Economics of Land and Water Use on Private and Public Lands

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Economics of Land and Water Use on Private and Public Lands

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
605	Natural Resource and Environmental Economics	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	2.8	0.0
Actual	0.2	0.0	0.5	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
0	0	59420	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	914179	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	278425	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This program is designed to use economics to identify the reasons why normal market incentives do not achieve socially desirable outcomes and then suggest ways in which policymakers can change these incentives to achieve desired outcomes. Investigators will also evaluate various policies to determine how individuals are likely to react. Specifically, program investigators examined how national and state (Oregon) land use policies impact the viability of local agricultural economies and environmental resources. Activities include development of theoretical and econometric models, databases, and web survey methods. Results were disseminated through scholarly and non-technical publications, and presented at national and community meetings.

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2. Brief description of the target audience

Managers of land and water resources in Oregon and the United States
Policymakers who determine regulations that govern management of land and water resources.
Farm operators and organizations
Resource economists
Communities
Research and Extension Peers

Indirect beneficiaries are:
Citizens of Oregon and other states

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	475	1320	55	0
2007	2020	100000	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	4	6	10

V(F). State Defined Outputs

Output Target
Output #1

Output Measure

SCHOLARLY excellence in referred articles, book chapters, and books; participation on professional boards and panels, as well as science panels.

Year	Target	Actual
2007	2	20

Output #2

Output Measure

PROVIDE ECONOMIC AND MARKETING MODELS AND ANALYSES THAT INFORM DECISION-MAKERS, INDUSTRY, AND PEERS - Farmers learn how to use water more efficiently - Decision makers obtain models to assess changes in policies that influence supply and cost of water in agricultural and non-agricultural uses - Decision makers obtain regional models to assess market mechanisms governing water and private land-use decisions - Researchers investigate, compare, and integrate the environmental and economic impacts of various land-use policies in Oregon (07), regional, 08, compare, 09, integrate 11

Year	Target	Actual
2007	4	5

V(G). State Defined Outcomes

O No.	Outcome Name
1	(1) Provide farm operators with a new set of tools to help them make better irrigation scheduling decisions. - Introduce the idea of deficit irrigation to progressive farmers in Oregon and elsewhere. - Develop models for farmers to schedule irrigation applications each day such that water use is reduced and farm profit is maximized. - Work with irrigation districts and water conservation districts in cooperative projects, as well as provide web-based tools that farmers can access to help in scheduling irrigation applications. - Simplify crop growth models to be easily applied to variety of soils, climates and irrigation technologies and still predict yields with enough accuracy that farmers can profitably use them in making production decision. Ultimately, they directly will decide when and how much to irrigate each field each day during the growing season, and become more aware of the economic tradeoffs between various decisions, making a decision that better utilizes resources and results in higher profit.
2	(2) Produce realistic models that demonstrate the potential gains, and help point to ways that the conflicts between competing goals can be minimized.
3	(3) Develop regional econometric models that reveal the importance of localized factors such as climate and access to commodity markets on private land-use decisions, and incorporate these results into the national model to increase the accuracy of land-use change predictions. (3.1) Develop GIS-based, spatially explicit model to predict development patterns and land prices that would have existed when one or more land use regulation had been removed in the southern part of the Willamette Valley. (3.2) Develop a spatially explicit model to examine the causes of sprawl and its socioeconomic consequences.
4	(4) Increase our understanding of the impacts of land use changes on water quality and ecosystems by examining land-use policies at the national scale, using land cover and land use maps, and spatially-explicit policy simulations. A key advance in this research will be to estimate the effects of land-use changes on populations of different wildlife species.

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Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

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
Competing Programmatic Challenges
Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

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

1. Evaluation Studies Planned

After Only (post program)
Retrospective (post program)
During (during program)
Case Study
Comparisons between program participants (individuals,group,organizations) and non-participants
Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

Key Items of Evaluation