of biological pollution such as E. coli and fecal coliform (see Figure 2-1) as well as increases in chemical pollution such as pesticides and herbicides.

[12] EWEB. "About Source Protection." http://www.eweb.org/sourceprotection/about. 2013

[13] ibid

Figure 2-1: E. coli Trends in the McKenzie River at Hendricks Bridge from 2002 to 2010



Source: Institute for Natural Resources, "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentives Program"

Much of the deterioration in water quality coincides with increasing trends in development within the McKenzie Watershed. Since 1970, the number of residential properties in the Watershed has doubled from 1,342 to 2,600.[14] As development continues in the McKenzie Basin, EWEB will need to mitigate the impacts of development on water quality.

Current threats to McKenzie River drinking water:

- Increases in storm water runoff from impervious surfaces
- Faulty septic systems
- Deforestation
- Riverbank alterations
- Development in or near riparian area
- Pesticide and herbicide use
- Conversion of land to agriculture and residential

EWEB's Source Water Protection Program addresses these and other threats and is designed to incentivize good stewardship through relationship building and a streamlined approach to both mitigation and protection. EWEB's Source Water Protection Program (www.eweb.org/sourceprotection) takes a proactive approach to address threats to water quality. Table 2-1 illustrates EWEB's Source Water Protection Program initiatives.

[14] Community Planning Workshop. "EWEB Source Water Protection Project: Land Use Analysis." Planning, Public Policy and Management, University of Oregon. 2009.

Table 2-1: EWEB's Source Water Protection Program Initiatives

Water Quality Monitoring Program
• Baseline Monitoring • Storm Event Monitoring • Passive Sampling
McKenzie Watershed Emergency Response System
• Disaster and spill preparedness • Partnerships with responders
Agricultural Programs
• Healthy Farms Clean Water Program • Berggren Demonstration Farm • Local Food Connection • Agricultural Chemical Collection Project
Development
• Development Studies • Septic System Assistance Program • Sustainable Landscaping Classes • Voluntary Incentives Program • Conservation Easements • Blue River Community Sewage Treatment Assistance
Forestry
• Leaburg Demonstration Forest • Forest Spray Tracking • US Forest Service Stewardship Contracting • Carpe Diem West's Healthy Headwaters Alliance • East Lane Forest Protection Association
Education
• Student Monitoring • McKenzie Watershed Council's Education Program • Research Assistance
Urban Runoff Mitigation
• Water Quality Monitoring • Metro Waterways Project • Pollution Prevention Coalition • Ecobiz Program • Stormwater Treatment Projects

The Voluntary Incentive Program is one element of EWEB's larger Source Water Protection Program. The VIP is designed to protect and improve water quality for EWEB ratepayers through the promotion of land stewardship and the protection of riparian areas along the McKenzie River and tributaries.

The Voluntary Incentive Program: An Incentive-Based Strategy for Source Water Protection

The Voluntary Incentive Program is an incentive-based strategy that aims to protect existing healthy riparian areas along the McKenzie River. Because riparian areas provide important ecosystem functions necessary to maintaining water quality, the VIP will focus on maintaining and protecting existing healthy riparian areas.

As an incentive-based approach to source water protection, the VIP provides an attractive alternative to additional land use regulation. Acknowledging the value of healthy riparian areas, the Voluntary Incentive Program seeks to reward landowners for management practices that benefit water quality.[15] These rewards include financial incentives such as cash payments or vouchers for in-kind services such as landscape plans or riparian area plantings. This incentive-based approach not only rewards good land management practices but also incentivizes property owners to restore the condition of their land, ultimately improving the ecological health of the watershed.

The incentive-based nature of the VIP is similar in some respects to a payment for ecosystems services (PES) program. Payment for ecosystem services (PES) programs derive from the premise that the natural capital found in ecosystems has quantifiable economic value that can be preserved and augmented through investment in good stewardship. PES programs are often incentive-based contractual agreements in which a specific service is voluntarily provided by a seller in return for financial compensation provided by a buyer.

The VIP is similar to a PES program in that the VIP seeks to reward landowners whose stewardship practices provide additional benefit to water quality. EWEB must ensure ratepayers that their investment in good stewardship results in the maintenance and/or improvement of current water quality levels. The VIP rewards landowners with a "dividend" for the preservation of habitat that provides the desired water quality benefits.

Valuing Natural Capital

Healthy watersheds and riparian forest provide a wealth of ecosystem services that directly benefit water quality. These services include absorbing excess nutrients, reducing soil erosion, filtering pollutants, and controlling the timing of water flows. Recognizing the value of natural capital, the VIP will reward landowners whose riparian land provides valuable ecosystem services benefiting water quality.

In 2012, EWEB hired Earth Economics to conduct an economic valuation study of the McKenzie Basin.[16] The report placed the total value of all ecosystem services in the McKenzie River at between $248 million and $2.4 billion. The study further

[15] Institute for Natural Resources, "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentives Program". February 2012

[16] Earth Economics. "Nature's Value in the McKenzie Watershed: A Rapid Ecosystem Service Valuation". May 2012

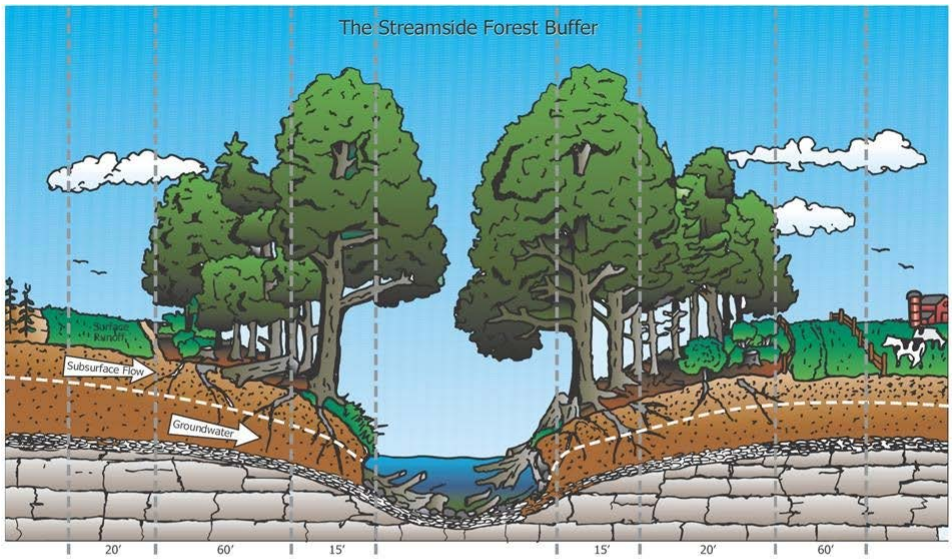
concluded that the annual value of riparian ecosystem services to be between $1,030 and $6,716 per acre. Note that these ecosystem service values are not reflected in current land value.

Protecting Riparian Habitat

Riparian buffers consist of trees, shrubs, grasses, and forbs that grow along the river's edge and provide multiple environmental benefits. Avoided pollution upstream means less treatment required downstream often with substantial financial savings to utility customers. For example, increased suspended sediment in the river is directly related to increased chemical costs in the raw water treatment process to remove suspended sediment. Maintaining healthy riparian forest buffers plays a key role in reducing erosion and overland transport of sediment leading to avoided treatment costs over time.

Riparian buffers also provide important habitat for numerous wildlife species. Riparian forests shade rivers, resulting in lower water temperatures, which are important for many aquatic species including salmon and trout. The numerous benefits provided by riparian buffers make these investments a logical initial focus for the Voluntary Incentives Program.[17]

Figure 2-2: Streamside Forest Riparian Buffer



Source: David J. Welsch. Source: USDA Forest Service.

[17] Institute for Natural Resources. "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentive Program." 2012

Watershed Protection as a Treatment Cost Avoidance Strategy

The rationale for watershed protection is rooted in the concept of cost avoidance. In short, maintaining healthy natural systems reduces the need for water treatment, which reduces the capital and operations costs associated with water treatment facilities.

At the time this report was completed, EWEB staff were developing a work program to conduct a detailed cost avoidance study. The cost avoidance analysis would examine a range of scenarios to model how changes in water quality would impact chemical treatment costs, the need for additional physical treatment associated costs, regulatory triggers and costs (DBP formation, plant effluent NPDES, raw and finished water quality, ESA species), and restoration costs (riparian forest and wetland restoration). The cost analysis would build off of existing studies (e.g., EWEB's chemical treatment cost analysis, CH2M Hill study, OWEB and Clean Water Services data on restoration costs, etc.) as much as possible. The EWEB research team would then overlay watershed protection efforts and investments to determine how these actions would reduce impacts to water quality in the range of scenarios and subsequently reduce or avoid future costs associated with chemical and physical treatment, regulatory and restoration.[18]

Case Study: New York City's Watershed Protection Program

In 1989, the EPA issued the Surface Water Treatment Rule, requiring drinking water providers to filter drinking water before distribution. As a result, New York City was ordered to clean up their water or construct a new drinking water filtration plant. The City's initial cost estimate for constructing a new filtration plant was upwards of $6 billion with an annual operating cost of $300 million. The City opted instead to invest $1 to $2 billion in protection and conservation of lands in the Delaware and Catskill watersheds. The City used conservation easements, riparian restoration, and outright land purchases to protect close to 35% of the watershed. The success of New York City's Watershed Program illustrates the benefits of watershed conservation on drinking water quality and the substantial cost savings of a payment for ecosystem services approach.

The watershed protection strategy has also been adopted in other cities across the United States. Research collected by the Ecosystem Marketplace (a Forest Trends initiative) shows that several cities have avoided the need to build expensive new filtration plants by investing in watershed protection. These cities include "Boston, MA, which invested roughly $121 million from 1985 to 2008; Portland, OR; Portland, ME; Seattle, WA, which invested some $38.7 million from 1992-2008; Syracuse, NY; and Auburn, ME. Santa Fe, NM and Denver, CO are the two latest municipalities utilizing a PES approach to pay for the better management of the forested areas that provide critical source drinking water for some 2.8 million customers in the two cities".

[18] EWEB. "Economic Analysis on Benefits of Investing in Watershed Protection: Proposed Concept for US Endowment Support". June 2013

Assessment of Interest in the VIP

In 2011, Oregon State University and the University of Oregon received a grant from the National Institute of Food and Agriculture (NIFA) to investigate how public water districts/utilities and corporations can acquire funding and provide incentives to pay for ecosystem services. [19]

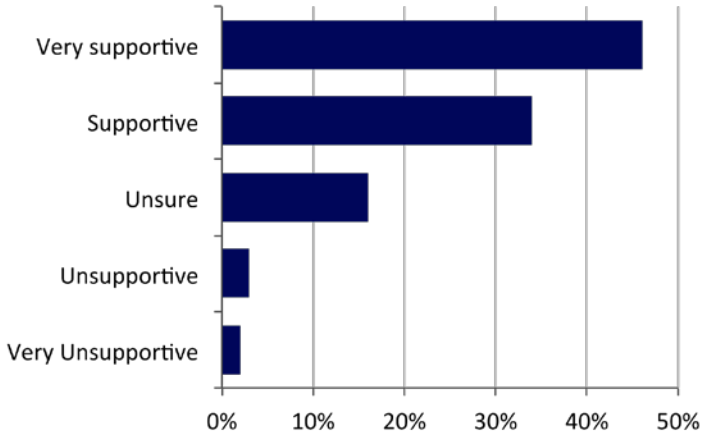
Grant funding was used to conduct two surveys: (1) EWEB residential ratepayers, and (2) property owners with riparian areas living in the McKenzie River Basin. The purpose of these surveys was to gauge support for watershed protection programs such as the VIP.

Ratepayer Support for Programs Supporting Water Quality

In 2012, 411 EWEB customers living in Eugene completed a survey about their perception of the McKenzie Basin.[20] Respondents were asked about their knowledge of water quality, their understanding of risks to water quality, and how much they would be willing to pay for source water protection.

EWEB ratepayers show a high level of support for programs to improve and/or maintain water quality in the McKenzie Basin. Ratepayers were asked "In general, how supportive or unsupportive would you be of establishing programs or activities to maintain the environmental benefits provided by the McKenzie Basin?" Figure 2-3 shows that 80% of survey respondents indicated that they were supportive or very supportive.

Figure 2-3. EWEB Residential Ratepayer Support for Programs to Support Water Quality



Source: University of Oregon and Oregon State University. "Protecting the McKenzie River Watershed: A Survey of Eugene Residents."

[19] Susan Lurie et al. "Payment for Ecosystem Services Marketplace Development at the Local Scale: The Eugene Water & Electric Board as a Local Watershed Services Marketplace Driver". 2012

[20] University of Oregon and Oregon State University. "Protecting the McKenzie River Watershed: A Survey of Eugene Residents." prepared for Eugene Water & Electric Board. July 2012.

Ratepayers were also asked to indicate how much they would be willing to pay per month to fund water quality improvement projects. Ratepayers showed a high level of support for fees up to $1/month. Ratepayer support drops off at a $3/month fee. Table 2-2 shows EWEB ratepayers willingness to pay for water quality improvement projects.

Table 2-2: EWEB Residential Ratepayer Willingness to Pay for Water Quality Source Protection

Monthly Payment	Yes	Unsure	No
50 cents per month	72%	10%	18%
$1 per month	64%	12%	24%
$3 per month	39%	19%	43%
$5 per month	22%	18%	61%
$10 per month	9%	14%	77%

Source: University of Oregon and Oregon State University. "Protecting the McKenzie River Watershed: A Survey of Eugene Residents."

Landowner Interest in a Voluntary Incentive Programs

The second survey, also conducted in 2012, asked landowners in the McKenzie watershed to indicate their personal involvement and interest in programs to protect water quality. The landowner survey was administered to 598 private non-industrial landowners in the McKenzie Basin whose properties are within one mile of the McKenzie River and its tributaries. The research team received 272 total responses for a 45.5% response rate.[21]

Fewer than 10% of respondents had ever participated in a voluntary conservation program, but 21% of respondents reported a high likelihood of enrolling in a voluntary program that benefits water quality or quantity.

Based on survey responses, Table 2-3 shows the likelihood of survey respondents to enroll in a voluntary incentive program within the next five years. Survey responses show that landowners are least likely (43% are not very likely or not at all likely) to enroll in either programs to store carbon through alternative forest management practices or programs that enable the restoration of degraded stream and floodplain areas. Respondents showed the most support for a program benefiting water quality (44% were somewhat, very, or extremely likely), followed by protecting and maintaining healthy floodplain areas (41% were somewhat, very, or extremely likely) and streamside forests (39% were somewhat, very, or extremely likely). Responses also show that these three supported types of conservation programs elicited the least uncertainty of the five proposed programs.

[21] University of Oregon and Oregon State University. "Maintaining Environmental Quality in the McKenzie River Watershed: A Survey of Property Owners". 2012

Table 2-3. Likelihood of Survey Respondents to Enroll in a Voluntary Conservation Program within the Next Five Years

Conservation Program	Extremely Likely	Very Likely	Somewhat Likely	Not Very Likely	Not At All Likely	Don't Know	Total
Benefiting water quality or quantity	4%	17%	**23%**	12%	22%	22%	100%
Protecting and maintaining healthy streamside forests	7%	16%	16%	14%	**24%**	22%	100%
Protecting and maintaining healthy flood plain areas (forest and other natural vegetation)	7%	14%	21%	12%	**24%**	23%	100%
Enabling restoration of degraded stream and floodplain areas	4%	9%	17%	17%	26%	**27%**	100%
Storing carbon through alternative forest management practices	4%	7%	15%	15%	28%	**31%**	100%

Source: 2012 McKenzie River Watershed Landowner Survey
Note: Responses are sorted in descending order by "extremely likely" plus "very likely" plus "somewhat likely"

Table 2-4 shows interest among landowners in participating in voluntary incentive programs in the McKenzie Watershed. A near majority (48%) of respondents indicated definite or possible interest in maintaining existing healthy streamside forest, while 27% of respondents were unsure of their interest in maintaining existing healthy forests. Forty-one percent of respondents indicated definite or possible interest in restoring streamside forests that are currently degraded, and 30% showed definite or possible interest in creating streamside forest on land that is not currently forested. Roughly 30% of respondents were uncertain about restoring currently degraded forest or not currently forested areas.

Table 2-4. Survey Respondents Interest in Participating in Voluntary Incentive Conservation Programs

Activity	Definitely Interested	Possibly Interested	Unsure	Probably Uninterested	Definitely Uninterested
Maintain existing healthy streamside forests	19%	**29%**	27%	9%	17%
Restoring streamside forests that are currently degraded or unhealthy	14%	26%	**30%**	12%	18%
Creating streamside forests on land that is not currently forested	10%	20%	**32%**	15%	23%

Source: 2012 McKenzie River Watershed Landowner Survey
Note: Responses are in descending order by "definitely interested" plus "possibly interested"

EWEB Voluntary Incentive Program Vision

The goal Voluntary Incentive Program is to **maintain water quality through the protection of intact and healthy riparian areas along the McKenzie River**. To accomplish this the Voluntary Incentive Program has five main programmatic objectives:[22]

- **Protect riparian and floodplain areas**: Healthy riparian areas provide a wealth of ecosystem services that are important to maintaining water quality. Recognizing the importance of maintaining existing healthy riparian areas, EWEB envisions that investments in riparian protection along the McKenzie River will result in the long-term preservation of McKenzie River drinking water quality.

- **Reward good land stewards**: To protect and maintain existing healthy riparian areas, the Voluntary Incentive Program seeks to reward landowners along the McKenzie River for management practices that benefit water quality.[23] By rewarding good land stewardship, the VIP incentivizes beneficial land management practices. These incentives will also entice more landowners to restore the condition of their land, ultimately improving the ecological health of the watershed.

- **Maintain transparency**: One important goal of the Voluntary Incentive Program is to maintain transparency. A transparent process assures ratepayers that their investments are well managed. It also provides the foundation for building trust and developing relationships with landowners in the McKenzie Basin. To maintain transparency, EWEB will provide easily accessible and up-to-date information on their website.

- **Maintain effective communication**: Effective communication is an important goal of the VIP and is essential to the success of the Program. The Voluntary Incentive Program provides EWEB with an avenue to raise public awareness about where their drinking water comes from and how land management practices affect water quality. This includes effectively communicating the correlation between land stewardship in the McKenzie Basin and the drinking water quality in Eugene.

- **Provide an avenue to other stewardship initiatives:** The VIP can serve as a focal point for a range of stewardship initiatives benefiting water quality in the McKenzie Basin. Connections established through the VIP, allows EWEB to direct landowners to appropriate services and partner organizations. For example, landowners whose property is not eligible to enter the VIP may still benefit from direction to other EWEB or partner organization stewardship initiatives such as restoration, conservation easements, and septic systems repair.

[22] Institute for Natural Resources, "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentives Program". February 2012

[23] ibid

To accomplish these five objectives, the VIP includes several programmatic objectives and strategies:

- Preserve existing healthy intact riparian vegetation
- Illustrate to landowners the benefits of healthy intact riparian ecosystem services for water quality
- Raise the overall level of awareness among landowners of the benefits of stewardship and riparian conservation
- Increase restoration of degraded riparian vegetation
- Illustrate to ratepayers the environmental, economic and social benefits of good riparian land stewardship and differentiate between restoration
- Establish relationships and build trust with landowners in the McKenzie Watershed
- Illustrate the distinction between stewardship and restoration
- Leverage the capacity of partner organizations currently active in the McKenzie Watershed
- Collect data for better planning in the future

CHAPTER III:VIP ADMINISTRATION

The Voluntary Incentive Program involves collaborative relationships among EWEB, program partners, landowners, and ratepayers. Efficient and effective administration of the program is necessary to ensure that the needs of the various constituents are met. This chapter provides an overview of the VIP boundary, a summary of VIP partners and how they will assist EWEB in VIP implementation, and a detailed explanation of the fiscal administration of the program.

VIP Boundary

The VIP program area boundary was developed using a Riparian Boundary Delineation Model v2.3 from Michigan State University as well as information about the soil type, wetlands, slope and other characteristics of a forest. The boundary is entirely within the McKenzie Basin above the Hayden Bridge intake and includes the mainstem and tributaries up to F1 zoned lands (non-impacted forest lands). The boundary excludes lands that are identified as federally owned lands (e.g., U.S. Forest Service, U.S. Bureau of Land Management, etc.).[24] Eligible entities include private landowners, local governments, and non-profit organizations. The VIP boundary is intended to provide a first cut at properties that are potentially eligible for the VIP.

EWEB and its partners will use the boundary to identify and target key properties for inclusion in the program. Properties outside the boundary are not necessarily ineligible for entry into the program, and property within the boundary is not automatically eligible. The intent is to include land that significantly influences downstream water quality and provide landowners and ratepayers a visual representation of areas targeted for VIP participation. The VIP boundary maps are available on EWEB's Website: http://www.eweb.org/sourceprotection/vip.

The VIP program area boundary includes approximately **8,213 acres of riparian and floodplain areas** along the McKenzie and its tributaries, of which **3,498 acres is vegetated. The average vegetation cover ratio for taxlot sections within the boundary is 55%.** This includes approximately **198 miles of river and stream frontage (on both banks)** and **2,696 individual tax lots**. There are **2,188 permanent structures** in the boundary with an **average size of 1,513 ft^2**.

Overview of VIP Partners

EWEB will implement the VIP through several program partners. This structure is logical because (1) programmatic partners possess expertise that EWEB lacks; (2) partners are already providing related services (riparian assessment, landowner outreach, technical assistance and stewardship consultation etc.) in the McKenzie

[24] These lands are zoned F-1 (Industrial Forest) in the Lane County Rural Comprehensive Plan. EWEB intends to work with these property owners under a different program.

River Basin; and (3) implementation through partnerships is more financially efficient than internal EWEB hiring and administration.

The core partners include:

- EWEB: Eugene Water & Electric Board
- Cascade Pacific RC&D: Cascade Pacific Resource Conservation & Development
- LCOG: Lane Council of Governments
- UWSWCD: Upper Willamette Soil and Water Conservation District
- MRT: McKenzie River Trust
- MWC: McKenzie Watershed Council

This section provides a more detailed description of each organization and their role in implementing the VIP.

EWEB: Eugene Water & Electric Board

EWEB is a publicly held utility that provides electricity and water to nearly 200,000 combined customers in Eugene. The VIP is part of EWEB's larger Source Water Protection Plan. This Plan includes other programs (such as reducing chemical use on farms, disaster planning and response and septic system repair) that protect and improve water quality in the McKenzie watershed.

As the lead agency for the VIP program, EWEB will oversee and coordinate all aspects of the VIP in collaboration with program partners. EWEB's main responsibilities will include landowner recruitment, agreement negotiation, fiscal administration, compliance, and public outreach.

Cascade Pacific RC&D: Cascade Pacific Resource Conservation & Development

Cascade Pacific Resource Conservation & Development is a 501(c)(3) nonprofit with over 50 years of experience working with landowners on watershed protection in central-Western Oregon. They provide fiscal sponsorship and administration support to various organizations involved in resource conservation throughout the McKenzie, Willamette and Siuslaw watersheds.

Cascade Pacific will serve as the fiscal agent for the VIP program. They will manage the fiscal transactions between EWEB and landowners, other VIP partners, and corporate and local business sponsors as part of the menu of incentives.

LCOG: Lane Council of Governments

The Lane Council of Governments is the regional council of governments and provides a number of services to local governments within Lane County. LCOG's planning services include transportation, natural resources, land use, community safety and boundary changes.

LCOG's role in the VIP is to provide technical assistance on property assessment and monitoring using their Geographic Information System (GIS) capacity. LCOG's services will include remote sensing using Laser Imaging Detection and Ranging (LiDAR) data and other tools that will inform the assessment and monitoring process.

UWSWCD: Upper Willamette Soil and Water Conservation District

The UWSWCD is a local government entity, under the Department of Agriculture, works with local partners within the upper Willamette watershed on projects designed to preserve and protect natural resources. They have over 25 years of experience developing relationships with local agricultural landowners.

UWSWCD's role in the VIP is to provide the assessment and/or monitoring of agricultural properties within the boundary. They will work with EWEB to establish and evaluate program eligibility and will maintain positive relationships with the agricultural landowners they work with after signing agreements.

MRT: McKenzie River Trust

The McKenzie River Trust (MRT) is a 501(c)(3) nonprofit organization that works with private landowners in the McKenzie River Basin. They negotiate conservation easements on local private land and conduct land acquisitions designed to protect watersheds on the McKenzie River and other river systems in the area.

MRT will provide technical support for the development of landowner agreements and will serve as intermediary group that will offer the opportunity for landowners to engage in a conservation easement or dedication rather than participating in the VIP program. The ultimate goal is to preserve and maintain water quality, and by directing landowners interested in a permanent dedication or easement, EWEB will receive tertiary benefits to the water quality of the McKenzie.

MWC: McKenzie Watershed Council

The MWC is a group of volunteer members that work together to protect and restore water quality and wildlife habitat on the McKenzie and Mohawk Rivers. In 2002, the Council developed the McKenzie Basin Conservation Strategy, which identified goals to meet the Council's mission of improving watershed quality while strengthening nearby human communities. To work towards these goals, the Council staff and volunteers collect and analyze water quality data and identify, restore and protect prime riparian habitat along the McKenzie and Mohawk Rivers.

Similarly to the UWSWCD, the MWC will work to develop and administer the assessment for program eligibility and perform onsite monitoring with willing landowners.

Fiscal Administration

Administering the VIP involves a range of costs, both operational and administrative. Operational costs are the overhead expenses of running the VIP. This includes materials, equipment, travel, office-space and staff time.

Administrative costs are the expenses of administering the VIP. This includes outreach, agreement negotiation, fiscal administration, attorney fees, monitoring, data collection and analysis, and landowner payments. Because of the unique nature of the program, it is difficult to estimate the proportion of funding that will be needed for administration. EWEB anticipates that the VIP pilot study (described in Chapter V) will generate a better understanding of the administration costs.

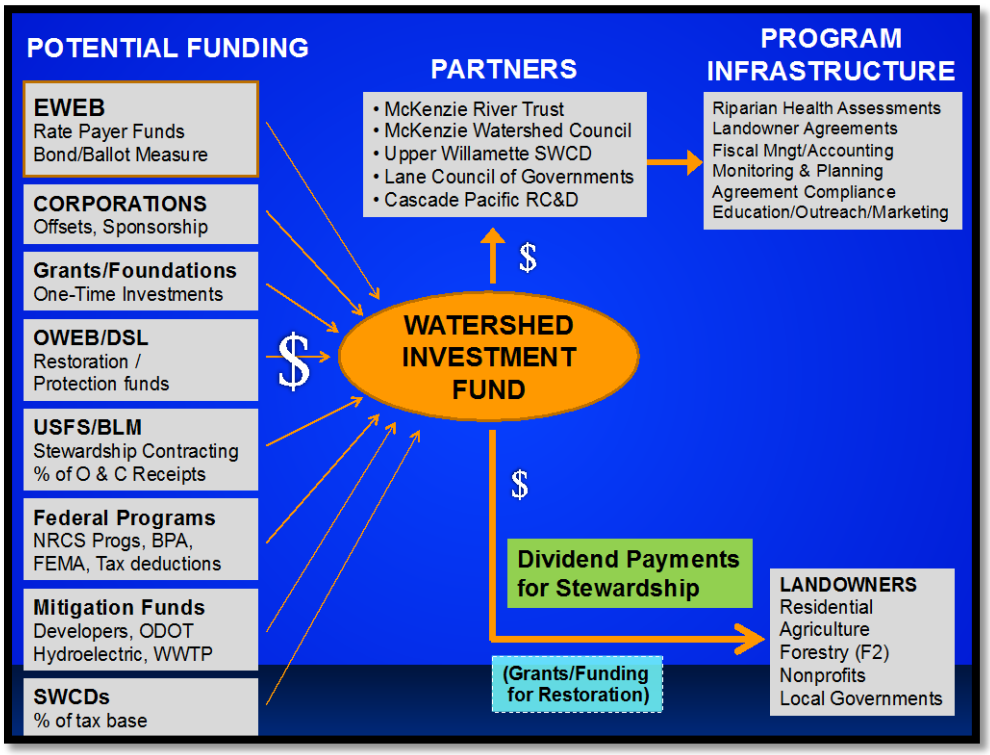
Cascade Pacific RC&D will administer the fiscal elements of the VIP. Cascade Pacific's role will involve (1) administering payments or vouchers to landowners enrolled in the VIP, and (2) administering payments to VIP partners, such as those performing assessment and monitoring. Vouchers may be redeemable for services such as invasive species removal and/or professional restoration work, environmentally safe agricultural products, in-kind services and products from corporate sponsors - and would be offered to landowners in lieu of direct payments.

Potential Funding Sources

The VIP, like other elements of EWEB's source water protection efforts, will require a stable funding source. As part of its overall activity, EWEB staff are pursuing multiple funding sources to establish watershed protection programs that are fiscally sustainable. The long-term vision is to develop a stable Watershed Investment Fund (WIF) that relies on a variety of sources.

Potential sources include current programmatic funding from EWEB, private and public grants, local business sponsorship through products and services, State and federal funding, and potentially ratepayer funds in the form of a watershed protection assessment. Actual funding sources would be combined to form a comprehensive Watershed Investment Fund that aligns and directs investments based on the objectives and goals from the funding source. The potential watershed protection assessment for EWEB ratepayers would be used for Source Water Protection projects that benefit water quality, including the VIP, as well as other programs mentioned earlier.

Figure 3-1. Potential Funding Sources: the VIP Watershed investment Fund



Current Programmatic Funds

Current funding for EWEB's Source Water Protection program is supported by electric and water revenue from EWEB ratepayers. This revenue is one potential component of the Watershed Investment Fund.

Private and Public Grants

EWEB recognizes that grants are not a stable funding source. The unique nature of VIP, however, makes the program an excellent candidate for grant funding as a pilot program. Grant funds can potentially support some of the more costly elements of developing and piloting the VIP program.

The Oregon Watershed Enhancement Board (OWEB) provides grant funding for watershed restoration projects. OWEB is a state agency that seeks to improve water quality and aquatic ecosystems through funding community-based conservation programs. OWEB is a key funding partner whose investment would support key elements of developing and piloting the VIP. OWEB also provides capacity funding to the MWC and Upper Willamette SWCD on an annual basis. EWEB anticipates that OWEB investment in VIP would help support the program in its initial years, and future partner capacity funding and restoration investments could be aligned and integrated with other funding sources as part of the long term funding solution.

EWEB may also pursue private grant funding for specific parts of the VIP.

Corporate Sponsorships and Reimbursed Services

Sponsorship or reimbursed services from local businesses represents opportunities for EWEB to deliver in-kind products and/or services to landowners enrolled in the VIP. If sponsors cannot feasibly donate services, EWEB may be able to offer reimbursement for these services.

Members of the VIP Landowner Advisory Committee indicated strong interest in reward services such as invasive species removal, environmentally friendly agricultural products, vouchers for native tree plantings, and consultations with landscape architects and other professionals. This "menu of services" can be developed along with business sponsors to provide in-kind incentives as alternatives to direct cash payments.

In the spring of 2013, three focus groups were held to determine local business interest in the Voluntary Incentive Program. In total, 17 local and regional businesses attended the focus groups. Many of the businesses said they would be more likely and able to participate through product and service giveaways and donation of labor hours than though a strictly monetary investment. These findings correspond well to the Landowner Advisory Committee's interest in a range of in-kind services.

Ratepayer Funds

Many utilities are seeking innovative approaches to fund water quality protection efforts. One approach is broadly categorized as a "watershed protection fund." The concept is to establish a stable fund that is restricted to specific activities related to water quality. The funds are supported in a variety of ways, often through monthly ratepayers assessments.

A Watershed Protection Assessment could provide a sustainable funding source for EWEB Source Water Protection Programs. As envisioned, the assessment would be added to EWEB ratepayers monthly water and electric bill in the form of a line item. If a Watershed Protection Assessment is established as a line item, it would replace existing rate funds (mainly from past water rate increases) and be a more transparent way for EWEB customers to see the level of investment they are providing for watershed protection activities. Existing rate funds that are replaced by a line item assessment could then be used to offset a portion of future water rate increases.

Based on a 2012 survey of EWEB residential ratepayers, respondents indicated broad support for programs to protect water quality. Survey results indicate that the majority of ratepayer respondents would be willing to pay a fee of 50 cents (72%) or $1.00 (64%).[25]

[25] University of Oregon and Oregon State University. "Protecting the McKenzie River Watershed: a Survey of Eugene Residents." prepared for Eugene Water & Electric Board. July 2012.

Moving forward, EWEB has several options for administering a Watershed Protection Assessment. CPW explored three potential options for a Watershed Protection Assessment.

Options for Watershed Protection Assessment

1. **Flat Assessment System: All EWEB Water and Electric Ratepayers** - a monthly, flat watershed protection assessment would be charged to all ratepayers. (88,093 total customers).
2. **Flat Assessment System: EWEB *Water Only* Ratepayers** - a monthly flat watershed protection assessment would be charged to water only ratepayers. (59,817 water customers).
3. **Tiered Assessment System**: a progressive pricing system in which water customers would pay a monthly assessment based on the Meter Size of the water intake pipe.

Table 3-1. Projected Watershed Protection Assessment Revenue based on Single Assessment Systems

Monthly Assessment	Water Only (59,917 raterpayers)		Water and Electric (88,093 ratepayers)	
	Monthly Revenue	Annual Revenue	Monthly Revenue	Annual Revenue
$0.50	$29,959	$359,502	$44,047	$528,558
$1.00	$59,917	$719,004	$88,093	$1,057,116
$1.50	$89,876	$1,078,506	$132,140	$1,585,674
$2.00	$119,834	$1,438,008	$176,186	$2,114,232

Source: Estimates by CPW

Single Assessment System:

Table 3-1 shows the projected monthly and annual revenue generated by a Flat Watershed Protection Assessment. Based on survey respondent's willingness to pay a monthly assessment of $1.00, annual revenue from Water only ratepayers would yield $719,004. The same flat assessment of $1.00 charged to all EWEB ratepayers would yield annual revenue of $1,057,116. Current funding levels for watershed protection are approximately $630,000 per year.

Tiered Assessment System:

In a Tiered Assessment System, the Watershed Protection Assessment is progressively priced based on ratepayers Meter Size and intake pipe. Larger water users such as corporations, hospitals, or breweries would pay a larger monthly assessment then, for example, smaller residential water users.

Central Arkansas Water (CAW) provides a prominent example of a major utility implementing a progressive pricing structure. CAW charges water users a Watershed Protection Assessment based on water intake pipes ranging in size from 0.625 to 10 inches in diameter. Revenue from CAW's Watershed Protection Assessment funds the utility's Watershed Management Program. This Program

includes land purchases, water quality monitoring, and "other measures that protect drinking water supply from pollution."[26]

Table 3-2 shows potential revenue using Central Arkansas Water's assessment structure. Under this system, EWEB's annual revenue would be $407,000. Comparatively, EWEB would generate the same annual revenue by charging all water customers a flat $0.57 monthly assessment.

Table 3-2. Projected Annual Revenue under a Tiered Pricing System (Central Arkansas Water Assessment Structure)

Meter Size (inches)	Central Arkansas Pricing	Number of EWEB Customers	Projected Monthly Revenue	Projected Annual Revenue
0.625	$ 0.45	52,404	$ 23,582	$ 282,983
0.75	$ 0.45	267	$ 120	$ 1,440
1	$ 0.68	5,171	$ 3,516	$ 42,195
1.5	$ 1.13	1,127	$ 1,273	$ 15,278
2	$ 2.25	583	$ 1,312	$ 15,741
3	$ 3.60	107	$ 385	$ 4,619
4	$ 6.75	58	$ 392	$ 4,698
6	$ 11.25	108	$ 1,216	$ 14,591
8	$ 22.50	90	$ 2,016	$ 24,188
10	$ 36.00	3	$ 108	$ 1,296
Total	-	**59,917**	**$ 33,919**	**$ 407,028**

Source: Estimates by CPW

Table 3-3 models a second tiered pricing alternative. Applying Central Arkansas Water's pricing structure to EWEB ratepayers willingness to pay $1, annual revenue generated would amount to $904,506. This level of funding would allow support for existing watershed protection programs, full implementation of VIP and support land acquisition and conservation easement investments.

[26] Central Arkansas Water Rates, effective March 1, 2013. http://www.carkw.com/customer-service/rates/.

Table 3-3. Projected Annual Revenue under a Tiered Pricing System (Potential EWEB Water Assessment Structure)

Meter Size (inches)	Potential EWEB Pricing	Number of EWEB Customers	Projected Monthly Revenue	Projected Annual Revenue
0.625	$ 1.00	52,404	$ 52,404	$ 628,850
0.75	$ 1.00	267	$ 267	$ 3,199
1	$ 1.51	5,171	$ 7,814	$ 93,767
1.5	$ 2.51	1,127	$ 2,829	$ 33,950
2	$ 5.00	583	$ 2,915	$ 34,980
3	$ 8.00	107	$ 855	$ 10,264
4	$ 15.00	58	$ 870	$ 10,440
6	$ 25.00	108	$ 2,702	$ 32,425
8	$ 50.00	90	$ 4,479	$ 53,750
10	$ 80.00	3	$ 240	$ 2,880
Total	-	**59,917**	**$ 75,375**	**$ 904,506**

Source: Estimates by CPW

Considerations for Landowner Payments

A foundational component of the VIP is providing landowners with "dividends" in the form of payments, for enrolling in the program and engaging in land use practices that maintain or enhance water quality. The amount of these payments is a central consideration of the program. The payments need to be substantial enough to be attractive to landowners given restrictions placed on use of their land, but reasonable to justify the expense and water quality benefits to EWEB ratepayers.

As a starting point for assessing payment amounts, the net present value of total payments to each landowner should not exceed the market value of the land itself. The market value of land is the amount on a per unit (acre or square foot) that a willing buyer and seller would agree to in an arm's length transaction.[27]

Note that ecosystem values are not fully represented in current market values. Based on a recent analysis by Earth Economics, the value of ecosystem services related to local water quality provided by riparian land is estimated between $159 and $4,692 per acre per year (mean value $2,267) in 2013 dollars.[28] This service is not reflected in the market value of land in the McKenzie basin, which is about $2,000 to $8,000 per acre.[29]

[27] An "arm's length transaction" is a transaction in which the buyers and sellers of a property act independently and have no relationship to each other. In other words, both parties in the transaction are acting in their own self interest and are not subject to any pressure from the other party.

[28] Earth Economics. "Nature's Value in the McKenzie Watershed: A Rapid Ecosystem Service Valuation". Tacoma, WA. 2012.

[29] Joe Moll, McKenzie River Trust executive director. 2013. Personal communication.

Table 4-4 provides one illustration of where net present value of total VIP payments exceeds land value. Figures in parentheses indicate VIP payments that exceed land value assuming a 4% discount factor. For example, a property enrolled for 30 years could receive payments of about $150 per acre per year before exceeding the market value of the land at a 4% discount factor. Higher discount factor assumptions would result in lower payment values.

Note that these calculations do not take into consideration that enrolling properties in the VIP may change the land's value, or that land may increase in value over time.

Table 4-4. Net Present Value of Annual Payments vs. Estimated Market Value of Land

Term (yrs)	Annual Payment						
	$100	$150	$200	$250	$300	$350	$400
5	2,555	2,332	2,110	1,887	1,664	1,442	1,219
10	2,189	1,783	1,378	972	567	161	(244)
15	1,888	1,332	776	220	(336)	(891)	(1,447)
20	1,641	961	282	(398)	(1,077)	(1,757)	(2,436)
25	1,438	657	(124)	(906)	(1,687)	(2,468)	(3,249)
30	1,271	406	(458)	(1,323)	(2,188)	(3,052)	(3,917)
35	1,134	200	(733)	(1,666)	(2,599)	(3,533)	(4,466)
40	1,021	31	(959)	(1,948)	(2,939)	(3,927)	(4,917)
45	928	(108)	(1,144)	(2,180)	(3,216)	(4,252)	(5,288)
50	852	(222)	(1,296)	(2,371)	(3,445)	(4,519)	(5,593)

Source: Calculations by CPW

*Assuming a discount rate of 4% and a $5,000 market price per eligible acre.

Landowner Opportunity Cost

Opportunity cost is a basic economic concept. According to microeconomic principles, the opportunity cost of an investment is the value of the best alternative forgone, where a choice needs to be made between several mutually exclusive alternatives. In other words, enrolling in VIP must be perceived as a better value than other alternatives, including doing nothing.

To motivate landowners to enroll in the VIP, the reward for enrolling will need to be greater than the landowner's opportunity cost. Because of the unique nature of land and of property owners, the opportunity cost for each landowner will be different. At this time, it is not possible to estimate the opportunity cost, because VIP or other comparable programs do not exist.

Landowner Dividend Payments

Eligible landowners who enroll in the VIP will be compensated for the portion of their riparian land that is above the eligibility threshold. The previous section modeled payments on a fixed term basis per acre. That model is only one potential approach EWEB could take in compensating landowners. Another is based on the concept of "dividends."

EWEB estimates 20% to 30% of generated funds are necessary to support VIP administrative functions (note that this is a best guess since no good data exists to estimate administrative costs). CPW's evaluation is that significant up-front costs will be needed to build the tools and capacity that EWEB and its partner organizations will need to operate the various components of the VIP. The remaining funding is available to make direct or in-kind payments to landowners participating in the VIP. The idea is that these payments represent a form of dividends from the capital these natural processes provide to downstream water users and society.

One method of estimating dividend payments is shown in Figure 3-2. This represents a simplified calculation for estimating the per-acre dividend payments based on the total funding available (minus funds for administration) divided by the total number of acres in the VIP. The actual per acre dividend payment would vary based on the type and length of the landowner agreement.

Figure 3-2. Dividend Payment Formula

$$\boldsymbol{Per\ acre\ annual\ dividend} = \frac{(\boldsymbol{total\ funds - administrative\ cost})}{\boldsymbol{Total\ acres\ in\ VIP\ boundary}}$$

Source: Institute for Natural Resources, "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentives Program"

Table 3-3 provides an example of how landowner dividend payments might work over time. The dividends are based on the total land area within the VIP boundary. If the pool of available fund for dividends is $250,000 in year 1 and the total land area is approximately 8,200 acres, then the dividend is $38.68 per acre. If 300 acres are enrolled in VIP, then the total payout would be $11,604. Between year 1 and 2, an additional $238,396 would accrue into the dividend fund. This would increase the per acre dividend to $75.56 per acre.

The dividend approach would ensure all landowners that wanted to participate could be funded and would provide flexibility in determining the price point that increases landowner enrollment. As dividend payment amounts rise over time there will be a point when landowner enrollment significantly increases. The dividend payment can then be managed to maintain this level of payment by increasing acreage in program or reducing annual funding into the fund.

This approach has the value of increasing dividends over time. Presumably it would be capped by the net present value of the land, CREP payment amounts (USDA), and/or water quality trading payment amounts (i.e., shade credits). Drawbacks are that it is potentially confusing to landowners (and ratepayers) which is inconsistent with the objective of programmatic transparency.

Table 3-3. Example of Landowner Dividend Payments

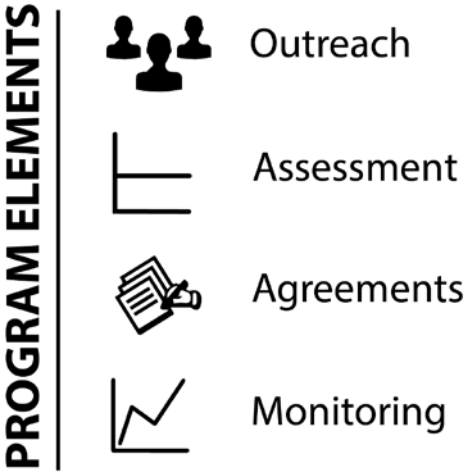
Year	Dividend Calculation	Acres Enrolled	Total VIP Payout
1	$250,000/8,213 acres = $30.43/acre	300	$ 9,132
2	$488,396/8,213 acres = $59.46/acre	600	$ 35,680
3	$693,055/8,213 acres = $84.38/acre	1,000	$ 84,385

Source: Institute for Natural Resources, "EWEB's Vision for a Payment for Ecosystem Services – Voluntary Incentives Program"
Notes:
1. Sustained finance adds $250,000 of new funding each year.
2. Based on initial LiDAR analysis it is estimated that 100% eligible acreage enrollment is ~ 2,950 acres"
"3. Balance of annual investment ($250,000) minus payout equals the amount of funds rolled over into the next year."

CHAPTER IV: PROPOSED VIP IMPLEMENTATION STRUCTURE

This chapter presents a proposed implementation structure of the Voluntary Incentive Program including the process for enrolling properties into the VIP. As envisioned, the VIP process includes four programmatic elements: (1) outreach and recruitment, (2) property assessment for eligibility into the VIP, (3) landowner agreements, and (3) property monitoring for compliance. Figure 4-1 illustrates the four programmatic elements.

Figure 4-1. Overview of VIP Program Structure



In general, the process shown in Figure 4-1 will follow a chronological order. The first step is outreach to recruit potential participants. Program partners will assist EWEB in assessing interested landowners properties for VIP eligibility. Landowners whose property is eligible for the VIP and desired to enroll in the program will enter into some form of agreement with EWEB. Enrolled properties will participate in periodic monitoring to assure compliance with the terms of the agreement and monitor the benefits of riparian protection.

Landowner Recruitment and Outreach

Landowner recruitment requires an understanding of the relationships and information networks that exist within the community of landowners living in the McKenzie Basin. This section describes strategies for communicating about VIP and recruiting interested landowners. The recruitment and outreach methods that follow build from input received through the landowner advisory committee. The committee offered many useful ideas to guide the suggestions for outreach in the basin.

Considerations for Landowner Recruitment

The voluntary nature of the program necessitates that considerations be made to build trust between EWEB and the landowners in the basin. Landowners from the advisory committee emphasized the importance of relationship building and creating mutual trust between the landowners and EWEB and its program partners.

Terminology

Words make a difference. Researchers have found that those advocating for ecosystem services should focus on protection of natural resources and the natural value derived from good stewardship practices.[30] The phrase "payment for ecosystem services" does not always resonate well with the public. While the idea that parts of ecosystems are contributing products with a monetary value can be confusing, most people will acknowledge the environmental, social, cultural and economic benefits that exist in natural ecosystems. Therefore, avoiding technical jargon and using a message that focuses on the benefits of a riparian forest is likely a more effective strategy.

The terminology used in outreach should reflect the intent of the program as a partnership among landowners, EWEB, and ratepayers. Because language and phrases are interpreted differently, language should be precise, specific, and targeted to appeal to each stakeholder group. The language used to communicate the VIP to both landowners and ratepayers should be designed to create widespread public appeal. Building on the work of Carpe Diem West, CPW conducted case study research and worked with a landowner advisory committee to determine appropriate nomenclature.

CPW's research and outreach process revealed several best practices regarding terminology. Through conversations with landowners, the CPW team found that better phrases include "incentives to protect natural resources" or "rewards for beneficial land stewardship." Regarding the use of the term "contract," the Landowner Advisory Committee recommended using the word "agreements". Similarly, the term "ratepayers" instead of "buyers," "landowners" instead of "sellers," "maintained water quality" instead of "markets," and "compliance" instead of "enforcement." The localized nature of the relationships should be highlighted in ways that reinforce the local infrastructure, develop local champions, and highlight the ways projects address local challenges.

Building Relationships with Landowners

Developing relationships with landowners and building trust is important to the success of the VIP. EWEB and VIP partners can facilitate this through transparency, inclusivity, flexibility, and consistency.

- **Transparency:** The VIP program must be managed with transparency. Information on the programmatic elements such as eligibility criteria, program partner responsibilities, cost and benefits, and whether or not

[30] Bullitt Foundation. 'Ecosystem Service Messaging: Needs Assessment and Initial Messaging Recommendations'. Resource Media 2012

water quality is maintained should be available to the public. Advisory committee members stressed the importance of transparency, particularly, how the property is evaluated and monitored so that landowners understand how these processes work.

- **Inclusivity:** Partners involved in assessing properties should discuss opportunities for restoration simultaneously with VIP enrollment, so that interested landowners who are not eligible to enter the VIP are provided other avenues for land stewardship. If landowners are not eligible to participate in the VIP, they should be connected with a partner who can help them access assistance to improve riparian habitat on their land.

- **Flexibility:** Allowing for flexibility in the terms and types of agreements offered increases the likelihood that a landowner will enroll in the VIP. Committee members indicated that formal agreements may be untenable (especially to those with smaller properties) and shorter-term agreements may result in higher levels of participation.

- **Consistency:** Landowners indicated that consistency is important to their decision to enter into the VIP. In the assessment and monitoring phase of the program, landowners indicated that they would like to work with the same partner organization, ideally the same individual, during the duration of their VIP contract. Working with the same partner organization allows for consistency and helps build relationships that enable both partner and landowner better manage their land.

CPW recommends that EWEB incorporate specific actions that build trust with landowners. These include:

- **Use the effective terminology discussed in the section above*:*** Ensure that program partners and outreach strategies use terminology that reflects the intent of the programmatic objectives and is easy to understand.

- **Respect and maintain landowner data and privacy:** Members from the landowner advisory committee expressed the importance of their privacy. Landowner data is important for evaluating the program, however private information and details about landowners should not be displayed to the public.

- **Engage in conversations about the expectations of all parties before entering into an agreement:** Establishing baseline rules and expectations of program partners, EWEB and the landowners will help to prevent any misunderstanding about the nature of the agreement and the VIP.

- **Understand the intentions of the landowner by speaking with them personally:** As indicated in survey results and landowner advisory committee meetings, landowners in the basin have many different intentions and expectations for their property. When negotiating agreements with potential VIP enrollees, program partners should ask landowners about their long and short term intentions for their property.

This could ease the agreement negotiation process and help to prevent potential pitfalls in the negotiation.

- **Be inclusive and provide alternative avenues for landowners whose property is not currently eligible:** Inclusivity is an objective of the overall program and more specifically outreach; the VIP could be the focal point of conservation activities in the McKenzie Basin. For example, the VIP can direct potential program enrollees to conservation easements, restoration services and educational opportunities for landowners in addition to or instead of the VIP itself. This provides a route for landowners who want to be involved but are either ineligible for the program or are interested in other methods of conservation and restoration.

- **Be flexible and provide a range of agreement options to be inclusive:** Flexibility is also an objective of the VIP, providing multiple routes for landowner agreements will allow for easier enrollment into the program. Because the overall purpose of the VIP is to protect riparian habitat for water quality, the more inclusive and flexible the agreement process is the more likely the program will achieve its objectives.

- **Use the same partner organizations and staff to maintain consistency:** When discussing monitoring of properties enrolled in the VIP, the landowner advisory committee indicated that it is important to maintain consistency in the process and staff who conduct the monitoring evaluations. Landowners expressed concern about changeover in organizations and how that may affect the VIP experience for landowners enrolled in the program.

- **Continue to engage landowners and follow through on promises:** After landowners have signed an agreement to enroll into the program, EWEB should periodically follow up with landowners, provide information about the program's successes and generally describe the progress of the program. This will help to keep landowners engaged in the VIP, and also assist in the overall outreach for the program.

- **Provide recognition to participating landowners:** Recognition is a tool to not only honor landowners' commitment to good stewardship, but also share information about the VIP program. EWEB should develop a consistent "brand" for the VIP and should allow landowners to opt out of public recognition if they want to remain anonymous.

Once landowners enter into the VIP, much of the landowner contact with EWEB will be through its partners who perform the monitoring and assessments. Therefore, these partners should use a uniform approach when working with the landowners that is both friendly and also includes the fours characteristics for relationship building listed previously: **transparency, inclusivity, flexibility, and consistency**.

Recruitment and Outreach Strategies

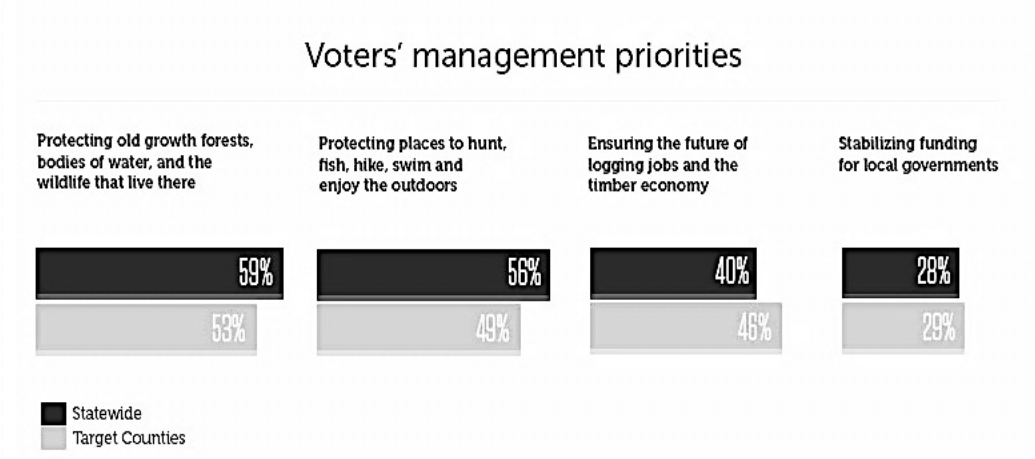
As with any new program, outreach and recruitment will be essential for success in the first years of the VIP. To assist EWEB with recruitment, CPW researched outreach strategies and facilitated conversations with the Landowner Advisory Committee to determine the most effective strategies for outreach.

In conversations with the Advisory Committee, landowners emphasized the importance of understanding the people who live in the basin when conducting outreach. The committee indicated that EWEB should attempt to build a stronger presence in the Basin with the Voluntary Incentive Program as a focal point of the source water protection.

Messaging 'Clean Water': Committee members suggested that EWEB should focus on the 'clean water' of the river in its outreach and branding. For example, EWEB could use graphics such as bright-blue clean water drops with 'EWEB VIP' for landowners who are enrolled in the program. These graphics could be applied to stickers for cars, mailboxes and other items.

Evidence from recent surveys conducted in Oregon by a panel organized by Governor Kitzhaber, indicated that Oregonians are interested in preserving natural forest habitat and water quality. The Pew Charitable trusts organized the survey and reported that a majority of state residents supported protecting forests and water bodies for wildlife, water quality and recreation.[31] This suggests that branding and messaging clean water for the VIP could be an effective tool for outreach with the public. Figure 4-2 illustrates the survey respondent's opinions about state management priorities.

Figure 4-2. Oregon Resident's Opinions on State Management Priorities



Source: Pew Charitable Trusts.

[31] Susan Whitmore. 'Oregonians Say They Want More Land and Water Protections'. Pew Charitable Trusts. 2013.

Education 'Sustainable Landscaping': Committee members suggested that EWEB should continue to develop partnerships with the OSU Extension Service, MWC and the Northwest Center for Alternatives to Pesticides (NCAP) for the Sustainable Landscaping program offered to landowners in the Basin. The program could also help to spread information about the VIP to landowners interested in protecting their riparian land.

Targeted Landowner Outreach Strategies

Utilizing targeted strategies for landowner recruitment can increase the efficacy of program outreach; furthermore these methods may reduce overhead and operating costs by using funding more effectively.

Targeting Large Property Holders

Many of the largest properties with healthy riparian forest in the McKenzie River Basin are owned by relatively few landowners. EWEB should target these landowners in their initial outreach. Targeting landowners with larger parcels of land will yield a greater return on investment than small residential properties, because of a lower transaction cost per acre of enrolling larger properties.

Target Influential Landowners as VIP Ambassadors

The landowner advisory committee also hinted at the importance of targeting the most influential members of the community. Building relationships with influential landowners will help build trust among landowners in the Basin. Landowners could also be asked to be a VIP representative. Landowner representatives could provide information to other landowners and friends interested in the program.

Neighbor Hosted Events

Landowners' enrolled in the VIP could host informal informational meetings for neighbors interested in learning more about the VIP. Events such as BBQ's or dinner parties provide a comfortable environment to share experiences and make connections.

Broad Landowner and Ratepayer Outreach Strategies

Broad outreach strategies aimed at both landowners along the McKenzie River and EWEB ratepayers generate awareness about the VIP and its benefits and can be used to generate support for the program.

VIP Branding

Branding is an effective technique to create recognition for a program like the VIP. This will include developing a "public face" for the program. Elements of a branding strategy might include a logo, a slogan, a design scheme, and stationary.

Based on discussions with the landowner advisory committee, the VIP design scheme should place emphasis on the cleanliness of the McKenzie River and use vibrant and clean graphics that focus on the water itself. One local

example of successful branding is the '1% for Watersheds' campaign employed by Oakshire® and the McKenzie River Trust.

Informational Mailer/Brochure/Newsletter

EWEB can send prospective VIP participants an informational brochure (or a newsletter for existing VIP participants). A brochure can provide useful information about the benefits of joining the program and delineate the available services and monetary benefits accrued for enrollment into the program. The landowner advisory committee suggested that EWEB should include informational flyers with bills for landowners who pay EWEB fees for services. Additionally, a committee member expressed that the flyers should be simple, yet informational and should try to limit the excessive discussion of non-related topics to maximize interest.

Similarly, EWEB should plan to be transparent about any additional costs incurred to the majority of ratepayers in Eugene. An informational flyer included with bills to Eugene residents could also be a proactive measure for outreach and support of the VIP by Eugene ratepayers.

Tabling Local Events

EWEB and other VIP partners can recruit landowners into the VIP by tabling at existing events that McKenzie River landowners are likely to attend such as McKenzie River Trust's annual Wooden Boat Race, Lavender, and Chainsaw Art festivals. Although tabling may not be an overly effective strategy for landowner recruitment into the program, it has potential for use as an illustrative tool that describes the benefits of the VIP and other elements of EWEB's source water protection program to the public. VIP representatives can talk with prospective VIP participants and distribute brochures or fliers about the program. These could be in the form of diagrams, images or stories demonstrating the successes of the VIP—again the VIP can be the focal point for discussion about source water protection in the basin.

Hosting Community Meetings

VIP partners can host informational community meetings about the VIP for prospective VIP participants. Community meetings will provide the public with details about the project and to clearly present accurate information. In most instances, meeting with the public to disseminate information and remain transparent about the process will help to facilitate trust between EWEB and potential VIP enrollees.

Sponsored Events

By hosting an annual event such as a summer season festival, VIP partners can fulfill myriad outreach goals including recruitment, reporting, and recognition. Such an event could also be one way to recognize the corporate and local business sponsors who support the VIP. The landowner advisory committee suggested that EWEB could sponsor events and bring people into the basin for sponsored events as a desirable way to do outreach in the community. Committee members provided more detailed examples such as sponsoring already established local events like the Late Bloomers CSA markets. They

expressed that this would be a welcomed and effective method for conducting broad level outreach.

Recruit Landowners as Ambassadors to Represent the VIP

EWEB and the VIP partners can recruit or invite existing VIP participants to become 'VIP ambassadors' who can act as representatives of the program. The ambassadors can assist by providing information about the benefits of the program and answer questions or concerns from their fellow neighbors. In many ways the VIP should emulate successful business models by encouraging satisfied program participants to speak with their friends and neighbors about the success and benefits of the program. Several members of the advisory committee suggested that they would be willing to serve as the initial group of ambassadors to the community.

Website and Dashboard

EWEB already has a VIP web presence. The website can be expanded to describe the program, illustrate its progress, recruit potential landowners into the program, and allow enrolled landowners to examine the potential services and payments that are available to program participants. The website should:

Describe the program and illustrate its success. This would inform landowners, EWEB ratepayers, the general public, and other groups interested in adopting a similar program. This part of the website could contain information such as:

- Program objectives, VIP Boundary and the total acreage currently enrolled in the program
- Dollars spent on protecting high quality riparian habitat
- The benefits of the VIP and the potential to mitigate for future large-scale infrastructure construction
- Change in total canopy cover within the VIP boundary over time
- Status report on the McKenzie river habitat and water quality from EWEB water quality experts

Recruit potential landowners into the program. This part of the website can describe:

- How the program is administered
- The potential incentives
- How criteria for eligibility are determined
- The first steps to setting up an on-the-ground assessment
- Ability to register online to receive more information and/or schedule a site visit at the landowners property (shared calendar that allows landowners to select the partner they would like to work with (if there is a preference) and schedule the date and time for an initial visit)

Assessment and Eligibility Criteria

An assessment for the VIP is a process for evaluating potential enrollees' properties; it can also function as a beneficial service to landowners. The assessment process can be an informative tool for landowners, who can learn

about the benefits of their vegetation, as well as the techniques and strategies for maintaining their healthy riparian habitats. Monitoring partners have the expertise to provide information about conservation and restoration to landowners at no cost. The landowner advisory committee echoed this sentiment, and suggested that any information about maintaining the vegetation on their property would be well-received. The monitoring partners are the focal point for discussions about the property and its vegetation.

This section provides an overview of potential assessment and eligibility criteria, and proposes a process that EWEB can use to assess landowners' properties for enrollment in the VIP. Included in the discussion are potential program eligibility criteria and how the criteria were developed to evaluate properties entering the program. Images of example properties in the basin are used to illustrate the eligibility criteria components.

The criteria for entering the program are not strictly rule-based determinations; rather, the process will use observations and the partner expertise to determine a landowner's eligibility. Properties will be evaluated for the VIP using reference properties and other established criteria. The program is meant to be inclusive, therefore, if possible, the assessment should be provided to all landowners who are interested in entering the program. Conducting a riparian assessment for all interested landowners, regardless of eligibility, will provide landowners specific information about what they can do to improve and/or protect these critical areas. Ideally, VIP would provide an avenue for willing landowners to efficiently pursue restoration and/or protection based on the assessment. This will also provide the opportunity to collect additional data and anecdotal observations of landowners' riparian habitats in the McKenzie Basin.

VIP Reference Sites

EWEB is working in partnership with The Freshwater Trust of Portland, Oregon to develop a set of reference sites in riparian areas throughout the McKenzie Watershed. The reference sites will be used as a set of real and objective criteria to assist in describing the characteristics that contribute to an ecologically beneficial riparian habitat.

The references sites provide measurable objective criteria, but also allow for flexibility when conducting an evaluation of properties. Identifiable and walkable reference sites provide a 'real' example of a complex concept like a healthy riparian habitat to landowners interested in enrolling in the program. This also increases the transparency of the assessment process for potential VIP enrollees.

The following section describes the requirements for establishing reference sites, the stratified habitat types of the McKenzie River Basin and the metrics used for describing the habitats of individual sites and the watershed as a whole.

Requirements for Reference Sites

Certain requirements and assumptions are used when The Freshwater Trust determines the references sites. These are mainly to ensure that the sites chosen

are similar enough that a fair comparison can be made with a potential VIP enrollee's property.[32]

- +/- 50% of elevation of prospective riparian conservation sites
- Within 120 feet of the waterbodies of interest
- Large enough to accommodate sample plots
- Support mature, stable-state vegetation
- Have a total invasive species count of less than 20%
- Flood occurrence intervals similar to potential (VIP) sites
- A similar soil type and structure as potential (VIP) sites

Stratified Habitat Types

The McKenzie Basin contains many unique and diverse ecological habitats that are comprised of various vegetation types of woody and herbaceous species. The attributes that contribute to the improved water quality of the McKenzie can be quite different and distinct. For example, non-forested dominated vegetation habitats contribute to landscape-level diversity and may contribute more organic matter that serves as an important food source to invertebrates—which in turn are a food source for salmon. Grasslands can provide excellent sediment retention and removal, which directly contributes to reduced turbidity in the McKenzie.

The most pronounced differences are found between the lower and upper portions of the watershed where trees are either primarily coniferous or deciduous. Because of the diversity in riparian habitats along the McKenzie, reference sites will be located across the watershed so that potential landowners have appropriate benchmark locations to evaluate their property against.

The Freshwater Trust has identified the following habitat stratifications that contain a variability of characteristics. The Freshwater Trust has recommended that a minimum of two reference sites per habitat; however, the organization also indicated that weighting some sites by habitat area may reduce the required amount of total references sites. The Freshwater Trust may also make recommendations about which of these habitat zones is most beneficial to the drinking water quality of the McKenzie River thus reducing the required amount of reference sites.

- Mixed conifer/hardwood forest
- Douglas fir/white oak forest
- Palustrine forest
- Montane conifer forest
- Native grass shrub lands

[32] The Freshwater Trust. August 2013. 'Riparian Reference Site Survey Program for Eugene Water and Electric Board, Phase 1: Sample Size Analysis.'

Watershed-Scale Riparian Habitat Description[33]

Watershed scale descriptions provide a more anecdotal account of the major trends and changes in the watershed. The Freshwater Trust will provide a narrative account of the history of the watershed before and after the arrival of Euro-American immigrants. As the (VIP) expands and grows there is a possibility to observe changes in the watershed scale habitat description. This could provide as useful outreach information about the success of the program. The watershed scale description will feature high-level descriptions of the state of the McKenzie River detailing the following components:

- Vegetation structure and composition prior to substantial Euro-American alteration
- Disturbance
- Trends in landscape change since Euro-American settlement

Individual Reference Site Description Components

Individual reference sites descriptions will discuss a habitat's predominant vegetation types, flood frequencies, and land use. Assessment technicians will also ensure that the area surveyed is inside the HUC5 watershed regime.

The largest portions of the individual reference site descriptions are the metrics that will be used to evaluate the level of ecological quality found in the reference site. The metrics used are intended to be the measurable and objective aspects that will be used as part of the assessment process for the (VIP) eligibility criteria. The metrics conform to what is scientifically accepted as riparian habitat attributes that contribute to water and habitat quality.

HUC 5 membership or hydrological unit code delineates a particular watershed, river or other waterbody. They were originally developed to map and designate a watershed's drainage area. The Freshwater Trust will confirm that all reference sites belong to the HUC 5 regime. The level 5 indicates a watershed with an area of approximately 40,000-250,000 acres. [34]

Vegetation type will be determined by the habitat designation listed above. For example, given a particular habitat type the vegetation species types, diversity, and overall health will be documented by technicians from the Freshwater Trust and the McKenzie Watershed Council. Evidence of the overall health and state of the vegetation in a riparian zone will be further described and documented using the metrics discussed below.

Flood frequency is recorded to determine the floodplain habitat area and the extent and number of flood occurrences. The ability of the McKenzie River to 'jump' its banks and flood the surrounding riparian area is well documented and

[33] The Freshwater Trust. August 2013. 'Riparian Reference Site Survey Program for Eugene Water and Electric Board, Phase 1: Sample Size Analysis.'

[34] Furnans, Jordan, Olivera, Francisco & Maidment, David. 2001. 'Area-to-Area Navigation and the Pfafstetter System.'

contributes to the natural ecological and hydrological processes of a floodplain habitat.

Land use The Freshwater Trust will use and rely on GIS files and relevant data about the land use of a particular reference site from EWEB, LCOG, U of O or other appropriate program partner.

Metrics measured on site are the primary measurable and objective criteria that will determine eligibility for the VIP. These criteria have been developed by riparian and ecological experts at the Freshwater Trust and the McKenzie Watershed Council. The following list describes the metrics that will be observed and recorded when determining the references sites for the (VIP):

- Slope perpendicular to the stream channel
- Percent canopy cover
- Tally of tree stems by species, and diameter at breast height (DBH) for each tree
- Average height of dominant canopy
- Number of large diameter (≥21in DBH) live trees per acre
- Number of canopy layers
- Estimated number of snags per acre and range of decay classes, with notes on wildlife suitability such as the presence of excavations
- Shrub cover percentage by species, with frequency indicated for each species: **dominant** (≥20% cover) **subdominant** (10-19% cover), or **uncommon** (≤10% cover)
- Number of tree and shrub species (**species diversity)**
- Total herbaceous cover and total bare ground cover percentages
- Invasive herbaceous cover by species percentage
- Total cover in percentages of woody and herbaceous noxious weed species
- Herbaceous species list with frequency indicated for each species: **dominant** (≥20% cover) **subdominant** (10-19% cover), or **uncommon** (≤10% cover)
- GPS locations and brief descriptions of other special features that **add** ecological benefit, such as connectivity with side channels and wetlands, as well as special features that **may detract** from ecological benefit, such as nearby roads, revetments, diversion or impoundment structures, other fish species migration barriers, bank hardening and erosion features.

The Freshwater Trust also indicated that it will examine other reference site metrics and measuring techniques from previously established protocols developed by the Oregon Department of Environmental Quality (DEQ) and Oregon Watershed Enhancement Board (OWEB).

Field Methods

Reference sites could be established and monitored according to one of the following professional methods, a modified reference site monitoring protocol developed by The Freshwater Trust, a modified Proper Functioning Condition quantitative assessment developed by the Bureau of Land Management, or an adapted Rapid Visual Assessment Protocol developed by the Natural Resources

Conservation Service. The protocols will require the use of trained technicians and other vegetation and hydrological experts who understand the use of the methodologies.

Options are available to scale the level of effort when conducting field assessments of potential reference properties. These options include:

- **Number of habitat areas** determines the number of sample sites and determines the extent to which watershed variability is captured.
- **Number of sites** determines the level of confidence in the data.
- **Attributes monitored at each site** affects the ability to synthesize useful data from reference sites about the hydrological and ecological benefit of the riparian habitat.

The Aspects of a Healthy Riparian Forest

A healthy riparian forest as defined by the United States Forest Service (USFS), is important to the concept of source water protection; riparian forests remove, sequester, or transform nutrients, sediments and other pollutants.[35] Pollution removal depends on the capability of the vegetation in the forest to intercept surface water and groundwater borne pollutants, and the activity level of certain pollutant removal processes. Riparian forests contain a unique ability to address these issues by slowing surface water infiltration and by providing immediate and long term toxin and pollutant removal. Due to the water quality benefits that the riparian forests are capable of providing, many municipalities have adopted strategies to bolster these assets.

The Voluntary Incentive Program is focused on the protection and conservation of riparian forests in the program area boundary.

The following are four aspects of a riparian forest that are scientifically accepted as important to the ecological processes of the McKenzie River Basin. These high level aspects have been identified by conservation groups and the EPA as important considerations to include in the reference site descriptors for the Freshwater Trust:

1. Percent canopy cover
2. Percentage of invasive species
3. Vegetation species density and diversity
4. Floodplain habitat and river profile

Because of the diverse nature of riparian areas, EWEB has partnered with The Freshwater Trust, who will identify 10 to 14 'reference' properties that will exemplify the characteristics of a healthy riparian forest and serve as benchmarks for what is considered healthy riparian habitat. The characteristics of riparian forests that are found within the potential reference properties are described below.

[35] EPA. 2009 'Virginia DEQ—Ecological Aspects of A Healthy Riparian Forest'

Percent Canopy Cover

A complex variety of horizontal and vertical plant strata provide a unique benefit to the hydrological cycles in the McKenzie Basin. Trees, shrubs, forbs, and grasses of varying height, crown width, age, overlap, species and diversity represent a complex plant community. Maps 4-1 and 4-2 show aerial LiDAR images of a property in the McKenzie River Basin. These images will be used as a tool for initial assessments of riparian habitats on landowner properties. The darker shading indicates dense understory foliage; where as the lighter shading designates tall trees with dense crowns of vegetation. The coniferous and deciduous forests of the McKenzie River Basin have varying age, height and species types. In most cases if the riparian forests are dense and diverse with primarily native species, they are providing benefits to the nearby water quality.

The canopy cover of the riparian forest slows down rainfall and allows for much faster and deeper infiltration of rainwater. The canopy structure also provides shading that minimizes the encroachment of invasive species onto the property because of diminished sunlight penetrating to the forest floor. A tall and diverse canopy structure can also provided the added benefits of insects attracted to leaf litter that provide forage for many fish species in the Willamette. Lastly, an older riparian forest can shade the river and reduce water temperatures, which can reduce algal blooms and taste and odor problems for drinking water as well as provide thermal benefits to the salmonid populations of the McKenzie and Willamette.[36] Canopy coverage above 60% provides more consistent hydrological benefits to nearby receiving water bodies in the form of slowing rainfall and allowing for infiltration of water and sequestration of pollutants.

Map 4-1. Percent Canopy Cover by Tax Lot in VIP Boundary

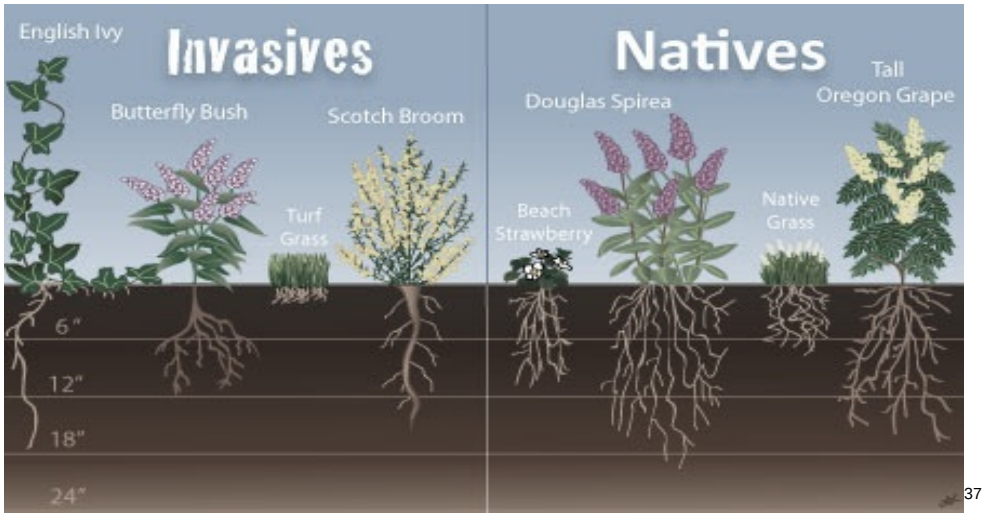
[36] Kris Stenshoel. EWEB Vegetation Expert.

Map 4-2. Percent Canopy Cover by Tax Lot in VIP Boundary

Percentage of Invasive Species

Healthy riparian forests are typically devoid of or only marginally impacted by invasive species. Invasive vegetation crowds native species out of their habitat and forces them to compete for space, nutrients, water and sunlight. The native plants of the riparian zones in the McKenzie have adapted to the floodplain habitat and are more beneficial to the hydrological processes of the region overall. Invasive species have less complex and shallower root systems. Figure 4-3 illustrates the hydrological differences between native and invasive species in terms of infiltration, percolation and pollutant sequestration.

Figure 4-2. Invasive Compared to Native Root Structure



[37]

[37] SOLV. 'The Foundation of Healthy Ecosystems'.2013.

Considerable efforts are underway in Oregon to mitigate the threats of invasive species to the economy and environment of the state. Oregon has recognized the threats that invasive species pose to forests and water bodies in the state and is making significant investments to control the spread of these species.[38] In the McKenzie Basin, program partners such as the Upper Willamette SWCD, MWC and MRT are working with public and private landowners to remove invasive species such as Himalayan Blackberry, Scotchbroom, Reed Canary Grass, and Japanese Knotweed.

Vegetation Species Density and Diversity

A variety of species provides the riparian forest with many unique qualities. For example, a riparian zone with a variety of plant species will be able to exhibit the qualities of a complex forest structure. A diverse and complex forest structure, facilitates the ability to absorb water, toxins and sediment. In addition, vegetative species diversity in riparian zones provides habitat for native wildlife and resilience to disease. Map 4-3 indicates the diversity and density of vegetation on the property. Red shading is dense understory type vegetation and lighter blues indicate groups of tall tree species in clusters inside the riparian habitat.

A stable population of wildlife that contains many small organisms such as worms, centipedes, mice, moles, groundhogs, beaver, muskrat help to facilitate the health of a riparian corridor. These small burrowing animals and wildlife also create better routes for water infiltration that allow rainwater to percolate deeper into the water table.

Additionally, riparian forests that are diverse and dense have the following attributes that are beneficial to habitats and water quality:

- Resilient against disease, fire, floods
- Qualities that promote resilience to invasive species growth and expansion
- Ability to sequester carbon, toxins, and heavy metals

A variety of species types protect the forest from major disruptive events. A healthy riparian forest has the potential recover from a large-scale event such as a flood or disease outbreak.

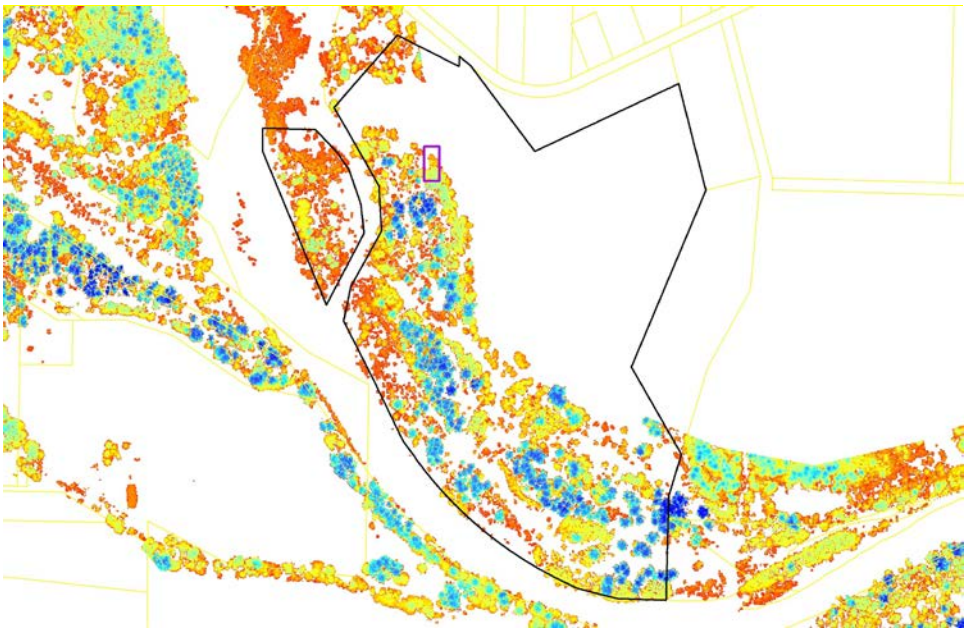
A variety of vegetation types cultivates an increased tendency to remove and sequester pollutants from the soil of the riparian habitat, protecting the water quality of the nearby receiving waterbody. Dense vegetation populated with native species provides an excellent filter for sediments, toxins and other materials and helps to keep them from entering the McKenzie River.

Dense and diverse riparian forests have characteristics that help to mitigate the spread of non-native species into the habitat. Dense vegetation will shade and crowd out invasive plants attempting to create a ‘foothold’ in the habitat. Native

[38] Oregon Invasive Species Council. ‘Oregon Invasive Species Council Action Plan 2012-2016’. State of Oregon.

vegetation will also produce allopathic affects in the soil that make it difficult for non-native competitors to establish themselves in the habitat.[39]

Map 4-3. Vegetation Species Density and Diversity by Tax Lot in VIP Boundary



Floodplain Habitat and Riverbank Profile

The McKenzie can be characterized by its unique river and stream profiles. The shape of a forest stream is its 'profile'. The profile of the McKenzie is an 'S' shaped curve that before the use of flood mitigating infrastructure would often leave its banks and flood the nearby riparian forests. The riparian zones along this curve allow for temporal and spatial resilience, qualities that are especially important to a dynamic river like the McKenzie. Species growth is either mixed or stable so that as older generations of vegetation die off, younger groups of plants are ready to succeed them. This allows for stronger resilience in the watershed as well as better control for erosion.

Riparian forests allow traditionally channeled streams to 'jump' their banks and saturate surrounding land—this facilitates better stream dimensions and also provides a landowner with an approximation of the land that is buildable on the property when developing the lot. Map 4-4 shows the floodplain habitat and the vegetation within that habitat. A large portion of the tax lot is in the floodplain zone (shaded grey) and any building in this area would be at risk from a large flooding event. The floodplain habitat is typically where the river naturally will leave its banks in the event of a large flood. This type of riverbank profile is a natural element of the McKenzie and important to the hydrological processes of the river. Revetments and other constructed diversion or protection infrastructure

[39] Kris Stenshoel. Discussion on Native Vegetation. EWEB. 2013.

often block this natural process and force it to happen further downstream, potentially creating erosion or increased flood risk to land downstream.

Map 4-4. Floodplain Habitat in VIP Boundary

Preliminary Land Assessment: LiDAR and Remote Sensing

LiDAR and aerial photography are anticipated to occur in the McKenzie every 3 to 5 years. This is primarily due to the high cost of the technology and the need to share this cost with other parties interested in collecting this type of data. An initial assessment of the region has been conducted and LCOG has analyzed the data provided from the LiDAR flight. Much of the preliminary information and maps of the VIP program boundary have been produced for analysis and use by other program partners.

Landownerss interested in enrolling in the VIP will first undergo a preliminary land assessment. Using aerial photography and LiDAR remote sensing technology, properties will be evaluated to determine the amount and quality of riparian coverage in their tax lot. The preliminary assessment is intended for use as a screening tool that provides high-level data and information about the state of the vegetation, topography and development present on a landowner's property.

Map 4-5 displays a hillshade of the land, and can demonstrate how the hydrology of a landowners property is affected by slope and grade.

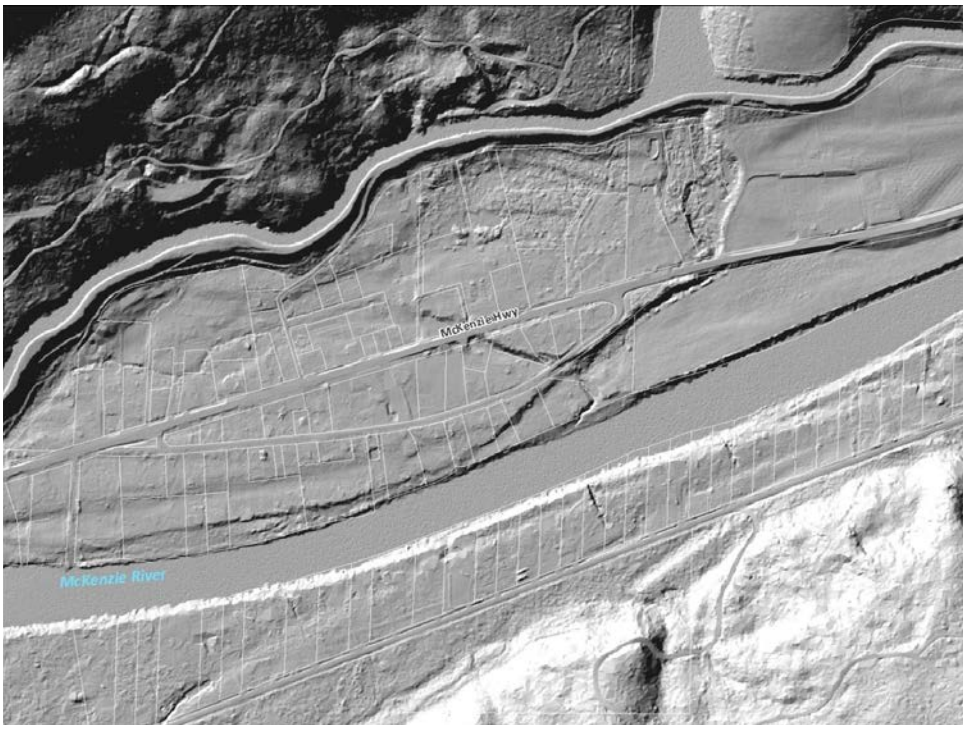
Map 4-6 illustrates the use of colored shading to indicate the density of vegetation on a property.

Map 4-7 demonstrates the use of LiDAR as a screening tool for showing the percentage of vegetation on each individual tax lot.

The preliminary land assessment will produce a baseline from which future changes in a landowner's property (i.e. fire, flood, development) can be recorded. The baseline LiDAR data should be compared against LiDAR images of the reference properties chosen by The Freshwater Trust. After a comparison with the reference property, the data should be prepared for delivery to the McKenzie Watershed Council or the Upper Willamette SWCD before the on-the-ground assessment and verification process.

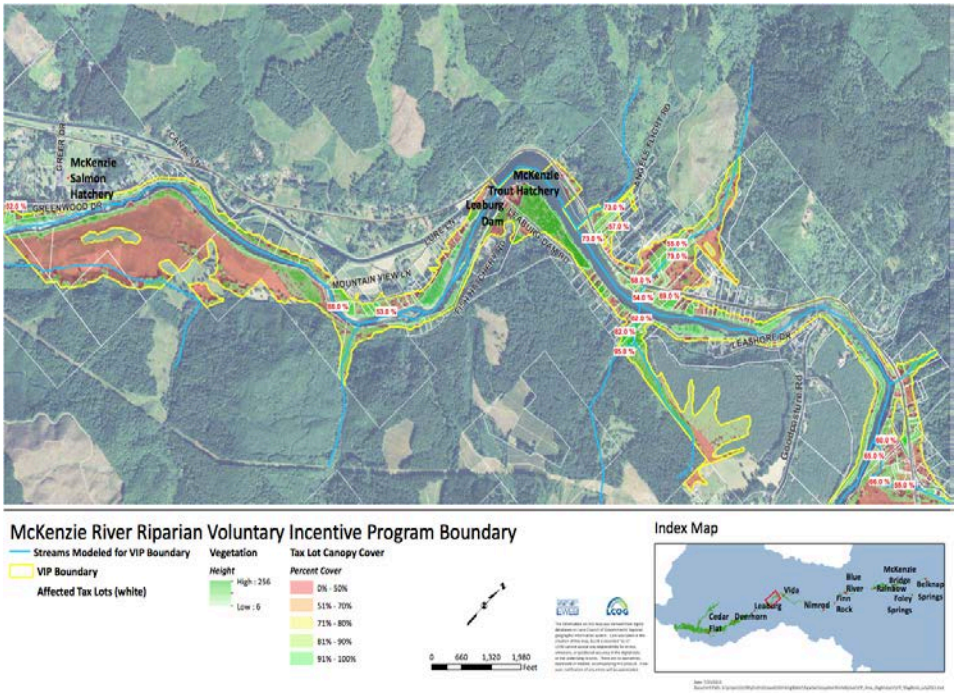
Although LiDAR is a good screening tool, program partners should also anticipate conducting an on the ground assessment to verify the preliminary findings. The program partners can use the data as an additional tool to confirm the status of the riparian habitat on the property and possibly provide copies of the LiDAR images to the landowners for their education and benefit.

Map 4-5. LiDAR illustrating Topography (Leaburg)



Map 4-6. LiDAR showing Vegetation Cover (Leaburg)

Map 4-7. Aerial Photo incorporating LiDAR Vegetation Cover and VIP Boundary (Leaburg)



On-the-Ground Land Assessment

After preliminary aerial imagery and remote sensing assessment data has been provided to the program partner—that partner will next conduct an on-the-ground assessment. On-the-ground assessments will involve walking properties with interested landowners and comparing riparian health to the eligibility criteria established by the reference site. The assessment partner can provide valuable information to landowners during these site visits in the form of education about what is present, potential problem areas, and strategies to maintain and improve the riparian habitat on their properties. The assessment process also gives the landowner an opportunity to identify areas that may have not been correctly interpreted using the aerial imagery and/or LiDAR.

This section describes the typical actions performed by the program partner conducting the land assessment. Appendix B contains a cost breakdown of a typical assessment procedure contracted out to a program partner like the UWSWCD or MWC.

The following is a checklist for a program partner slated to perform work in the VIP program. The process is listed in sequential order that begins with a landowner interview and ends with office follow up work.

Landowner Interview

- ☐ Confirm landowner's interest in participating in VIP program
- ☐ Confirm tax lot location & identity
- ☐ Confirm applicants as landowner or renter
- ☐ Verify maps and aerial photos

Site Visit

- ☐ Verify riparian vegetation canopy cover estimates as indicated on aerial photos and LiDAR
- ☐ Classify riparian vegetation
- ☐ Identify riparian zones & vegetation types/species
- ☐ Collect metrics to compare to appropriate reference site conditions (see Reference Site discussion)
- ☐ Verify LiDAR or aerial photo conditions
- ☐ Assess the proximity of crops to riparian zones
- ☐ Confirm location and footprint of structures, roads and other built features
- ☐ Map approximate location of septic system and drainfield
- ☐ Look for animal waste
- ☐ Identify any use of fertilizers
- ☐ Identify any use of herbicides
- ☐ Map bare ground, erosion features, berms or dikes, use of revetment or other engineered solutions for erosion and/or flood control
- ☐ Identify sources and routes of water runoff
- ☐ Identify other water quality issues that may need to be addressed
- ☐ Conduct follow-up site visits to verify status after entry into program
- ☐ If site does not meet eligibility criteria for VIP, provide recommendations for restoration
- ☐ Establish photo points for future documentation of conditions

Office Follow-up

- ☐ Write any reports or reviews that may be required
- ☐ Transfer site information to partners
- ☐ Assist Landowners with funding sources for site enhancement
- ☐ Generate maps[40]

Landowner Agreements

Landowner agreements are a tool for finalizing a relationship with a landowner who is interested in joining the VIP. The programmatic goals of inclusiveness and flexibility should be used when approaching contracts. With this ideology, agreement negotiations will be less strict and formal, and should allow for a greater number of landowners to enroll in the program. Although certain legal terms and clauses will be necessary in the negotiation of agreements, the process of contract negotiation should maintain the idea of inclusion and flexibility in all phases of negotiation.

Landowners interested in enrolling their property in the VIP will have the option to enter into a formal agreement with EWEB. Agreements could be as simple as nonbinding 'handshake agreement'. The 'handshake' agreement would likely take the form of a Memorandum of Understanding (MOU). Additionally, landowners who are ready to engage in a more formal and negotiated agreement would enter into a contract that could potentially be attached to the property's deed for twenty or more years. The balance between inclusivity for the landowners and accountability for ratepayers who may fund all or portions of the program should be kept in mind when drafting contracts.

Through discussions with the landowner advisory committee, members of the committee indicated the importance of understanding landowners' motivations for entering the VIP and what incentives would be most desirable to those landowners. Having open conversations with landowners about their properties, histories, and future desires for the land may be useful to crafting agreements that are mutually beneficial.

Landowner agreements will be further developed over the summer of 2013 with the University of Oregon Law School and the McKenzie River Trust assisting EWEB with the language, clauses and other common legal language included in conservation contracts of this type. These draft agreement templates will be provided to a select group of landowners for review and to provide U of O Law students feedback in September 2013. During the proposed pilot program, contract negotiation and terms should be explored to determine the best options for the VIP and landowners.

The following section highlights the important considerations for structuring landowner agreements and includes an overview of the common components of legal agreements.

[40] SWCD. Memorandum Detailing Assessment of VIP Properties. 2013.

Scope of Agreements

Agreements are ultimately in place to protect **healthy riparian habitat** on a landowner's property. The literature and science suggest that healthy riparian habitat is effective at maintaining good drinking water quality. Therefore, the scope of the agreement in the VIP is to ensure that the riparian habitats that are identified in the contract are indeed intact and remain that way. Program partners should ensure that vegetated areas are accurately mapped and identified when conducting assessments so that these details can be included in the contract.

The landowner advisory committee suggested that other aspects could be included in agreements that would not be a standard inclusion—for example, one committee member expressed concern over encumbrances to the deed. During the negotiation, certain clauses deemed necessary to the success of the contract negotiation could be included to satisfy landowners about signing the agreement. For example, if a large property landowner expresses concern about encumbrances to the deed of the property, efforts should be made to satisfy the landowner while still maintaining accountability for EWEB ratepayers.

In many cases it may be necessary to avoid overly complicated agreements because of expensive transaction costs. The scope of the contracts should remain limited to the vegetation in most cases so that the agreements remain as simple as possible.

Components of the Agreements

VIP agreements will include legal agreement clauses found in most land conservation documents; such as the length of the agreement and the type of payments or 'services' received via program partners. The main components of the landowner agreements will be decided between EWEB, Cascade Pacific RC&D and the landowners themselves.

Agreements should clearly establish who is responsible for what actions, what stewardship requirements need to be fulfilled, how results will be demonstrated, and who is managing the program.

The following is a list of components commonly found in legal agreements:[41]

- Terms and type of payment
- Detail of physical area the contract will cover
- Key start and end dates
- Description of legal rights
- Signatories
- Acceptable reasons to void a contract
- Rules for modifying or adapting a contract
- Actions to be taken in unforeseen circumstances
- Stewardship requirements
- Managing risks
- An option for landowners to transition property

[41] Forest Trends, The Katoomba Group, and UNEP. "Payments for Ecosystem Services Getting Started: A Primer. 2009

- Descriptions of the roles of all parties
- Notification of non-compliance

Terms and type of payment: The agreements should specify when and where the payments or 'in kind services' should be delivered. Cascade Pacific will carry out the majority of the fiscal responsibilities for the program and will need to be informed about all agreements, their terms and amount of payment.

Detail of physical area the contract will impact: As mentioned in the agreement scope section, the agreement should have maps and or diagrams that designate all riparian areas that are entered into the agreement. The riparian habitats should be documented with observations, photographs and GPS/GIS.

Key start and end dates: Agreements should have exact start and end dates for enrollment into the program and all parties should agree upon these dates.

Description of legal rights: A detailed list of legal rights of EWEB and the landowner. For example, this list will likely include items such as routes for legal recourse and clauses for 'acts of God.'

Signatories: The responsible legal parties or their representatives must be present to sign the agreement.

Acceptable reasons to void a contract: A discussion or written inclusion about possible extreme cases or reasons that would allow a landowner to void a contract without punitive penalties.

Rules for modifying or adapting a contract: A prepared list of rules that details reasons and methods for modifying a landowner's contract could be useful for expected and unforeseen circumstances.

Actions to be taken in unforeseen circumstances: Certain situations such as a fire, flood, or natural disaster that cause a modification in the riparian land should be accounted for. If the removal or damage of riparian habitat on the landowner's property alters the contract agreement, considerations should be taken to include and use the rules for modifying and adapting clauses found in the original legal language agreed upon.

Stewardship requirements: The actions or non-actions (not removing riparian habitat) that are required for payment, including the requirements for monitoring and reporting.

Managing risks: Particularly those beyond a landowner's control (such as unexpected natural events) through specific clauses detailing how certain risks are shared between EWEB and landowners.

An option for landowners to transition property: The options to transfer into a more formal agreement and more stringent land stewardship requirements such as a conservation easement should be provided.

Descriptions of the roles of all parties: The roles of EWEB, program partners, signatories and other groups within the agreement should be described in detail to avoid any confusion about the requirements of each party.

Notification of non-compliance: The process for reporting a landowner who is not meeting the contract requirements and thus is not in compliance with the VIP protocol. The items should include opportunities for recourse, breech of agreement, and removal from the program.

Legal Considerations

VIP agreements are intended to provide accountability and ensure EWEB ratepayers that their investment is well managed. Agreements also ensure legitimacy, reliability, and impartiality. One consideration that is currently being explored is requiring large properties to sign agreements that are attached to the deed of the property for a term of twenty years. Landowner agreements tied to the deed of the property ensure that the long-term investment in watershed protection is fully realized. They also protect EWEB and ratepayers from a breach of contract and a lost of investment if the landowners were to decide to remove the riparian habitat on their respective property. Such agreements prevent enrolled tax lots from exiting the program in the case that the property is sold, leased or rented.

The landowner advisory committee also expressed concern with deed encumbrance from the VIP and how those can be mitigated so that landowners' heirs have fewer encumbrances. This was especially poignant when inheriting the estate of the existing property owner. Ensuring that unnecessary legal entanglements do not make it too difficult to enroll into the program will facilitate a more flexible and inclusive VIP.

Length of Agreements

EWEB envisions that formal landowner agreements will be for a minimum of twenty years in length. The twenty-year time period is seen as an acceptable amount of time to ensure accountability and reliability for the program. This will also allow the VIP partners and EWEB to evaluate the program more effectively. However, with the idea of inclusivity in mind, there could be other potential options available for landowners to sign shorter contracts or follow a more informal route and sign a memorandum of understanding (MOU).

A twenty-year agreement length provides a substantial protection period and allows EWEB to collect enough data and information about the program to perform an effective evaluation of the VIP and its effect on maintaining water quality in the McKenzie River. As mentioned previously, a twenty-year deed attachment provides accountability to ratepayers; the VIP is essentially an investment in 'green infrastructure' and ratepayers should be assured in their investment.

Types of Agreements

Through facilitated discussions with the landowner advisory committee coupled with survey results produced from the NIFA grant survey report,[42] CPW has learned

[42] Utilities and Corporations as Sponsors of Payment for Ecosystem Service Programs. Grant application to USDA, Institute for Natural Resources (Oregon State University), Institute for a Sustainable Environment (University of Oregon), Community Service Center (University of Oregon).

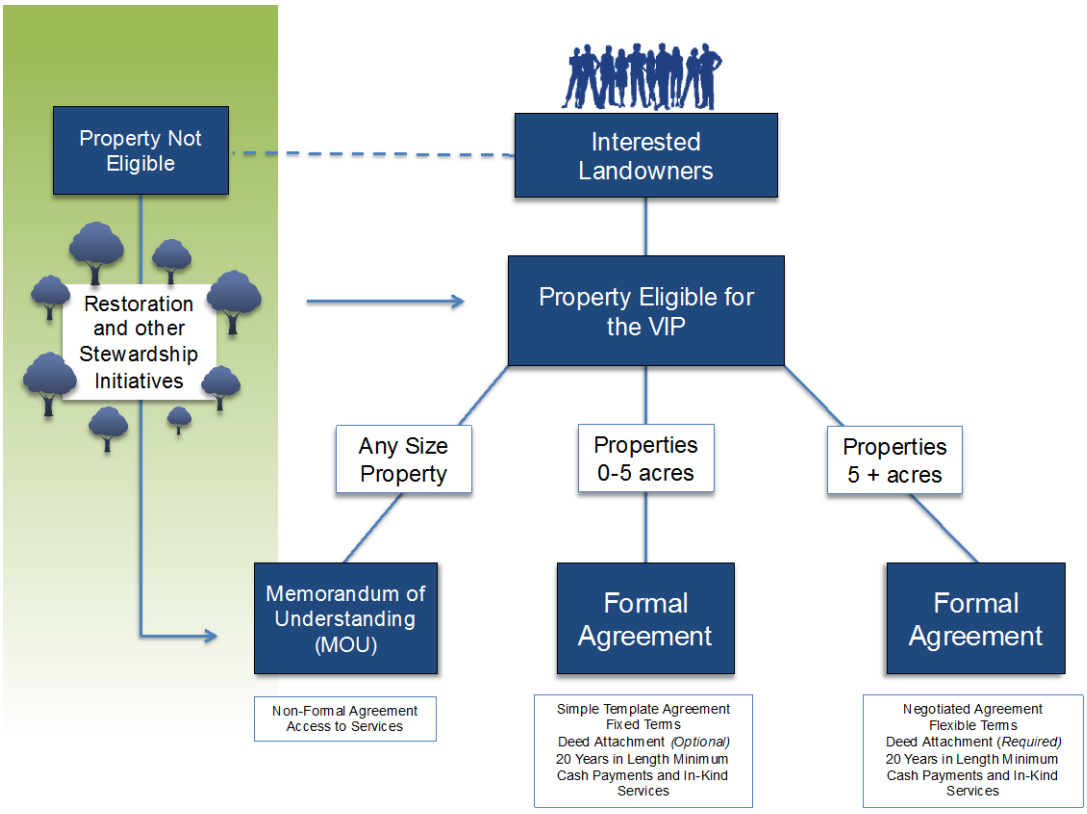
that the opinions about agreements and how they should be constructed is quite varied. Negotiations with landowners will be heavily dependent on their occupation, age, and intention with the land in living wills.

Two types of agreements that could be used for contractual purposes when enrolling landowners into the program:

- A **formal legal agreement** with the option and/or requirement of deed attachment depending on property size
- A **Memorandum of Understanding (MOU)** between the landowner and EWEB for landowners not eligible or not ready to join the program. The MOU is provided as an option for landowners who are interested in conservation, but need restoration or other services before eventually receiving payments. MOUs may also be for landowners who are not ready/willing to sign a longer term contract.

Figure 4-3 provides a conceptual diagram of the potential landowner agreement pathways for VIP participants.

Figure 4-3. Landowner Agreement Pathways



Source: Community Planning Workshop

Additionally, the purpose of the two types of agreements is that the more formal contractual agreements would require an additional layer of accountability for

EWEB ratepayers and program partners. The agreements will essentially take on the following form:

Formal (Binding) Legal Agreement

Landowners with Five Acres or More—Enter into a more formal contractual agreement with EWEB. This agreement will require a deed attachment. There is also the possibility for in depth negotiations when dealing with larger property owners so that landowners are able to express any major contractual concerns that could amend the document. Larger properties may contain much larger tracts of healthy riparian forest, thus it might be worthwhile to engage in additional negotiation measures.

Landowners with Less than Five Acres—Enter into a formal, yet less detailed contractual agreement with EWEB. This agreement will have an option for the landowner to attach the contract to the deed of the property.

Less Formal (Non-Binding) Legal Agreement

Memorandum of Understanding MOU—This option is available for landowners who are interested in the benefits of the program but are either not eligible or not ready to engage in a formal contract with EWEB. This option is intended to engage a broader group of landowners with the hope that landowners may eventually enter in longer agreements with EWEB. These landowners may be able to receive restoration services under the MOU. Engaging this group of landowners shows that EWEB is placing considerable effort into building relationships in the McKenzie Basin and this could be an effective tool for outreach and communication.

Transaction Cost of Negotiating Agreements

It is not possible to estimate the transaction costs related to negotiating agreements at this time. The VIP Pilot (see Chapter 5) will provide EWEB with solid empirical data on transaction costs.

EWEB and Cascade Pacific must consider the economies of scale related to transaction costs associated with establishing agreements with landowners. For properties with similar characteristics, the contract template developed for the program will only require minor modifications, resulting in lower transactions costs.

On properties that have many eligible acres, the landowners may want to negotiate the terms of the agreement. The duration of these negotiations could increase the transaction costs for EWEB and Cascade Pacific. Transaction costs associated with agreements will also be greater with more frequent payments or rewards. Additionally, breaking the terms of the agreement or early withdrawal from the program would increase transaction cost to EWEB, who is responsible for compliance.

Monitoring Properties

Monitoring ensures program reliability and accountability for all program stakeholders. Additionally, monitoring allows for the collection of important data and analysis of the success of program objectives. Lastly, monitoring is designed to

develop and maintain relationships between the landowners and the monitoring partners. Consistency and transparency in the monitoring process allows EWEB to maintain open communication and clear expectations of program participation.

The structure of the monitoring is planned as a three-step process.

1. Initial Assessment: Remote sensing and Aerial Photographs
2. Ground Truthing: On-the-Ground Assessment
3. Self Reporting: Annual photo point reporting

Step 1: Initial Assessment

First, after the initial assessment of the property, enrolled land is analyzed via aerial photography and remote sensing technology. That data is then used to determine the amount and quality of riparian coverage on the property—it will be an initial tool for determining future changes in a landowner's property (fire, flood, bulldozing riparian land). The data and images are then given to the ground-truthing partner as baseline data to begin the verification process. This entire LiDAR and remote sensing process is expected to occur every 3-5 years.

Step 2: Ground Truthing

The next step in the monitoring process is ground truthing the aerial imagery to ensure that the property maintains compliance with the VIP eligibility criteria. The on-the-ground monitoring is expected to be completed by either the McKenzie Watershed Council or the Upper Willamette SWCD. These partners have the expertise to conduct riparian land evaluations and also have strong relationships with landowners in the McKenzie River Basin.

A trained specialist from one of the aforementioned partners will visit the landowner's property **every 3 to 5 years (after collection of aerial photography and LiDAR)** and conduct an assessment of the land on an agreed upon time and date. The technician will use the new aerial imagery and LiDAR data from LCOG in conjunction with the eligibility criteria and the contract terms to evaluate the property for any changes

Monitoring partners will also evaluate properties to see if invasive species have grown significantly, to gauge the overall health of the riparian forest, and measure the quality of the habitat on the property. Monitoring partners will discuss the state of the property with the landowner and determine if any major changes to the riparian habitat have occurred. The landowner advisory committee expressed interest in learning about the riparian habitats they have on their properties and how they can be improved with basic maintenance. Working with monitoring partners could help to build relationships in the basin.

Step 3: Self-Reporting

EWEB should consider working with landowners who are involved in the program to conduct self-reporting. The self-reporting process would involve systematic photos of designated areas on a landowner's property. Monitoring partners can help the landowner find the best location for setting up monitoring points. Monitoring would likely happen every year at a set time, date and location on the property. The photos will be delivered via mail or email to the monitoring partners.

The goal of the self-monitoring is to reduce overhead costs and to provide a monitoring process for very small properties enrolled in the program.

Monitoring Costs

Monitoring costs will depend on the assessment criteria, protocol, and the organization administering the monitoring. For example, the size of the tax lot within the boundary, travel distance from office to landowner's property, the cost of aerial photography, the cost of LiDAR, and the amount of river frontage are all aspects that may affect the expected overhead for monitoring. EWEB may consider contracting program partners under a "not to exceed" funding agreement. This could provide a backstop on the transaction costs for monitoring VIP properties.

The following items are expected to be the largest contributors to monitoring costs.

- **Transportation**: An expensive cost for any operation, the VIP and working in the McKenzie could likely be a large cost. The program area is relatively large and covers a linear distance of many properties that are often not easy to reach. The instability of gas prices can also make forecasting budgets for transportation difficult. Efficient scheduling of site visits with landowners to cover multiple properties in same area could help reduce transportation costs.

- **Materials**: Materials for monitoring partners are likely to be in the form of high quality LiDAR maps, educational materials, VIP brochures and flyers and other basic office materials required to conduct professional reports for EWEB about the program. Depending on how EWEB, LCOG and the monitoring partners want to operate, the LiDAR maps could be provided in PDF format or printed onto plotter printers or simple office printers. Overall, the costs from materials should not be a major burden.

- **Training**: Monitoring partners have expressed that they would like to hire another professional to conduct the work for the VIP, or for EWEB to offer additional monitoring training from an accredited 3rd party professional for existing staff.

- **Technician Compensation**: The monitoring partners' technicians are billed at an hourly rate, (See Appendix B for a breakdown on the full cost of a technician)

- **Equipment**: Monitoring partners will need surveying and other land observational equipment to conduct accurate evaluations of landowner property. The technicians may need to carry cameras or other electronics to conduct assessments of the riparian habitat.

- **Insurance**: Insurance against loss could be a potential option for EWEB to explore when using program partners to monitor properties instead of internally with employees.

Compliance

The University of Oregon Law School will work with EWEB staff over the summer of 2013 to develop recommendations for the type of legal language that will be

necessary for inclusion in the landowner agreements. In addition, through interviews with potential monitoring partners, staff members of UWSWCD explicitly said that they would not perform compliance and enforcement activities for EWEB. The UWSWCD and the MWC who offered assistance with monitoring insisted that if forced to do enforcement they could potentially ruin existing relationships with landowners that these groups have already cultivated. Input from the landowner advisory committee indicated that EWEB should be at the forefront of any enforcement activities.

Landowners who do not meet the land stewardship requirements (eligibility criteria) established in their agreements will be notified in writing by EWEB. This notification will include a description of the violation and describe recourse actions to restore landowner property eligibility in the program. Recourse actions will include a deadline by which the landowner must meet the requirements or risk being withdrawn from the program.

Properties that withdraw from the program and do not pursue recourse may be required to return the funds/services they received while enrolled in the program. If these funds/services are not returned voluntarily, legal action may be required to recuperate the losses.

CHAPTER V: 2014 VIP PILOT PROJECT

This chapter provides a recommended framework for a pilot of the Voluntary Incentive Program that would be conducted in 2014. Because of the unique nature of the VIP, CPW strongly recommends that EWEB engage in a pilot program with a limited number of landowners to refine program implementation and to better understand key issues that relate to outreach, agreements, and other elements of the VIP.

Pilot Project Overview

The first phase of VIP implementation is the 2013-14 VIP Pilot Project. The pilot will allow EWEB, VIP partners, and landowners to test and refine programmatic elements. The pilot program allows VIP partners and landowners to adjust and make recommendations to improve the VIP before expanding it to more landowners. The Pilot Project will likely include twelve to sixteen landowners with various types of property (small residential, large agricultural, forestry etc.) and will be used to determine the overall program feasibility.

Twelve to eighteen months is anticipated as the proper amount of time to allow for an effective evaluation of the effectiveness of various program components. This will also allow more time for program partners and landowners to report on their experience in the VIP pilot; including perceptions about the following aspects of the pilot:

- Perceived success of the pilot program from landowners, program partners and EWEB staff.
- Program aspects that are particularly successful during the pilot.
- Programmatic aspects that caused major issues or problems.
- Analysis of the costs incurred during from the pilot.
- Issues and opportunities related to working with program partners and landowners.

Pilot Project Goals

The VIP pilot project will be used to assess the overall feasibility of the VIP by examining key components of the program 'on-the-ground.' This will allow EWEB to refine or redesign specific components of the Voluntary Incentive Program as needed.

These key objectives of the pilot project are to:

1) Evaluate the overall feasibility of the VIP
2) Refine VIP partner roles and program criteria
3) Establish projected budget needs
4) Develop a website/dashboard to inform landowners and ratepayers
5) Build relationships with landowners through continued outreach and recruitment

Evaluate the Feasibility of the VIP

At the core, the pilot project is a field test feasibility study. After the initial 12-18 month period, the program partners, EWEB and the landowners will evaluate the effectiveness of the program using the data and reports submitted from all of the relevant parties. At this stage, EWEB should determine the major strengths and weaknesses of the program and evaluate the actions that can harness the strengths while attempting to minimize or mitigate the weaknesses. Overhead and transaction costs are likely to be integral aspects for evaluation during the pilot phase; any attempts to mitigate or reduce the financial requirements from monitoring and assessment should be evaluated during this period.

Refine Partner Roles and Program Criteria

Program partners will enact their assigned roles and evaluate their approaches based on stakeholder needs, budgetary requirements, evaluative tools and most effective practices for program implementation. The program partners will be expected to perform their roles as detailed in MOUs or contracts that will be required before beginning the pilot program. In addition, the program partners who are expected to conduct assessments and monitoring of enrolled properties will use an established set of criteria to evaluate properties. This set of criteria will be derived from experts in the field and will also use reference properties as benchmarks against which to evaluate all enrolled properties.

Evaluating the effectiveness of the monitoring schedule and activities will be an important part of the pilot program; therefore, requirements for both landowners and the program partners to report on their experiences with the monitoring procedure will be included. Specifically, information about what worked best and what did not work well with the monitoring criteria, scheduling or relationships between program partners and landowners.

The MWC and The Upper Willamette SWCD will be expected to test a compressed monitoring cycle. The 3 to 5 year monitoring cycle designed for the full VIP program will be compressed into the pilot period. Therefore, program partners will combine LiDAR, ground truthing and photo-point self-reporting measures by landowners into a one-year time frame to determine their ease and effectiveness.

Establish Projected Budget Needs

The VIP pilot study will enroll between 12 and 16 landowners, so overall transaction costs should be relatively low. However, due to much smaller economies of scale and the infancy of the project, the initial individual transaction cost for administration will be higher than future transaction costs.

The largest portion of budget expenditures will likely be the costs accrued from the monitoring and assessment of landowner properties. Therefore, evaluating the budgetary expenditures of the monitoring and assessment costs of the VIP against the provided estimates given to CPW by the MWC and the Upper Willamette SWCD is a necessary component for estimating the budget needs of the full VIP.

The pilot will also evaluate other budgetary and financial aspects of the program; including landowner agreement transaction costs, land owner cash payment/

'menu of services' amounts, and the cost for any other materials or other unexpected expenditures incurred through the pilot program.

All of the expenditures of this program should be meticulously logged and maintained so that the best possible data is present when evaluating the potential for expanding the VIP program. Special considerations should be made for the 'learning curve' associated with a new endeavor of this type; it will likely change as the program becomes more intelligible by program partners and landowners engaged in the VIP.

Expand the VIP Website to Inform Landowners and Ratepayers

Landowners expressed the importance of a website that provides all of the necessary information about the VIP for landowners in the basin. The pilot program should enlist and enroll the appropriate staff either internally within EWEB or contract the website design externally. During the pilot phase, EWEB should work in concert with the website design team to ensure that all of the appropriate information is included on the website.

Based on landowner Advisory Committee feedback, the following information was determined to be important to include on the website:

Include:

- Example Contracts or MOUs
- VIP Boundary Information
- EWEB program contact information
- Program partner information
- Menu of services and incentives
- Benefits to water quality
- Recognition of good land stewards

Do <u>Not</u> Include

- Personal addresses of enrolled landowners
- Maps created by EWEB or partners detailing specific landowner data and tax lot locations

Develop Dashboard for Reporting and Accountability

The dashboard is an inexpensive outreach tool that provides up-to-date information about the VIP and can be used to illustrate the program's benefits on the McKenzie River water quality. The pilot program should enlist and enroll the appropriate staff either internally within EWEB or contract the dashboard design externally.

The following is a list of potential information to be included in the dashboard in addition to the items mentioned above:

- Data about acreage 'conserved or maintained' via the VIP
- Dollars spent on program
- Dollars potentially saved by program from infrastructure upgrade/retrofits
- Pictures of some of the riparian land in the program

- Blogs, stories or anecdotes about the success of the program from partners, EWEB or landowners

Build relationships through continued outreach and recruitment

A key element of the pilot project will focus on building relationships within the larger community in the McKenzie Watershed. EWEB envisions that enrollment in the VIP will be slow in the initial years of the program development. During the initial pilot project, EWEB can target outreach and program recruitment through landowners with influence in the community.

Partner Reports and Pilot Project Evaluation

The pilot program will entail data collection about the processes, percent FTE for program partners, payments to landowners and other budgetary issues that are considered for the program. As part of the program it will be an expectation of landowners, program partners and internal members from EWEB to evaluate the effectiveness of the program and to provide reports to EWEB managers to determine the feasibility for expanding the VIP. The following bulleted list details some of the potential considerations for inclusion in a report to EWEB.

Program Partners Considerations for the Report:

- Detailed budgets and FTE information
- Travel budgets
- Material budgets
- A formal and standardized report drafting format
- Relationship with landowners
- Status of land
- Lessons learned and areas for improvement to gain efficiencies
- Aspects of the program that worked well

Landowners Considerations for the Report:

- Anecdotal reports on landowners' experiences with the VIP pilot
- Areas for improvement
- Areas that worked well
- Processes that may need to be adjusted or redesigned

Recommended Action Items

Over the summer of 2013, CPW recommends that EWEB continue with specific short-term efforts to further clarify the structure of the VIP. These include:

- **Identification of reference sites:** The reference sites are important to establish because of the need for an objective set of criteria to use for the assessment of landowner's property.

- **Refinement of program eligibility criteria**: After the Freshwater Trust identifies the reference sites for EWEB; the pilot program should address the various aspects of the program eligibility criteria. The pilot project is an

opportunity to test the assessment process and to better understand the process for determining eligibility.

- **Conduct program cost reduction analysis:** Using the pilot program as a test module for how financing will work in the VIP, program partners and EWEB can determine the major costs of the program operations and administration. After determining the areas of large cost, EWEB should analyze the program and make changes or modifications to the VIP so that "overhead" can be reduced.

- **Refine partner organization roles:** The program partners require more definite roles before implementing the VIP on a larger scale. The pilot program provides the opportunity for EWEB and program partners to determine the detailed responsibilities of each entity.

- **Develop sample VIP agreements:** The University of Oregon Law School is currently working on determining the important terms, language and clauses needed for a VIP legal agreement. A variety of agreement types should be tested and analyzed during the pilot program.

APPENDIX A: LANDOWNER ADVISORY COMMITTEE MEETING MINUTES

In Spring 2013, EWEB and the Community Planning Workshop facilitated a series of meetings with a Landowners Advisory Committee. The purpose of the Advisory Committee was to provide EWEB with input and feedback to help inform the design and development of the Voluntary Incentive Program. The Committee was selected from a pool of applicants consisting of interested landowners in the McKenzie Basin.

Landowner Advisory Committee meetings were held the on the following dates:

- Thursday, March 7th, 2013
- Thursday, April 4th, 2013
- Thursday, May 2nd, 2013
- Thursday, June 6th, 2013

The following appendix includes the meeting minutes from CPW/EWEB's Landowner Advisory Committee.

March Landowner Advisory Committee Meeting Minutes

EWEB VIP Landowner Advisory Committee
Thursday, March 7th 2013
Leaburg Community Center

Agenda

1. **Meeting Overview (5 minutes)**
2. **Introductions (10 minutes)**
3. **Overview of VIP Concept/Role of Committee (35 Minutes)**
    a. Overview of VIP Program
    b. Role of the Advisory Committee
    c. Advisory Committee Schedule and Topics
    d. Questions and answer session about VIP
4. **Discussion: Elements of a Successful VIP (25 minutes)**
5. **Landowner Agreements (35 Minutes)**
    a. Overview of Landowner Agreements
    b. Discussion:
6. **Next Steps (5 minutes)**

In attendance:

Landowner Advisory Committee	EWEB/CPW Staff
Jim Goodpasture	Karl Morgenstern (EWEB)
Sue McAlister	Nancy Toth (EWEB)
Marylyn Cross	Scarlett Philibosian (CPW)
Georgeanne Barlow Porter	Andrew Louw (CPW)
Chuck Tannenbaum	Erik Forsell (CPW)
John Sullivan	Jay Breslow (CPW)
Carol Sullivan	Stephen Rafuse (CPW)
Will Rutherford	Bob Parker (CPW)
Jeff Dehne	
Rick Hahn	

Meeting Overview

The first meeting of the EWEB Voluntary Incentive Program (VIP) Landowner Advisory Committee took place on March 7th, 2013 from 5pm to 7pm at the Leaburg Community Training Center. Staff members from EWEB, facilitators from the Community Planning Workshop at the University of Oregon, and landowners in the McKenzie River Basin met for two hours to begin an advisory process focused on the successful design and implementation of the VIP.

Introductions

Scarlett introduced the team and asked participants to introduce themselves and answer two questions:

1. Years living in the McKenzie basin

2. Motivation for being part of the committee

Advisory Committee members shared their histories and experience with the river. Many have family legacies connected to the McKenzie spanning generations. They demonstrated their deep care for the McKenzie Basin and the need to balance this with restrictions on private landowners. Also evident was the diversity of types of land represented within the Committee with farmland, forestry and private residential landowners in attendance. Some meeting participants shared their thoughts about the unsuccessful Drinking Water Protection Overlay Zone ordinance attempt in 2010.

Voluntary Incentive Program Overview

Andrew provided an overview of the VIP including the programmatic and administrative elements of the VIP. Andrew also reviewed a timeline of the VIP development. Scarlett discussed the role of the Committee and introduced the topics that will be discussed at upcoming meetings.

During the question and answer phase, the following topics were raised:

Role of the Advisory Committee

Representation and information dissemination

Several Committee members expressed concerns about the perception of the Committee representing the broader population of landowners in the basin. Some Committee members also expressed concerns about what they should and should not communicate with their neighbors when they went into the community to discuss the work of the committee. CPW reiterated that the Advisory Committee is intended to reflect the various viewpoints in the Community, but does not speak for the community. In this role, the Committee serves an advisory role, and not as the final decision makers for the broader community. As such, the Advisory Committee bears no official responsibility for the decision making process. Advisory Committee member's comments underscored a hesitancy to be responsible for EWEB's words or actions. In short, the Advisory Committee is advisory in nature.

Committee members asked how information would be circulated. EWEB staff indicated they will post meeting minutes and presentation materials on their website to ensure transparency of the process. Committee members requested copies of the timeline and presentation materials from the first meeting.

VIP program specifics

Advisory Committee members asked questions about the connection between the VIP and riparian forest restoration efforts.

The Advisory Committee discussed the potential criteria for participation and the potential incentives available to enrolled landowners.

CPW discussed the possibility of presenting case studies of other similar programs from around the country to demonstrate potential frameworks for the program.

Discussion: Elements of a Successful VIP

CPW facilitators led a vision-based discussion focusing on the multiple elements that will lead to the successful implementation of the VIP. One of the goals of the Committee is to gather landowner input and feedback that leads to the creation of successful agreements.

Engagement Activity

"Imagine it is 10 years from now and the VIP program has been a resounding success. Not just sort of successful; out of this world successful. The waters of the McKenzie are running cleaner and clearer than ever before, landowners and ratepayers are working together on new protection practices, communities around the country, and around the globe are looking to EWEB and their innovative VIP program as a model for their communities. What would the newspaper headlines read? What would the statistics say? What would the assessment/monitoring/fiscal agreements/terms of the agreement/ length of the agreement look like? Why would they be so successful? Who would be responsible for them?"

Each answer/idea was written on a post-it note and placed on a board in the front of the room. The facilitator read the notes as he placed them on the board. After 10 minutes, the facilitators switched the discussion to the themes that emerged from the exercise. These themes became the starting point for discussing the goals of VIP and creating successful agreements.

Brainstormed ideas included:

- Proactive rather than reactive
- All septic systems willingly maintained on a regular basis
- Our grandkids are involved
- The high quality of the McKenzie river was maintained
- Ratepayers publicly thank McKenzie residents with a McKenzie festival for stewards of the river
- The English ivy is a thing of the past
- Headline: "McKenzie is the best place to live."
- EWEB kept it's word
- We have a dynamic new brewery proclaiming, "it's the water."
- Oprah invites EWEB VIP directors to her show
- Becomes easy to identify riparian areas and why they are important
- Native vegetation is beautiful
- Everybody wins: EWEB ratepayers and McKenzie landowners are equally happy
- Farming and logging is done without impacting water quality
- River guides help publicize the program
- We instilled pride, we were effective, and we inspired initiative. We are drinking some of the best water on the planet.
- Successful communication
- I met my neighbor for the first time in 5 years
- People want to participate
- Word of mouth, neighbors talking to neighbors
- Voluntary program

- Area youth participating in water and land stewardship projects

Generated themes included:

- Family legacies/leaving something for future generations
- Community building
- Ease of participation
- Strong and transparent communication
- Importance of maintaining high-level of water quality

Landowner Agreements

CPW began the discussion of landowner agreements with a short presentation of the elements of landowner agreements. Included in this presentation was a discussion of the 2012 McKenzie Basin landowner survey results.

Contractual agreements between landowners and EWEB are necessary to ensure legitimacy and accountability in the VIP. Successful contracts will contain agreements between landowners and EWEB on finance, agreement terms, agreement length, monitoring, and compliance.

The conversation turned to specifics regarding the structure and format of agreements and the possibility of non-monetary incentives such as services, plant material, and labor.

Agreement length and nomenclature:

Committee members raised concerns about the reporting mechanisms of long term agreements saying that a 10-year of agreement would require 10 years of reporting—a process that might be cumbersome for landowners. EWEB staff explained that the program's initial design placed the monitoring and reporting responsibilities on program partners, not landowners.

Committee members indicated their preference for the word "agreements" in place of "contracts." They indicated that formal agreements may be untenable (especially to those with smaller properties) and shorter-term agreements may result in higher levels of participation.

Agreement flexibility:

Advisory Committee members discussed the importance of flexibility in agreements.

Flexibility of agreement terms

Committee members raised concerns about strict and binding agreement terms that were tied to the deed. While some landowners would feel good about such agreements, it would be a "non-starter" for others. Landowner-by-landowner negotiations would provide the landowners the flexibility to create agreements that fit their individual needs.

Flexibility of incentive structure

Committee members indicated that the amount of monetary incentives may not be enough to generate interest among many landowners and that monetary incentives might not be as rewarding as non-monetary incentives. For smaller landowners, the monetary incentives may not be worth the effort of the partnership. Landowners expressed interest in an in-kind menu of incentives that could include:

- Consulting with landscape architects or biologists
- Invasive species removal
- Access to sustainable fertilizer, native plants, etc.
- Monetary incentives
- Lists of recommended service providers

A credit system in which a landowner could build up credits over time for the in-kind incentives was also mentioned. This idea was well received by Advisory Committee members.

Next Steps:

CPW facilitators thanked Committee members and indicated that minutes and presentation materials would be made available via email and the EWEB website before the next meeting. Subsequent meetings are scheduled for the first Thursday of each month through July, from 3:00-5:00 pm. The next meeting, CPW and the Advisory Committee will continue discussions around landowner agreements and will begin discussions around the market area boundary and VIP eligibility requirements.

April Landowner Advisory Committee Meeting Minutes

EWEB VIP Landowner Advisory Committee
Thursday, April 4, 2013
Leaburg Community Center

Agenda

1. **Introductions (5 minutes)**
2. **Non-committee Comments (5 minutes)**
3. **March Meeting Recap (15 minutes)**
    a. Review of Menu of Services
    b. Restoration vs. Protection (VIP)
4. **Overview of VIP Boundary and Monitoring (45 Minutes)**
    a. Presentation by David Richey (LCOG)
    b. Q & A
5. **Discussion: Assessment and Monitoring (45 minutes)**
6. **Next Steps (5 minutes)**

In attendance:

Landowner Advisory Committee	EWEB/CPW Staff
Jim Goodpasture Katie McAlister Marylyn Cross Georgeanne Barlow Porter Chuck Tannenbaum Will Rutherford Jeff Dehne Rick Hahn **Also in attendance was community member:** Carol Ach	Karl Morgenstern (EWEB) Nancy Toth (EWEB) Scarlett Philibosian (CPW) Andrew Louw (CPW) Erik Forsell (CPW) Jay Breslow (CPW) Stephen Rafuse (CPW) Bob Parker (CPW) David Richey (LCOG)

Meeting Overview

The second meeting of the EWEB Voluntary Incentive Program Landowner Advisory Committee took place on April 4th, 2013 from 3 to 5 pm at the McKenzie Fire & Rescue Training Center in Leaburg. Staff members from EWEB, facilitators from the Community Planning Workshop at the University of Oregon, and landowners in the McKenzie River Basin met for two hours to continue an advisory process focused on the successful design and implementation of the VIP.

In this meeting, David Richey from the Lane Council of Governments (LCOG) presented the VIP boundary. The Advisory Committee was also asked to provide feedback on elements of program assessment, monitoring, and compliance.

Introductions

After introductions, Erik began the meeting with a recap of ideas generated during the first Advisory Committee meeting including a summary of the "menu of

services" option proposed by Advisory Committee members in lieu of payment. CPW also provided clarification of restoration vs. protection. The principle goal of the VIP is protection of existing intact riparian habitat - Restoration as discussed by the Committee is a separate program distinct from the VIP.

Overview of Market Area Boundary

David Richey presented the VIP boundary. The presentation included an explanation of the model and criteria used to develop the VIP boundary. David also discussed the use of LiDAR imaging technology to provide high-resolution elevation and canopy cover data. LiDAR data will also be used to establish an initial assessment and baseline of riparian/floodplain vegetation cover. As the program is envisioned, LiDAR assessment will be the first step in the program eligibility process. Followed by on the ground truthing and then contract/agreement negotiation

Committee members raised questions regarding the accuracy of LiDAR images and the definition of what constitutes a healthy riparian area. As discussed - a riparian area is determined by the predicted floodplain of a 50-year flood. A 50-foot and 100-foot buffer was added to original riparian area model to create a flexible and inclusive VIP boundary.

This boundary is also adjusted:

- Private, large-scale (zoned F-1) timberlands are not included in the VIP boundary at this time.
- Structures and portions of properties on the roadside of houses are not included inside the VIP boundary. This is because structures and vegetation on the roadside of the property do not have a positive affect on water quality.

The Committee also suggested that other landowners could use the EWEB website and images from David Richey's presentation to be informed about the VIP boundary. Committee comments included - "On EWEB's website, the criteria for delineating the VIP boundary needs to be simple and specific". And "It is important to be up front with landowners about restoration opportunities and VIP enrollment simultaneously, so that landowners who are ineligible for the VIP do not go away feeling discouraged or excluded."

There was also concern that enrolling good land stewards in the VIP will not really change water quality, since that is what they are already doing. One Committee member suggested that a more effective method would be to approach landowners who do not practice "VIP-eligible" land stewardship.

- Some portions of the VIP boundary are tax lots that may be developed in the near future, so early enrollment of these properties in the VIP would be important in maintaining the corridor's water quality.
- Property Deeds - When land changes hands, awareness of the importance of the land to water quality needs to also transfer hands, which is why agreements should be tied to property deeds.

Monitoring

The second half of the meeting focused on program monitoring as way to ensure program legitimacy, accountability, reliability, and impartiality. During this time, CPW presented and led a discussion on the elements of program monitoring. The presentation focused on the types of monitoring (visual assessments, remote sensing, self-reporting, on the ground monitoring) and the temporal aspects of program monitoring such as the frequency of monitoring activities.

The Committee expressed an interest in what they hoped to gain through on the ground monitoring. Committee members mentioned that, they would value reports about their land that provide useful information that the landowners can use for future actions.

The idea of monitoring as a relationship based on trust was heavily discussed among committee members who expressed concern about who would be conducting the on the ground monitoring.

Some committee members expressed concern about the privacy of information when relaying data about assessments and tax lots. The Committee did not want their names and individual property information out in the public realm. Landowners did not seem to mind the usage of information/data in the aggregate.

Many ideas of monitoring were discussed and most agreed that remote sensing followed by ground-truthing and possibly some form of self-reporting would be the most appropriate way for this program to address monitoring/compliance. The Committee also expressed some concern about the objectivity of self-reporting.

The Committee expressed that it would be important that the monitoring process be consistent and reliable—so that all parties understand the scheduling and process and its necessity to the program.

Compliance

Landowners expressed concern and wanted to ensure that acts of god or disruptive natural events such as flooding and fire would be considered (and addressed in agreements) in the compliance and monitoring aspect of the program.

May Landowner Advisory Committee Meeting Minutes

EWEB VIP Landowner Advisory Committee
Thursday, May 2nd, 2013
Leaburg - McKenzie Fire and Rescue Training Center

Agenda:

1. **Introductions (5 minutes)**
2. **April Meeting Recap (10 minutes)**
3. **Eligibility Criteria (45 minutes)**
    a. Presentation and Discussion
4. **Monitoring (30 minutes)**
    a. Assessment and Monitoring Process
    b. Discussion
5. **VIP Partner Roles (20 minutes)**
    a. Presentation and Discussion
6. **Next Steps (5 minutes)**

In attendance:

Landowner Advisory Committee	EWEB/CPW Staff
Jim Goodpasture	Karl Morgenstern (EWEB)
Suzanne McAlister	Kris Stenshoel (EWEB)
Marylyn Cross	Nicole Nielsen-Pincus (MRT)
Georgeanne Barlow Porter	Scarlett Philibosian (CPW)
Chuck Tannenbaum	Andrew Louw (CPW)
John Sullivan	Erik Forsell (CPW)
Will Rutherford	Jay Breslow (CPW)
	Stephen Rafuse (CPW)
Members of the public in attendance:	Bob Parker (CPW)
Doug Furr	
Mary Furr	

Meeting Overview

The third meeting of the EWEB Voluntary Incentive Program Landowner Advisory Committee took place on May 2nd, 2013 from 3-5pm at the McKenzie Fire and Rescue Training Center in Leaburg. Staff members from EWEB, facilitators from the Community Planning Workshop at the University of Oregon, and landowners in the McKenzie River Basin met for two hours to continue an advisory process focused on the successful design and implementation of the VIP. This meeting focused on three topics: 1) how properties within the boundary would be assessed for VIP-eligibility, 2) how properties would be monitored after enrollment in the program, and 3) what roles VIP partners will assume.

Introductions

Jay welcomed the committee and recapped the April meeting minutes. This included a discussion of what constitutes a healthy riparian forest within the VIP boundary, the importance of consistency from assessment to monitoring and the building of trust between program partners and participating landowners. Scarlett reviewed the findings from the incentives options questionnaire.

Eligibility Criteria

EWEB staff, program partners and CPW team members recently toured the Berggren Demonstration Farm to collect information to better define what makes for a healthy riparian forest. Based on information collected on this field trip, Erik gave a brief presentation on the elements of healthy riparian forest. Karl then shared the proposed process for determining eligibility of properties for entry into the VIP. Eligibility will be based on a number of reference sites, which represent healthy riparian forest for each of the different types of riparian forest (i.e. upland coniferous forest, lowland deciduous forest, etc.) in the McKenzie Watershed.

Riparian assessment will be based a number of factors (such as canopy cover, species diversity, proliferation of invasive species, and presence of shrub layer) to compare applicant properties to these reference sites. Kris Stenshoel, EWEB's vegetation specialist answered technical questions. At this time EWEB has yet to determine whether eligibility will be based on the percentage of healthy riparian forest within the VIP boundary, some threshold of the quality of riparian forest within the VIP boundary, or a combination of these two models. The committee showed strong support for the reference property idea.

Committee members had several questions about the feasibility of entering the VIP for owners of smaller properties, whether the agreements will be tied to the property's deed, whether (and how) restoration is tied into the VIP, whether there should be added incentive for owners of property that form contiguous parcels enrolled in the VIP, and threats to the VIP process from Senate Bill 401?

Monitoring Cycle and Partner Role Update

Andrew presented the proposed monitoring cycle and updated the committee on the roles of VIP organizations in implementing the VIP.

The committee showed strong support for the following proposed partner roles:

- Program Recruitment and Oversight: EWEB
- Assessment: LCOG, UWSWCD, MWC
- Agreements: EWEB
- Fiscal Administration: Cascade Pacific, EWEB
- Ground-truth Monitoring: UWSWCD, MWC
- Compliance: EWEB, Cascade Pacific

The committee showed strong support for the proposed monitoring cycle. This regime includes a 3-year cycle of on-the-ground monitoring with annual landowner photo-point assessment in the intervening years. LiDAR data will be used (3-5 years) to monitor for significant changes in enrolled VIP properties.

The committee had questions about how landowners will be recruited into the program and how the outcomes/monitoring of the VIP might be shared with ratepayers to ensure program accountability. Although the committee acknowledged that reporting to ratepayers was important, protecting the anonymity of individual landowners enrolled in the VIP is a priority.

Next Steps

The forth and final Landowner Advisory Committee meeting will be held at the McKenzie Fire and Rescue Training Center in Leaburg on Thursday, June 6th, 2013 from 3-5pm. The next meeting will focus on landowner agreements.

June Landowner Advisory Committee Meeting Minutes

EWEB VIP Landowner Advisory Committee
Thursday, June 6, 2013
Leaburg - McKenzie Fire and Rescue Training Center

Agenda

1. **Introductions (5 minutes)**
2. **Public Comments (5 minutes)**
3. **May Meeting Recap (15 minutes)**
4. **VIP Agreements (45 Minutes)**
    a. Presentation
        i. Types of VIP Agreements
        ii. Agreement Length and Terms
    b. Discussion
5. **Pilot Project and Outreach (30 minutes)**
    a. Pilot Project Discussion
    b. Activity
6. **Next Steps (15 minutes)**
    a. Reference Site Update
    b. Update on future meetings
        i. OWEB Meeting - July
        ii. EWEB Board Meeting – September

In attendance:

Landowner Advisory Committee	EWEB/UO/Program Partners
Marilyn Cross	Jay Breslow (CPW)
Jeff Dehne	Dave Downing (UWSCWCD)
Jim Goodpasture	Erik Forsell (CPW)
Rick Hahn	Andrew Louw (CPW)
Katherine McAlister	Karl Morgenstern (EWEB)
Will Rutherford	Nicole Nielsen-Pincus (MRT)
John Sullivan	Scarlett Philibosian (CPW)
Chuck Tannenbaum	Stephen Rafuse (CPW)
	Larry Six (MWC)
Members of the public:	Nancy Toth (EWEB)
Craig Burns	
Doug Furr	
Mary Furr	

Meeting Overview

The fourth meeting of the EWEB Voluntary Incentive Program Landowner Advisory Committee took place on June 6th, 2013 from 3-5pm at the McKenzie Fire and Rescue Training Center in Leaburg. Staff members from EWEB, facilitators from the

Community Planning Workshop at the University of Oregon, and landowners in the McKenzie River basin met for two hours to continue an advisory process focused on the successful design and implementation of the VIP. This meeting focused on four topics: 1) what aspects of healthy riparian areas provide the most benefit to water quality, 2) what might be included in agreements between EWEB and a landowner, 3) the VIP pilot project, and 4) what outreach strategies would be most effectively in recruiting landowners into the program.

Introductions

Andrew welcomed the committee and opened the floor for public comment. Mary Furr added comments and expressed interest in learning about the landowner survey results.

Andrew also recapped the May meeting minutes. This included a brief discussion of the "reference properties" that will be used as a baseline to assess properties' riparian areas for eligibility into the program. Specific categories to be measured include canopy cover, shrub/forb layer, invasive species coverage, and diversity of vegetation.

Eligibility Criteria

EWEB staff, program partners and CPW team members recently toured the Berggren Demonstration Farm to collect information to better define what constitutes a healthy riparian forest. Based on information collected on the trip, CPW showed a five-minute video illustrating healthy riparian habitat in deciduous and coniferous forests, and discussing the ecosystem services provided by healthy riparian habitat.

Committee Member Comments:

Show interested landowners what "poor" riparian habitat looks like as well as good riparian habitat

Show interested landowners pictures of the reference site properties

Karl proposed an additional eligibility criterion that EWEB is currently considering. Based on the work of the Freshwater Trust, this new criteria adds a minimum 60 foot riparian buffer back from the riverbank. This criterion would make it easier for EWEB to work with the Freshwater Trust to provide funding for restoration and would also allow landowners to be eligible for "shading credits" as part of a salmon habitat program led by the Freshwater Trust. In addition, the 60-foot minimum riparian buffer is a requirement of DEQ and EPA's water quality trading programs.

Landowner Agreements: Terms and Types of Agreement

CPW presented general terms and components that will be addressed within the agreements. EWEB is currently working with the UO Law School to research the following components of landowner agreements.

- Physical area bound by the agreement

- Length of the agreement
- Type and timing of payments/vouchers
- Clearly defined requirements that the landowner will need to meet for the duration of the agreement
- How the property will be monitored and verified for eligibility
- Agreed roles of other VIP partners
- Risk-management, compliance, and accepted reasons to void the agreement
- Description of the legal rights each party has in the VIP contract

To be as inclusive as possible, EWEB envisions two types of agreements when enrolling landowners into the program:

(1) MOU between the landowner and EWEB

(2) formal agreement

A **MOU** is available for landowners who are interested in the VIP but are not yet ready to engage in a formal contract with EWEB. This option establishes a relationship between EWEB and landowners, building trust - which may eventually lead to a more formal agreement in the future.

Landowners whose property is not currently eligible to enter into the VIP could also sign an MOU, in which they would be provided avenues and potentially resources to help restore riparian areas on their property. Eventually, landowners might meet the criteria for eligibility in the VIP program and would then be able to enter into a formal legal agreement and receive compensation.

Formal agreements require signing a legal agreement and would be for a minimum of 20 years in length. Landowners who enter into a formal agreement would receive annual cash payments or in-kind services.

EWEB envisions two types of formal legal agreements: a simple agreement and a negotiated agreement. The payment per acre would be the same for both types of formal agreements.

- **Simple agreements** would be designed for landowners with properties of less than 5 acres total in size. Landowners signing these template agreements have the option of tying the agreement to the deed.
- **"Negotiated" agreements** include properties of five acres or more and would be tied to the deed of the property. Because of the size of the property, there is some flexibility in negotiating the terms of the agreement.

<u>Committee Member Comments</u>:

- It is very important that the Law School understand that some of the interested landowners have multi-generational land, which may influence a landowner's decision to sign an agreement.

- Landowner's motivation for entering into the VIP - How landowners use their land will influence their willingness to enroll in the VIP and the type of incentive they want to have.
- What exactly would be negotiated in the formal agreement? The term "simple" has connotations, and the term "negotiated" in contrast to "simple" implies that VIP landowners with more than 5 acres have looser rules than smaller property owners.

Response: the exact terms that could be negotiated are still under discussion. Larger property owners will experience a more binding agreement than smaller landowners, because agreements with larger property owners will be tied to the deed. The "simpler" template agreements would be a way for EWEB to make the enrollment process as simple and inexpensive as possible for landowners with smaller properties.

Committee Member Comments:

- Will the penalty for withdrawing early from the VIP be different depending on the size of land enrolled?
- Will EWEB shift its focus to also include restoration programs?
- It is critical to state up front that the VIP's purpose is conservation instead of restoration. This distinction has been a sticking point of discussion at every LAC meeting - which illustrates how critical it is that EWEB be up front about this when recruiting landowners.
- EWEB should designate the path to MOUs as being "restoration eligible" as opposed to "VIP ineligible." This way, all landowners who want to have good riparian habitat on their land would be included in this program.

Response: The overall suggestion about reaching out to all landowners and steering them either into the VIP or into restoration is helpful. Right now, EWEB does not have funding for restoration services, but other partners such as UWSWCD and MWC often have access to these types of funds and could help landowners with restoration. If EWEB had such funding, it would likely come from grants and so the exact amount of money available for this would vary from year to year. VIP funding will be stable enough so that EWEB can promise enrolled landowners a certain payment or service each year. EWEB is concerned about promising less stable forms of assistance to landowners who need help with restoration.

Committee Member Comments:

- Is it possible to offer more payment or services to those who sign longer agreements or who enroll a larger percentage of their property that is within the VIP boundary?

Response: Yes, that is a possibility for the future, although it will increase the transaction cost to EWEB and result in a more complicated agreement. There are so many parts of the basic VIP administration that need to be test-driven in the pilot program, this is an option that EWEB may not be able to administer for several years.

Committee Member Comments:

- Perhaps EWEB can make the land right next to the river "premium" land. This would not encumber as many landowners, and it provides the most benefit to the water. Land that qualified for this "premium" status could perhaps receive a larger payment.
- What happens if I am enrolled and have to cut down a tree that is endangering other trees?

Response: Cutting down trees for safety issues would probably be fine and wouldn't require anyone to come out on your property and approve it before you could take action. If, for safety reasons, you had to remove so many trees that you were no longer eligible to be enrolled in the VIP, you would not have to pay a penalty.

Pilot project and Outreach strategies

CPW discussed the basic idea behind the 2014 VIP pilot project. The pilot project will enroll 8 to 12 landowners with eligible property of varying sizes and characteristics.

Landowners who are interested in participating in the pilot project should contact Karl Morgenstern or Nancy Toth.

Those who enroll would enter into non-binding agreements in which they could leave the VIP without penalty. Landowners who chose to continue in the VIP would enter formal agreements and would receive retroactive compensation* for the years enrolled during the pilot project (* at this time this is not confirmed but is what is envisioned).

The goals of the pilot program are to:

- Test property assessment, landowner agreements and monitoring, (LiDAR, on-the-ground, self-reporting)
- Better understand budget and partner needs
- Develop a VIP website
- Continue to refine partner roles and criteria
- Build relationships and awareness of the VIP within the basin

Engagement Activity

CPW led committee members in a brainstorming activity. The purpose of the activity was to inform VIP outreach - identifying what strategies would be most effective. The list below categorizes brainstorming topics and ideas:

Possible outreach methods:

- Hold water taste tests
- Send e-mails
- Tabling

- Meetings
- News Media
- Website
- Specific social media
- EWEB sponsored bingo
- River cleanup
- Ice cream socials

Possible outreach locales and groups:

- Running track
- Garden clubs
- Late-bloomers
- McKenzie Masters
- McKenzie Clearwater Coalition
- Rafting Guides Association
- Cabin rentals
- Mobile Museum
- Art festival
- Saturday market
- Organic farms and CSAs
- Boat Rodeo
- EWEB park
- Fire department
- Fishing spots
- Schools
- Rafting take-outs/put-ins
- Restaurants
- Post Office
- Church (contact pastor)
- Bars
- Community Centers
- Basin clubs and organizations

Committee Member Comments:

- Emphasize clean water in the outreach and branding
- Have a strong EWEB presence in the outreach
- Some landowners do not even understand why good land stewardship is important - The Lane Community College with EWEB offers an OSU Extension Service course on this topic called Sustainable Landscaping.

Response: This has been challenging. Even with promotion and outreach (for similar classes taught in Leaburg), turn out was low.

Next Steps

Thank you to all landowners for participating in these very informative meetings.

- EWEB and VIP partners will present the VIP program to the OWEB board in Pendleton at 9 am on June 11. This presentation is part of EWEB's application for a grant that would help fund the VIP pilot project. Interested landowners are invited to attend.
- An open public information meeting about the VIP will be held for landowners later this summer in Leaburg.
- EWEB Board meeting, September 17th – the VIP will be presented to the Board. All are welcome to attend.
- Landowners interested in participating in the VIP Pilot Program are welcome to contact Karl Morgenstern and/or Nancy Toth at EWEB

APPENDIX B: PROGRAM PARTNERS ADMINISTRATIVE COSTS

The McKenzie Watershed Council provided an estimate for an on the ground monitoring job. The following is an approximate breakdown of an expected 4-hour contract as completed by the McKenzie Watershed Council.

Cost per hour = $48.58

Assume 4 hours of work including drive time = $194,32

Assume distance travelled = 40 mi. @$.565 = $22.60

Total cost for trip - $216.92

Hourly technician - $66.00 per hour (field & office)

Travel rates - .60 per mile.

The Upper Willamette SWCD provided an estimate and information about the type of work that is conducted on a typical assessment trip. The following is a breakdown of the typical cost estimates for an on the ground assessment job.

Estimate for a base review on a 10 acre site up the McKenzie River

	Hours	*Rate/unit*	*Total $*
Landowner Review -	3 hrs.	$66.00/hr.	$198.00
Prep for Site Review	3 hrs.	$66.00/hr.	$198.00
Site Visit	6 hrs.	$66.00/hr.	$396.00
Travel to & from site	2 hrs.	$66.00/hr.	$132.00
Vehicle mileage (round trip)	80 miles	$00.60/mi	$48.00
Project write-up	4 hrs.	$66.00/hr.	$264.00
Misc. field supplies			$50.00
Summary of 10 acre review:	*18 hours*	*$ 71.44/hr.*	*$1286.00*
		$128.60/acre	