

Sustaining California's Natural Resources

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Sustaining California's Natural Resources

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	5%		16%	
111	Conservation and Efficient Use of Water	18%		4%	
112	Watershed Protection and Management	22%		11%	
121	Management of Range Resources	11%		2%	
132	Weather and Climate	2%		8%	
133	Pollution Prevention and Mitigation	20%		12%	
135	Aquatic and Terrestrial Wildlife	18%		16%	
206	Basic Plant Biology	0%		8%	
212	Pathogens and Nematodes Affecting Plants	0%		9%	
605	Natural Resource and Environmental Economics	4%		14%	
	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	55.5	0.0	80.8	0.0
Actual	58.8	0.0	72.3	0.0

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

Extension		Research	
Smith-Lever 3b & 3c 1282199	1890 Extension	Hatch 781743	Evans-Allen 0
1862 Matching 1282199	1890 Matching 0	1862 Matching 781743	1890 Matching 0
1862 All Other 18140185	1890 All Other 0	1862 All Other 41207201	1890 All Other 0

V(D). Planned Program (Activity)

1. Brief description of the Activity

UC ANR's integrated research and extension activities conducted research projects, workshops, education classes and demonstrations as well as one-on-one interventions. In addition, the programs used 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 •Marine industry owners/operators •Governmental agencies •Agricultural and fishing organizations •Owners/managers of private and public rangeland, forest and wildlands •Community organizations •Resource managers

Because of the extreme diversity of California's natural resources, the clientele is necessarily diverse. In many cases, the issues at hand are somewhat contentious, with a wide range of viewpoints represented by the various interest groups. It is essential that information that is presented has a sound scientific basis, and that it is presented in a clear, understandable manner, at a level that is appropriate for the target audience. Recognition of the clientele's position on a specific topic is also important.

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	56000	0	0	0
2007	245765	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	1
2007:	4

Patents listed

Characterization Of Individual Polymer Molecules Based On Monomer-Interface Interactions
 Calcineuric B-Like Protein 1 As A Stress-Tolerance Protein
 A Gene For Green Alga Hydrogen Production
 Gene Regulation By Alternative Splicing And Nonsense-Mediated Decay

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	69	474	0

V(F). State Defined Outputs**Output Target****Output #1****Output Measure**

Classes/Short Courses Conducted

Year	Target	Actual
2007	100	376

Output #2**Output Measure**

Workshops Conducted

Year	Target	Actual
2007	120	67

Output #3**Output Measure**

Demonstrations and Field Days Conducted

Year	Target	Actual
2007	90	49

Output #4**Output Measure**

Newsletters Produced

Year	Target	Actual
2007	90	12

Output #5**Output Measure**

Web Sites Created or Updated

Year	Target	Actual
2007	30	13

Output #6**Output Measure**

Research Projects Conducted

Year	Target	Actual
2007	300	241

Output #7**Output Measure**

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

Year	Target	Actual
2007	30	4

Output #8**Output Measure**

Manuals and Other Printed Instructional Materials Produced

Year	Target	Actual
2007	70	15

V(G). State Defined Outcomes

O No.	Outcome Name
1	Percentage of farm, ranch and rangeland and marine industry owners/operators and managers and allied industry professionals participating in water quality education gaining knowledge of best management practices for preserving water quality
2	Number of governmental agencies, agricultural and fishing organizations, resource managers and other stakeholders in marine and inland fishery management issues gaining knowledge of strategies and techniques for sustainable use of marine and inland fishery resources.
3	Percentage of owners/managers of private and public rangeland, forest and wildlands participating in range, forest and wildland education gaining knowledge of strategies and techniques for sustainable use of range, forest and wildland resources
4	Number of governmental agencies, community organizations and other stakeholders in land use policy issues gaining increased understanding of land use planning strategies, methodologies and data
5	Percentage of farm, ranch and rangeland and marine industry owners/operators and managers and allied industry professionals participating in water quality education adopting best management practices for preserving water quality
6	Percentage of owners/managers of private and public rangeland, forest and wildlands participating in range, forest and wildland education adopting recommended strategies and techniques for sustainable use of range, forest and wildland resources
7	Number of farm, ranch, rangeland and marine industry owner/operators and managers, allied industry professionals, and members of the public participating in water quality education programs who gained knowledge of best management practices for preserving water quality
8	Number of state, regional, and local governments, districts, and regulatory agencies participating in water quality education programs that gained knowledge on residential landscapes design to mitigate pollutants in surface runoff arising from poor irrigation uniformity and storm events
9	Number of owners/managers of private and public rangeland, forest and wildlands participating in sustainable use of natural resources education programs who gained knowledge of strategies and techniques for sustainable use of range, forest and wildland resources
10	Number of farm owner/operators, allied industry and natural resource professionals, and members of the public who participating in water conservation education programs gained knowledge of water use and conservation practices
11	Number of farm owners/operators and allied industry professionals participating in soil quality education programs who gained an understanding of soil salinity conditions and soil-plant-water nutrient relationships, and the relevant management practices
12	Number of fire protection and land management agencies, land and home owners, community organizations, and landscape professionals participating in wildland fire education programs that gained knowledge on how to increase the fire resistance of homes and landscaping
13	Number of farm, ranch, and landscape owner/operators and managers, allied industry professionals, and governmental agency representatives participating in air quality education programs who gained knowledge of the atmospheric system and/or how policies, products, and plants, and practices can help improve air quality
14	Number of ranch and rangeland owner/operators and managers and allied industry professionals participating in the sustainable use of natural resource education programs who gained knowledge in goat browsing and sheep grazing
15	Number of farm and nursery owner/operators participating in water quality education programs who intended to use best management practices for preserving water quality
16	Number of natural resource professionals and members of the public participating in wildland fire education programs who demonstrated an increased interest in gaining knowledge and/or working together to help protect property from wildfire damage
17	Having participated in the wildland fire education program, the Los Angeles County Fire Department intended to incorporate a newly gained understanding about invasive plants into its fire-safe landscaping and fuel modification policies and its homeowner education programs
18	Number of fishery and marine resource managers and allied industry professionals participating in sustainable use of natural resources education programs who gained an appreciation for the importance of considering social, cultural and economic impacts of management actions for sustainable fisheries
19	Number of farm, nursery, and marine industry owner/operators and managers and allied industry professionals participating in water quality education programs who acquired water quality skills to reduce run-off and water pollution
20	Number of farm, ranch, rangeland, and lanscape owner/operators and managers and allied industry professionals participating in water efficiency and quality education who adopted best management practices for water conservation and preserving water quality

Sustaining California's Natural Resources

21	Number of acres of public or private rangeland with perennial or seasonal streams being stewarded by beef cattle ranchers, participating in the rangeland water quality programs, who implemented vegetative buffer strips
22	Number of redwood land acres purchased, as a result of the Redwood Forest Foundation adopting the new, recommended economic ownership model; this provides new hope to the timber industry to explore new ownership and management alternatives
23	Number of farm and ranch owner/operators and managers, allied industry professionals, and members of the public participating in soil quality education who adopted practices to improve soil quality
24	Number of forestland and home owners and fire fighting agencies participating in wildland fire education that adopted recommended wildland fire prevention and control practices
25	Number of peach and almond orchard owner/operators and managers participating in air quality education programs who adopted fumigants other than methyl bromide and fewer ineffective alternative materials, to reduce air and water contamination and ozone depletion
26	The Butte County Board of Supervisors adopted the project's recommended Oak Woodland Management Plan, providing ranchers interested in rangeland conservation access to the California Oak conservation grant funds to purchase conservation easements and improve oak habitat
27	Rice growers find an alternative market for rice straw with dairies, rather than burning the material

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
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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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

FY07-08 was one of the driest years on record in California. Coupled with the below-average rainfall experienced the previous year, this had several significant impacts across the state. There is increasing competition for our scarce water resources among the agricultural, urban, and environmental sectors. In conjunction with a number of recent decisions regarding allocations of water from the Colorado River and the Bay-Delta, the drought exacerbated that competition. The inextricable link between water quantity and water quality has come into sharper focus as a result of water scarcity. There is an increased focus on finding appropriate, safe uses for reclaimed municipal wastewater for agricultural, urban, and environmental uses. Increased attention is being paid to protecting groundwater sources of potable water from surface contamination. In some areas of the state, agricultural lands are being fallowed as water previously used for irrigation is being sold for urban use. Water scarcity is also resulting in closer scrutiny regarding the water needs of new developments proposed in some urban areas. The below-average rainfalls also contributed to the numerous wildfires across the state. Some of the impacts were immediate, including the destruction of thousands of acres of forests, wildlands, and urban areas; air quality impacts on human health, wildlife, etc., as well as the significant economic impacts. Other impacts will take longer to occur. These include the potential for erosion during heavy rainfall events in the burn areas, which will cause increased sediment loads to surface water bodies, which can impact the aquatic ecosystem; recovery of plant and animal species in the burn areas, and economic recovery.

The 2006 nationwide outbreak caused by consumption of California-grown spinach contaminated with E. coli O157:H7 has led to a number of actions to try to prevent a recurrence of food-borne outbreaks. The link between water quality and food safety is receiving increased attention. There is an increased awareness of the proximity of animal operations to water that is used as a source of irrigation. Proposals to use treated municipal wastewater to irrigate food crops and land apply biosolids as a fertilizer are more carefully scrutinized, as there is the potential for these materials to contain disease-causing microorganisms.

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

1. Evaluation Studies Planned

After Only (post program)

Retrospective (post program)

Before-After (before and after program)

During (during program)

Time series (multiple points before and after program)

Case Study

Comparisons between program participants (individuals, group, organizations) and non-participants

Comparison between locales where the program operates and sites without program intervention

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}