

Chapter 9 Public Education Plan

The Jefferson County – Washington State University Cooperative Extension Water Quality Education staff prepared this Public Education Plan.

9.1 INTRODUCTION

This Public Education Plan is based on the assumption that when citizens understand and value surface water resources and embrace an ethic that seeks to protect them, the potential for successfully protecting these resources increases dramatically. Reliance on public education, outreach, and technical assistance is a key component of the surface water management strategy recommended in this Plan. This Chapter presents a comprehensive Jefferson County Surface Water Management Public Education (PE) Plan that:

- Assesses surface water public education in the context of Jefferson County’s surface water conditions discussed in Chapter 2;
- Describes a proposed approach to surface water public education;
- Recommends specific educational strategies to develop cost effective surface water public education programs;
- Reviews existing educational programs related to surface water management;
- Recommends additional programs to provide an effective Surface Water Management Public Education Program; and
- Discusses funding for public education programs.

Jefferson County has a range of options available to respond to the challenges of surface water management.

First, the County can pass new ordinances or regulations. Regulation, however, can have significant implementation costs and risks alienating people who might agree with the overall goal, but resent additional regulation. Moreover, effective enforcement requires investment in technical assistance and education to advise landowners of new requirements, to disseminate understandable information, and to provide technical assistance to facilitate compliance.

Second, the County can work with other governmental agencies and private property owners to develop stormwater management facilities and surface water management programs to remediate existing problems and avoid impacts from new development.

Third, the County can use public education and outreach to foster awareness, action, behavior change aimed at protecting and restoring surface water resources. Education engages citizens in site-specific problem solving, planning, and decision-making. It provides credible information; assists with critical thinking and assessment skills; facilitates dialog and choice; and enables citizens to work with County officials to monitor and evaluate implementation.

Any effective approach must address the unique conditions and concerns of specific locales, the protection of critical natural habitats and aquatic systems, runoff sources and effects, the impact of natural events such as storms and drought, and the impacts of human development.

9.2 PUBLIC EDUCATION PROGRAM DEVELOPMENT

One of Jefferson County's primary challenges in developing a Surface Water Management Program is to develop a cost effective Public Education Program that educates citizens, landowners, and business owners, fosters a conservation ethic, and encourages voluntary actions that protect and restore surface water resources.

The role of education is to increase the public's understanding of the inter-relationships of natural systems, the impacts of development and growth on surface water, and the choices involved. Education helps to identify beneficial actions, and to emphasize the importance of surface water management to healthy communities. A good education program should encourage critical thinking, analysis, experimentation, and monitoring. It should also engage the values, experience, and skills of citizens to encourage voluntary adoption of best management practices and actions.

Surface water can be affected by a myriad of small decisions: developing residential home sites and designing homes, managing on-site septic systems, how used oil is disposed, the quantity of water used. These decisions can be made in ways that protect and enhance the current natural systems *while* the county becomes more developed and population increases, or they can be made in ways that dramatically increase the impacts to water resources and the costs of clean up and infrastructure. Focusing on prevention rather than clean up is a better, more cost effective, and long lasting solution – economically, ecologically and socially.

Educators utilize a framework, called Bennetts' Hierarchy, to evaluate educational programs and approaches. Bennett's Hierarchy progresses from individual awareness of an issue, through critical thinking and analysis to group action and societal adaptation. Environmental issues are conducive to this framework because Bennett's Hierarchy summarizes the process that humans generally go through as they increase their understanding of water issues, recognize the integrated nature of systems, and then decide what individual and collective action is warranted given the risk, cost, and effectiveness of the options.

Learning styles, experience, values, barriers and economic considerations all need to be taken into consideration as programs are developed to assist citizens (MacKenzie-Mohr).

WSU Extension recommends using Bennett's Hierarchy framework and MacKenzie-Mohr techniques to develop and evaluate county surface water education programs.

A. Educational Principles:

WSU Extension's approach to public education operates on the following principles:

1. Develop partnerships with agencies and community organizations

WSU Extension is the County Department responsible for education programs. It should coordinate the Surface Water Public Education Program. WSU Extension would partner with County staff and community organizations. It would work with local organizations and individuals who understand Jefferson County geography, history, habitats, species, economics, businesses and communities to ensure a successful public education program.

2. Use site-specific, watershed-based programming

“One size fits all” rarely works in the unique world of water or natural resources management. A surface water education plan must be effective in a variety of settings and be tailored to the unique natural systems and community in each area.

3. Rely on citizen involvement and democratic decision-making

The quality of surface water resources is dependent on our every day activities. Rather than rely on enforcement or regulation, it is more effective to educate and energize residents to identify ways that they can act to protect and restore surface water resources. Only by active engagement and involvement can the public be invested in the problem solving required by these complex issues.

B. Plan Development

To develop the Surface Water Public Education Plan, WSU performed the following tasks:

1. Reviewed current literature, research and existing Surface Water and Stormwater Education Plans

2. Surveyed residents' level of awareness and opinions

WSU Extension reviewed King County's Rural Drainage Package Survey and the Walla Walla River Basin Salmon Recovery Effort Citizen Survey (2002). WSU Extension then designed and tested a survey that:

- Determined the level of knowledge the audience currently possesses,
- Identified issues they believe are important, and
- Identified how the audience prefers to receive information.

The WSU survey was distributed to local community organizations, classes, and email lists. The sample included residents, business owners, low-income renters, trained volunteers from Water Watchers, Master Gardeners, and 4-H, real estate agents, developers, welfare recipients in the Clemente program, and new residents.

3. Identified and reviewed existing surface water related education programs in Jefferson County

WSU Extension solicited information from the following local groups and agencies about their existing surface water education programs and potential for additional future programs:

Jefferson County Conservation District
Jefferson County Environmental Health Department
Jefferson County Marine Resources Committee
Jefferson County Natural Resource Division
Jefferson County Public Works Department
Jefferson County Public Utility District
North Olympic Salmon Coalition
Port Townsend Marine Science Center
WSU Cooperative Extension

4. Consulted with potential funding sources, partners, and the Puget Sound Action Team staff.

PSAT staff reviewed drafts of this education plan and their feedback was incorporated.

C. Strategies

WSU Extension has identified the following strategies that should be implemented in a comprehensive, county-wide Surface Water Management Public Education Program:

- **Strategy #1: Increase public awareness and understanding**
- **Strategy #2: Engage citizens in critical thinking and analysis**
- **Strategy #3: Support voluntary individual and group actions to protect and manage surface water**
- **Strategy #4: Involve residents in demonstration projects**
- **Strategy #5: Monitor, evaluate, and revise Public Education Program implementation.**

D. Outcomes and Performance Indicators

WSU Extension anticipates that implementing this Plan will achieve the following outcomes:

- An educated public will understand and appreciate the natural and constructed drainage systems in the County and the relationship between them.
- Local decisions regarding surface water issues will be based on best available science and best management practices.
- Citizens will act in ways that prevent degradation of local water resources.
- A County-wide stewardship ethic will develop, evidenced by residents acting in individual ways to protect local surface water resources and by sharing surface water information with neighbors, friends, and co-workers.

9.3 SURFACE WATER PUBLIC EDUCATION PROGRAM

Based on our analysis of the community and the nature of the challenge of surface water management, WSU Extension recommends a Public Education Program (PEP) with two components: Educational Coordination and Educational Programming.

A. Coordination

Centralized coordination of surface water education programs ensures regular meetings with local groups and county staff; consistency in educational information, research and information sharing; a broad overview of educational efforts; and the ability to evaluate the progress and success of implementing the PEP. WSU Extension should perform this coordinating function.

Action Steps:

- Meet regularly with county staff, watershed planning groups, and the public to identify general surface water issues and seasonal issues. Encourage the formation and periodic meetings of a Surface Water Advisory Board consisting of agencies, community groups, and educators.
- Provide liaison between county officials and the public on surface water information and educational messages.
- Provide an easily available and consistent lead educational contact for the public.
- Develop a seasonal work plan incorporating general education and appropriate outreach and education specific to each season.
- Present surface water education regularly to the community through talks, Power Point presentations, articles in the media, PT public TV, and web sites.
- Help local community groups understand how different surface water issues relate to their group interests. Provide specific educational information and technical assistance related to an established interest group's concerns. Recommended presentations to community groups could include:
 - Boating Groups
 - Business Trade Associations
 - Chamber of Commerce

- Community Groups: Rotary, Soroptimists, Kiwanis
- Flood Control Boards
- Garden Clubs
- Home Owners Associations
- Outdoor Clubs
- Coordinate with WRIA 16 and 17 planning groups on community surface water education activities.
- Invite public officials to attend and present information at forums identified in the Plan. Involve public officials such as the Board of County Commissioners, City Council, and PUD commissioners in press conferences or interviews emphasizing appropriate information. For example, as winter rains begin, an official may speak about what to do/not do as the ground gets saturated.

B. Educational Programming

Strategy #1: Increase public awareness and understanding

This strategy can be accomplished by disseminating both a broad message and site-specific information based on best available science to a wide audience.

Action Steps:

1.1 Identify key surface water issues

WSU has:

- Reviewed surface water literature and research including the Puget Sound Water Quality Action (Puget Sound) Plan,
- Discussed issues with County departments and resource agencies, and
- Considered the results of WSU survey.

After conducting these activities, WSU has identified the following important surface water management issues:

Car washes

Chemical use (fertilizers, pesticides, and herbicides) on lawn and gardens

Commercial agriculture

Commercial development

Commercial timber harvest

Erosion

Fish habitat

Flooding

Forest cover in rural and residential areas

Ground water quality and quantity

On-site sewage disposal systems

Paved surfaces and hardening of soil

Residential development

Road construction & expansion

Road washouts

Run-off from streets and parking lots

Sedimentation in streams

Shellfish resources

Small livestock operations

Soils

Stormwater runoff
Water conservation
Water quality in streams and rivers

1.2 Survey to evaluate citizens' knowledge and interest regarding surface water issues

WSU Extension conducted an initial survey. Additional surveys could be conducted to evaluate and adapt educational approaches.

1.3 Provide local community surface water education programs

Current Programs and agency conducting the program:

Earthday Everyday	Partnership
Farm BMPs	JCCD
Forest Stewardship	WSU
Horses For Clean Water	JCCD/PSAT
Low chemical lawns	WSU-Master Gardeners
Master Gardeners	WSU
Near-shore fish habitat	North Olympic Salmon Coalition
On-site sewage systems	JCEHD, WSU Water Watchers
Rain water collection	WSU-Water/Beach Watchers
Shoreline Landowner Tips	WSU, PT Marine Science Center, NOSC
Soil enrichment	WSU-Master Gardeners
Water/Beach Watchers	WSU

Recommended Additional Programs:

Construction erosion control	Trade association
Household toxic chemicals	JCEHD, WSU
Low Impact Development	JCCD, WSU
Soils for Salmon	WSU
Landscaping with native plants	WSU- Master Gardeners
Welcome to the Watershed	WSU
Wetlands and drainage	WSU

1.4 Create an education 'campaign' with slogan, logo, and key messages

Create an educational campaign will unify the education and outreach efforts and build momentum for surface water awareness within the community. In 2004, WSU created the 'WATER MATTERS' campaign with a logo and poster. All educational articles, newspaper articles, flyers, and websites related to surface water issues are identified with this easily recognizable, positive, companion logo. Key surface water messages would be developed to carry through in community classes and presentations.

1.5 Develop specific seasonal educational topics and activities

Public outreach and education that are focused to appeal to increased public interest and attention during each season. Seasonal issues would include:

- Spring: Proper use and disposal of toxic cleaners, fertilizers, pesticides, and herbicides; residential and group car washes
- Summer: Water conservation, drought issues, pesticide disposal
- Fall: Ground saturation impacts, habitat protection

- Winter: Stormwater runoff, flooding.

1.6 Create and distribute an educational insert in the Leader newspaper

Create a watershed look at Jefferson County, including watershed map and water cycle graphics. Organize by important water issues and seasonal topics when feasible. Possible topics include: stormwater runoff, saturated ground, erosion, global warming and drought factors, water conservation, on-site septic maintenance, importance of native vegetation and trees, healthy soils, natural lawn and garden care, pesticides/fertilizers, household toxics, permeable pavements for parking lots and driveways, rain gardens, salmon, and fire prevention.

Cost: \$5,000 for one 8 page, full color insert, 17,000 copies (includes 5,000 copies to hand out) plus staff time. Consider advertising to offset costs.

1.7 Provide youth-oriented and school surface water education programs

Current Programs:

Salmon in the Classroom	Trout Unlimited
Lake Leland Monitoring	Pacific Energy Institute
Chimacum Creek restoration	NOSC
WDFW Salmon Trunk in classroom	WSU Water Watchers
4H Natural Resource Camp for Youth	WSU
Healthy Plants- Healthy Children	WSU
EnviroScape Models	WSU

Recommended Additional Programs:

- Develop student projects with sites near or on school properties where water conservation and protection techniques, such as rain gardens and pervious surfaces can be developed, monitored, and evaluated by students.
- Expand stream monitoring/restoration programs.

1.8 Sign and designate watershed and stream areas

Raise public awareness of the streams, watershed boundaries, and valuable habitats by installing and maintaining signs at identified locations. Work cooperatively with schools, volunteer groups and County staff.

Recommended Additional Programs:

- River & Stream Identification
- Watershed Boundary Identification

1.9 Develop electronic access to educational information with a website

Provide an always accessible, interactive education tool for residents who prefer to obtain their surface water information electronically.

Current Websites:

- Puget Sound Action Team
- Department of Ecology
- Jefferson County
- WSU Extension has designed an interactive web link that uses photographs and text to convey the importance of proper surface water management. To access this website go to:

http://jefferson.wsu.edu/OPWW/ws_u_watershed_web/html_ws_u_watershed_web_page/index_page.html

Recommended Additional Action:

Maintain and update surface water information on the website, including links to other pertinent sites.

Cost: \$500 annual

1.10 Fund access on PT TV and a resource library

Recommended Actions:

- Identify existing surface water educational videos and evaluate their usefulness for Jefferson County public education purposes.
- Provide a list of video resource materials for organizations and the public.
- Make educational videos available to the public on PT TV.

1.11 Expand the Jefferson 101 - "Welcome to the Watershed Program"

Expand the "Welcome to the Watershed" Pilot 2003 WSU project. Create a folder to hold surface water information and create a Surface Water Resources brochure to educate new residents throughout the county about watersheds, surface water issues, available county and non-profit resources, specific brochures covering household toxics, pesticides and garden products, drinking water, groundwater, care and maintenance of septic systems, etc. Distribute folders to realtors to give to new home and property owners.

Cost: \$5,000 (staff time and printing)

1.12 Develop and distribute appropriate educational brochures and materials

Provide a listing of available educational brochures/materials.

Current Program:

- WSU maintains a resource materials library at the Port Hadlock office.
- Jefferson County agencies provide resource materials at their offices.

Recommended Additional Programs:

- Point Of Sale product education: Increase the effectiveness of public education by providing specific surface water educational materials at appropriate "Point of Sale" locations. Identify locations such as hardware, home improvement and nursery/garden stores for placement of related materials. For instance, provide information on use and disposal of toxic products and pesticides in nurseries and garden stores.

1.13 Write and distribute press releases for activities and projects

1.14 Distribute surface water educational information, events and tips

Conduct this activity through the WSU website Community Calendar, WSU listserves, and listserves of Jefferson Land Trust, NOSC, Conservation District, and PT Marine Science Center.

Strategy #2: Engage citizens in critical thinking and analysis

Provide a wide variety of understandable, engaging outreach and involvement activities for citizens and businesses.

Action Steps:

2.1. Continue existing surface water education programs

Current programs:

Agricultural Best Management Practices (BMPs) (JCCD)

EnviroStars
Forest Stewardship classes
Green Builders Association
Marine Science Center classes
Master Gardeners classes
On site sewage treatment (JCEHD)
Realtor education training
Shoreline Management classes
Water/Beach Watchers classes
Shore Stewards
Recommended program:
Green Sustainable Business (JCEHD)

2.2 Continue land use-real estate training workshops and discussions

Educate realtors and developers about watershed and surface water issues, the value of natural drainage systems, and the impacts of human development on natural systems and resources. Provide good science based information and on-going access to technical experts. Encourage the flow of accurate educational information from realtors to their clients early in the process of developing property and buying/remodeling homes.

Current Realtor Workshops:

Drinking Water
Geology and Shorelines
Salt Water Intrusion
On-site Septic Systems
Shoreline Erosion and Bluff Issues
Soils and Erosion
Trees and vegetative buffers
Wetland Functions

Recommended Additional Realtor Courses:

Low Impact Development strategies
Tree Retention And Protection
WSU Survey/Discussion with Realtor Association about preferred courses

2.3 Continue and expand benthic macro-invertebrate monitoring

NOSC coordinates and trains volunteers and Chimacum school students to help conduct monitoring to assess the health of Chimacum Creek. NOSC could develop an ongoing monitoring program to assess several other East Jefferson County streams and develop and coordinate a partnership with local schools to conduct monitoring. A partnership could be developed with WSU Water/Beach Watchers to provide a program similar to Kitsap and Clallam Streamkeepers.

2.4 Participate in Chimacum and Port Townsend Schools career/occupations programs and science classes

NOSC organizes education programs in schools. These include coordination of extensive school and community plantings, weed pulling events, and wetland and stream monitoring events such as the Blue Heron Middle School Wetland Restoration.

2.5 Continue Jefferson County Health Department's EnviroStars Program

EnviroStars is a Puget Sound regional program to help local businesses manage and reduce hazardous waste and protect local water quality. The EnviroStars Program provides technical assistance, education, and certification for businesses meeting hazardous waste management criteria. The certification process is interactive and educational as the business makes changes necessary to qualify. EnviroStars won the Governor's Award for Outstanding Achievement in Pollution Prevention in 1999.

2.6 Continue Green Garden Nursery Project

Train WSU Master Gardeners and community volunteers to train local nursery staff about how to deal with common lawn and garden problems without unnecessary pesticides and fertilizers. Provide handouts for nursery and garden store customers so that they can make informed choices on topics including: common landscape problems, natural lawn care, weed control alternatives to pesticides, use and disposal of pesticides, and water conservation.

Cost: \$3,000 - \$5,000 annually

2.7 Conduct public education in the Port Hadlock Urban Growth Area

Conduct public education activities with the Port Hadlock Chamber of Commerce, developers, business owners, and residents. This includes meeting presentations, discussions with community groups, workshops, and field trips.

Cost: \$1,000 - \$3,000

2.8 Educate marina operators and boaters about best management and clean boating practices

Provide technical assistance, classes, and educational materials to teach National Clean Boating Campaign practices.

Recommended Future Actions:

- Conduct marina Best Management Practices Workshops
- Provide National Clean Boating Campaign outreach to marinas, yacht clubs, and auxiliaries
- Require a clean boating practices water quality education component for future marina expansions

2.9 Educate developers and the building industry regarding stormwater management

Present workshops for developers, contractors, and homebuilders about surface water management issues. This program could be coordinated with the Associated General Contractors education and outreach program.

Recommended Developer and Building Industry Workshops:

- Preparing and implementing temporary erosion control plans
- Ecology Stormwater Management Manual requirements
- Preparing and implementing Stormwater Site Plans
- Preparing and implementing Construction Pollution Prevention Plans
- Low Impact Development Technical Manual
- Preserving and amending soils on development sites to improve plant growth and for stormwater management.

Strategy #3: Support voluntary individual and group actions to protect and manage surface water

Work with neighborhood groups and home associations as well as industry and business groups such as realtors, car repair, contractors, and agricultural landowners. Marketing and media outreach

would be used to involve the public in surface water issues and address specific barriers to implementation.

Action Steps:

3.1 Utilize community events to provide outreach and public education

Current Events:

Annual Watershed Day conference	WSU
Jefferson County Fair exhibit booth	WSU
Low Tide Fest	PTMSC
Earthday Everyday	Partnerships

Recommended Additional Events:

- Port Hadlock “Stormwater Run-Off”: Organize a Community Fun Run. Develop a Pledge for run-off prevention.
- ‘Salmon Walk’ Event
- Design and organize a simplified version of the Wild Olympic Salmon Dragon Tracking map that the public could follow and learn about surface water issues from forested headwaters of Chimacum Creek, downstream thru agricultural lands (disturbed and restored sites), developed commercial and residential areas in Chimacum and Port Hadlock, thru forested ravine, to estuary and beach in Irondale.
- Develop stormwater public education presentation for Port Hadlock Days, Quilcene Fair, Jefferson Land Trust Tree Sale, Conservation District Tree Sale, Master Gardeners Spring Lecture Series and Plant Sale, etc.

3.2 Coordinate and support citizen volunteer programs

Coordinate and support volunteer programs such as Water Watchers / Shore Stewards. These are multi-county programs that educate and assist shoreline and streamside property owners to adopt specific Best Management Practices (BMPs) on their property and in their homes. The BMPs are designed to reduce stormwater impacts, reduce the use of pesticides and fertilizers, encourage the use of native vegetation, and properly manage septic systems. Shore Stewards is funded for one year by a PSAT grant for Mason, Kitsap, and Jefferson Counties.

Cost: \$2,000 to support Jefferson County activities

3.3 Presentations on surface water issues and BMPs

Develop Power Point presentation, activities/demonstrations, maps, pictures, and graphics for presentations to homeowner associations, clubs, and community groups.

Cost: \$1,000

Strategy #4: Involve residents in demonstration projects

Develop demonstration projects to get residents active and working together on hands-on activities. Develop partnership projects with government and private development.

Action Steps:

4.1 Develop demonstration projects

Demonstration projects can educate the public regarding techniques such as low impact development (LID), rain gardens, rainwater collection, and water conservation.

Recommended Demonstration Projects:

- Rain garden demonstration projects: Involve the community in projects that would demonstrate the design and benefits of natural landscaping and filtration for surface water management to the public.
- Low impact development demonstration/pilot projects: Develop public or private projects that demonstrate LID principles, evaluate effectiveness, and educate the public. LID strategies include treating and infiltrating runoff on-site, retaining trees and vegetation, collecting roof runoff for reuse, rain gardens, minimizing impervious surfaces, and amending soils.

4.2. Develop and implement best management practice demonstration sites

Work with landowners and educational partners to identify and develop a variety of demonstration sites where residents could experience and evaluate possible cost-effective strategies and determine which would work in their specific situation.

Recommended Demonstration Sites:

- Develop sites near schools and involve students in monitoring and assessment.
- Work with homeowners, contractors, and realtors to develop a home site and/or public site that demonstrates low impact development principles.

4.3 Develop and support a Native Plant Salvage Program

Develop a site where Master Gardeners and community volunteers can store native plants from development site and make them available for replanting.

4.4 Create a Water Map of East Jefferson County

Involve volunteers, WSU Water/Beach Watchers, PUD, and County staff to gather information and create a map with all of East Jefferson County watersheds, rivers, lakes, wetlands, and water systems. This can be used in classes, community workshops, presentations, power points, web sites, and in the Welcome to the Watershed folder.

4.4 Expand moderate risk waste disposal programs for home car repair, car wash, construction sites, and lawn products

Current Program:

- Operate the Moderate Risk Waste Facility (MRW) on limited hours
- Conduct annual community moderate risk waste collection day in Quilcene.

Recommended Additional Actions:

- Expand MRW hours
- Conduct events to collect specific moderate risk wastes

Strategy #5: Monitor, evaluate, and revise the Public Education Plan

This Plan sets specific objectives and measurable outcomes. Monitoring provides data to determine whether the Plan is achieving its objectives. If this is not occurring or if new goals and objectives are adopted, the Plan can be evaluated and revised appropriately.

Action steps:

5.1 Monitor and revise the Program to ensure its effectiveness

As the Public Education Plan is implemented, results will be monitored and assessed. The Plan will be reviewed periodically and modified as necessary to achieve existing objectives or accommodate new ones.

5.2 Provide evaluation forms at events and workshops

5.3 Submit quarterly Plan reports to the County Administrator

5.4 Present an annual evaluation to the County Commissioners

A summary of activities and performance measures will be presented and feedback will be solicited. Plan revisions will be proposed as needed to ensure effectiveness.

9.4 Funding

Jefferson County's capacity to fund surface water management educational programs is constrained by limits on its revenues and the need to fund other core programs. Current public education program activities do not have stable and adequate funding. Recommended additional programs cannot be provided without additional revenue.

Grants support many of the community's current programs. However, grants are not recommended for funding on-going programs due to their transitory nature. In addition, grants typically require matching funds.

Programs such as Master Gardeners and Water/Beach Watchers have partial WSU Extension support. Additional funds to operate these programs are raised by the non-profit Master Gardeners and Water Watchers organizations. There is no on-going funding for the Realtor Education Program.

WSU Extension recommends that Jefferson County designate stable revenue sources for public education and outreach.