

**V(A). Planned Program (Summary)**

**Program # 5**

**1. Name of the Planned Program**

Sustainable Natural Ecosystems

Reporting on this Program

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
101	Appraisal of Soil Resources	2%		6%	
102	Soil, Plant, Water, Nutrient Relationships	9%		15%	
111	Conservation and Efficient Use of Water	9%		3%	
112	Watershed Protection and Management	2%		2%	
121	Management of Range Resources	13%		5%	
122	Management and Control of Forest and Range Fires	7%		1%	
123	Management and Sustainability of Forest Resources	16%		1%	
131	Alternative Uses of Land	5%		3%	
132	Weather and Climate	1%		4%	
133	Pollution Prevention and Mitigation	2%		6%	
135	Aquatic and Terrestrial Wildlife	15%		7%	
136	Conservation of Biological Diversity	8%		14%	
141	Air Resource Protection and Management	7%		3%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		3%	
202	Plant Genetic Resources	0%		7%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	1%		2%	
212	Pathogens and Nematodes Affecting Plants	0%		4%	
605	Natural Resource and Environmental Economics	3%		5%	
610	Domestic Policy Analysis	0%		6%	
702	Requirements and Function of Nutrients and Other Food Components	0%		3%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

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

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	31.6	0.0	75.5	0.0
Actual Paid Professional	27.4	0.0	70.8	0.0
Actual Volunteer	0.0	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
405803	0	1230173	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
405803	0	1230173	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
10547646	0	46922071	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

UC ANR's integrated research and extension activities will conduct research projects, workshops, education classes and demonstrations, as well as one-on-one interventions. In addition, the programs will use PSAs, newsletters, mass media, web sites and collaborations with other agencies and organizations to create and deliver programs.

**2. Brief description of the target audience**

- Farmers
- Ranchers
- Inland fishery owners/operators
- Governmental agencies
- Agricultural and fishing organizations
- Owners/managers of private and public rangeland, forest and wildlands
- Community organizations
- Resource managers

**3. How was eXtension used?**

UC ANR academics used eXtension to participate in and contribute to many Communities of Practice, to answer "Ask an Expert" questions, and for other networking purposes.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	21415	0	0	0

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

**Patent Applications Submitted**

Year: 2012  
 Actual: 3

**Patents listed**

1. On-line Gas Chromatographic Analysis of Airborne Particles
2. ENVIRONMENTALLY FRIENDLY MANUFACTURING OF MICRO/SUBMICRO FIBERS USING CELLULOSE ACETATE BUTYRATE BI-COMPONENT SYSTEMS
3. A NOVEL APPROACH TO FUNCTIONAL GENOMIC STUDIES OF THE SUPERFAMILY OF RECEPTOR-LIKE PROTEIN KINASE- (RLK's) IN PLANTS

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	39	258	297

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Classes/Short Courses Conducted

<b>Year</b>	<b>Actual</b>
2012	60

**Output #2**

**Output Measure**

- Workshops Conducted

<b>Year</b>	<b>Actual</b>
2012	18

### **Output #3**

#### **Output Measure**

- Demonstrations and Field Days Conducted

<b>Year</b>	<b>Actual</b>
2012	3

### **Output #4**

#### **Output Measure**

- Newsletters Produced

<b>Year</b>	<b>Actual</b>
2012	2

### **Output #5**

#### **Output Measure**

- Web Sites Created or Updated

<b>Year</b>	<b>Actual</b>
2012	4

### **Output #6**

#### **Output Measure**

- Research Projects Conducted

<b>Year</b>	<b>Actual</b>
2012	137

### **Output #7**

#### **Output Measure**

- Videos, Slide Sets and Other AV or Digital Media Educational Products Created

<b>Year</b>	<b>Actual</b>
2012	0

### **Output #8**

#### **Output Measure**

- Manuals and Other Printed Instructional Materials Produced

<b>Year</b>	<b>Actual</b>
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2012

2

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Number of governmental agencies, agricultural and fishing organizations, resource managers and other stakeholders in inland fishery management issues, participating in the programs, gaining knowledge of strategies and techniques for sustainable use of inland fishery resources
2	Percentage of farm and ranch owner/operators and owners/managers of private and public forest and wildlands, participating in natural resource management programs, gaining knowledge of strategies and techniques for sustainable use of natural resources
3	Number of governmental agencies, community organizations and other stakeholders in land use policy issues, participating in the programs, gaining increased understanding of land use planning strategies, methodologies and data
4	Percentage of owners/managers of private and public rangeland, forest and wildlands, participating in range, forest and wildland education programs, adopting recommended strategies and techniques for sustainable use of range, forest and wildland resources
5	Percentage of fire protection and land management agencies, land and home owners, community organizations, and landscape professionals, participating in wildland fire education programs, gaining knowledge on how to increase fire resistance of homes and landscaping
6	Percentage of farm, ranch, and landscape owners/operators and managers and allied industry professionals and governmental agency representatives, participating in air quality education programs, gaining knowledge of the atmospheric system and/or how policies, products, plants, and practices can help improve air quality
7	Percentage of ranch owners/operators and owners/managers of private and public rangeland, participating in rangeland management programs, gaining knowledge of recommended techniques for rangeland monitoring and management, and grazing and browsing.
8	Owners/managers of private and public rangeland, forest and wildlands, participating in sustainable use of natural resources education programs, gained knowledge of strategies and techniques for sustainable use of range, forest and wildland resources.
9	Youth gain knowledge about Sudden Oak Death and intend to adopt sanitation practices to help prevent this forest disease.

### **Outcome #1**

#### **1. Outcome Measures**

Number of governmental agencies, agricultural and fishing organizations, resource managers and other stakeholders in inland fishery management issues, participating in the programs, gaining knowledge of strategies and techniques for sustainable use of inland fishery resources

Not Reporting on this Outcome Measure

### **Outcome #2**

#### **1. Outcome Measures**

Percentage of farm and ranch owner/operators and owners/managers of private and public forest and wildlands, participating in natural resource management programs, gaining knowledge of strategies and techniques for sustainable use of natural resources

Not Reporting on this Outcome Measure

### **Outcome #3**

#### **1. Outcome Measures**

Number of governmental agencies, community organizations and other stakeholders in land use policy issues, participating in the programs, gaining increased understanding of land use planning strategies, methodologies and data

Not Reporting on this Outcome Measure

### **Outcome #4**

#### **1. Outcome Measures**

Percentage of owners/managers of private and public rangeland, forest and wildlands, participating in range, forest and wildland education programs, adopting recommended strategies and techniques for sustainable use of range, forest and wildland resources

Not Reporting on this Outcome Measure

### **Outcome #5**

#### **1. Outcome Measures**

Percentage of fire protection and land management agencies, land and home owners, community organizations, and landscape professionals, participating in wildland fire education programs, gaining knowledge on how to increase fire resistance of homes and landscaping

Not Reporting on this Outcome Measure

### **Outcome #6**

#### **1. Outcome Measures**

Percentage of farm, ranch, and landscape owners/operators and managers and allied industry professionals and governmental agency representatives, participating in air quality education programs, gaining knowledge of the atmospheric system and/or how policies, products, plants, and practices can help improve air quality

Not Reporting on this Outcome Measure

### **Outcome #7**

#### **1. Outcome Measures**

Percentage of ranch owners/operators and owners/managers of private and public rangeland, participating in rangeland management programs, gaining knowledge of recommended techniques for rangeland monitoring and management, and grazing and browsing.

Not Reporting on this Outcome Measure

### **Outcome #8**

#### **1. Outcome Measures**

Owners/managers of private and public rangeland, forest and wildlands, participating in sustainable use of natural resources education programs, gained knowledge of strategies and techniques for sustainable use of range, forest and wildland resources.

#### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	239

#### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**



## Results

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources
123	Management and Sustainability of Forest Resources
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

### Outcome #9

#### 1. Outcome Measures

Youth gain knowledge about Sudden Oak Death and intend to adopt sanitation practices to help prevent this forest disease.

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2012	0

#### 3c. Qualitative Outcome or Impact Statement

##### **Issue (Who cares and Why)**

Sudden Oak Death is a serious forest disease that has killed more than a million trees and infected many more. It is established in 14 California counties and part of southwestern Oregon, but has the potential to spread further in the coastal forests where it thrives. The disease is caused by a pathogen, *Phytophthora ramorum*, which spreads naturally once established in forests, but can also be spread longer distances via plants and soil that are moved by people. It is therefore vitally important to keep people from inadvertently spreading the pathogen. An education campaign to engage the public on this issue has been in place since 2000, but most outreach has taken place at the professional and adult level; resources for youth were lacking.

##### **What has been done**

To address this lack of youth education on Sudden Oak Death, a collaborative UC Cooperative Extension effort created an outreach effort aimed at middle school youth. The resulting program, called "Can My Tree Catch the Flu?" relates the oak pathogen to the more familiar human flu

virus to create a better understanding of its effects on trees and its modes of transmission. A series of activities were developed and presented in a classroom setting to middle school students, at a 4-H day camp to mixed-age youth, and as an interactive exhibit to hundreds of youth and their adult chaperones at Marin County Farm Day. These activities were then adapted into Adobe Flash animations posted on the website of the California Oak Mortality Task Force ([www.suddenoakdeath.org](http://www.suddenoakdeath.org)). For each of the original four in-person activities, an interactive, animated "scene" was created that allows users to click through different views and answer questions to increase their understanding of Sudden Oak Death.

### **Results**

Participants greatly increased their knowledge of Sudden Oak Death, from a majority (63%) knowing nothing at the start of the session to 100 percent knowing "some" or "a lot" more about the issue. More importantly, 49 percent said they would clean their shoes to prevent the spread of forest pathogens. This increased knowledge and participation in sanitation actions will help reduce the long-distance, artificial spread of the Sudden Oak Death pathogen. By bringing these activities to wider audiences through exhibits and online games, we are able to encourage even more people to help keep the pathogen from spreading, in ongoing efforts to keep forests free from this damaging disease.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
212	Pathogens and Nematodes Affecting Plants

### **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
- Populations changes (immigration, new cultural groupings, etc.)

#### **Brief Explanation**

{No Data Entered}

### **V(I). Planned Program (Evaluation Studies)**

#### **Evaluation Results**

UC ANR's outcomes recorded from the evaluation studies, are reported under the State Defined Outcomes section.

#### **Key Items of Evaluation**

The Report Overview's federal Planned Program summary of accomplishments highlights ANR's most significant work during FY 2012, especially the research developments.