

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Sea Grant: Water Protection and Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	100%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	2.8	0.0	0.0	0.0
Actual	2.4	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
28205	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
28205	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
92006	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

We will work with officials and residents on programs and policies that lead to: a) more effective watershed management, b) stormwater and non-point source pollution mitigation, c) enhancement of local basins, d) sustainability of fish and wildlife populations and the ecosystems they reside in and e) awareness, prevention and control of aquatic invasive species. Activities will promote adoption of watershed-friendly management practices by individuals, watershed councils, governments and non-

2010 10 28

Output #2

Output Measure

- Number of Workshops to be Conducted

Year	Target	Actual
2010	5	15

Output #3

Output Measure

- Number of Group Discussions to be Conducted

Year	Target	Actual
2010	2	18

Output #4

Output Measure

- Number of Demonstrations to be Conducted

Year	Target	Actual
2010	1	14

Output #5

Output Measure

- Number of Newsletters to be Published

Year	Target	Actual
2010	2	6

Output #6

Output Measure

- Number of Web Sites to be Developed and Maintained

Year	Target	Actual
2010	1	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of local program/policy changes leading to improved watershed health, invasive species management, or enhancement of local basins.
2	Watershed-friendly practices employed by individuals, watershed councils, governments and NGOs adopted as a result of OSU programming.
3	Number of youth participating in educational programming and watershed-friendly projects.
4	% increase in reporting of invasive species as a result of OSU programming.

Outcome #1

1. Outcome Measures

Number of local program/policy changes leading to improved watershed health, invasive species management, or enhancement of local basins.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Biological science supply houses are major suppliers of live organisms for classroom use. Many of the live organisms shipped for use in classrooms are non-native and some can become invasive. Teachers and students release the live organisms after the classroom activities are completed without knowledge that some of the species can become invasive

What has been done

As part of a bi-national USA and Canadian project, OSU Extension's Watershed Health and Aquatic Invasive Species specialist worked with a major biological science supply house in the Pacific Northwest to increase awareness about potentially invasive species shipped to schools and convinced the supply house to change practices that help prevent the spread of invasive species. The biological supply house is an important supplier of science kits and live organisms to school districts in Oregon, the Pacific Northwest and Western Canada.

Results

After learning about invasive species and concerns over their release, the science supply house stopped shipping potentially invasive crayfish into classrooms as part of a popular national science kit that was used in up to 25% of all the school districts in the nation. OSU Extension worked with the biological supply company to find suppliers for native crayfish as alternatives to non-native species. With guidance from OSU, the company also modified a guidebook for teachers that now includes invasive species prevention protocols and clear instructions to teachers on alternatives to releasing live organisms after class project is completed and, where necessary, protocols for proper disposal.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #2

1. Outcome Measures

Watershed-friendly practices employed by individuals, watershed councils, governments and NGOs adopted as a result of OSU programming.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	25	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In recent years Oregon's coast and waterways have come under siege by nonnative aquatic plants and animals that degrade habitats, displace native species and damage native ecosystems. These invasive species can quickly become serious threats to the economic and environmental value of the state's coastal areas. Costs related to damage and control of invasive species cost nearly \$400 million annually in Oregon just to control invasive species.

What has been done

Oregon Sea Grant Extension led efforts with other federal and state agencies to 1) develop Early Detection and Rapid Response guidelines, and 2) provide ongoing training for managers and leaders responsible for monitoring watersheds.

Results

The detection/response tools have been adopted as operational guidelines for interagency watershed monitoring activities from northwest Washington into northern California. This is the first formalized interagency adoption of aquatic invasive species detection and control guidelines.

4. Associated Knowledge Areas

KA Code **Knowledge Area**
112 Watershed Protection and Management

Outcome #3

1. Outcome Measures

Number of youth participating in educational programming and watershed-friendly projects.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	200	3512

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In recent years Oregon's coast and waterways have come under siege by nonnative aquatic plants and animals that degrade habitats, displace native species and damage native ecosystems. These invasive species can quickly become serious threats to the economic and environmental value of the state's coastal areas. Costs related to damage and control of invasive species cost nearly \$400 million annually in Oregon just to control invasive species.

What has been done

The Watershed and Invasive Species Education (WISE) program, which aims to increase awareness of invasive species through K-12 classroom and field-based experiences, trains teachers to integrate invasive species into the curriculum. WISE also provides a small stipend to conduct a stewardship project in the local watershed related to invasive species. In 2010, the WISE program trained 12 teachers on integrating invasive species and watershed learning into the classroom, bringing the total number of teachers trained through the WISE program to 48 since the program started in 2007. 20 new classroom stewardship projects ranged from developing outreach material to science inquiry to engaging members of the local community including watershed councils, local government, and newspapers in steam clean up projects.

Results

WISE is working: Students show increased knowledge of watershed values and invasive species! During the 2009-2010 school year, teachers piloted an online pre-post knowledge assessment of students (in grades 4-12) engaged in the WISE program. During this pilot program students reported a 116% increase in awareness of watershed values and services, and a 17% increase in knowledge of invasive species.

Students indicated that because of their increased knowledge of watersheds and invasive species, they were ready to take action in their community to help prevent the establishment of invasive species. In a post program survey of 47 students, 74% indicated they would never release live plants and animals, 60% said they would always clean their shoes to prevent spread, 66% said they were likely to keep an eye out for new invaders and report them, and 65% plan to tell their friends and family about invasive species.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #4

1. Outcome Measures

% increase in reporting of invasive species as a result of OSU programming.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In recent years Oregon's coast and waterways have come under siege by nonnative aquatic plants and animals that degrade habitats, displace native species and damage native ecosystems. These invasive species can quickly become serious threats to the economic and environmental value of the state's coastal areas. Costs related to damage and control of invasive species cost nearly \$400 million annually in Oregon just to control invasive species.

What has been done

OSU Extension is involved in developing, promoting, managing, and maintaining the Oregon Invasive Species Reporting Hotline. In 2010 over 2000 adult volunteer citizens, agency staff and managers were trained on Early Detection and Rapid Responses to invasive species. In addition, Extension trained USFS summer crews (Aquatic and Riparian Effectiveness Monitoring Program) to actively search for and report aquatic invasive species.

Results

As a result of the trainings, 179 reports were received by the Oregon Invasive Species Hotline, which is a 6% increase from 2009. OSU Extension was directly involved in responding to 43 of the reports.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

After learning about invasive species and concerns over their release, the science supply house, which served 25% of all the school districts in the nation, stopped shipping potentially invasive crayfish into classrooms as part of a popular national science kit.

The Early Detection and Rapid Response tools for invasive species have been adopted as operational guidelines for interagency watershed monitoring activities from northwest Washington into northern California.

The Watershed and Invasive Species Education (WISE) program is working: Students show increased knowledge of watershed values and invasive species!.

Key Items of Evaluation