

Funding

- 52 total projects have been approved for funding from 2011-2013
- Total investment of \$11,712,118

Participation Highlights

- 229 ANR academics and staff have participated in the grants program
- 95 UC students (56 graduate and 39 undergraduate) participate on the grants
- 27 early career academics are supported by the grants program
- 228 persons (head count) have served as collaborators, many of them on more than one project and for more than one initiative
- 65 non-ANR affiliated agencies/partners have collaborated on ANR grants

Competitive Grants Program Overview

UC ANR administers an internal competitive grants program aimed to address issues within the initiatives outlined in its [Strategic Vision](#). Through its grants program, ANR invests in research, education and outreach projects to **support high-priority issues that are consistent with the Strategic Vision; encourage collaboration among academics; strengthen the research-extension network; support short-term, high-impact projects; and contribute policy-relevant outcomes that address significant agricultural, economic, environmental and social issues in California.** The Division is focusing its resources where there is an opportunity to demonstrate impact, inform public policymaking, and attract new resources to support all elements of ANR. In doing so, ANR strives to achieve the greatest benefit for Californians with its investment.

Over the last three cycles, ANR has made several changes to the grants program, responding to feedback provided by the ANR community:

- **2011 Cycle:** ANR accepted proposals for two types of award mechanisms: (large-scale integrated projects, 3-5 years and \$600k max) and (targeted short-term projects, 1-2 years and \$50k max). Targeted short-term projects were eligible to apply for projects targeting research only, education and outreach only, or a combination of both.
- **2012 Cycle:** Water initiative was implemented, and both long and short-term projects were required to include research and extension.
- **2013 Cycle:** Principal investigators were able to submit proposals for research and/or extension projects; early-career academics were strongly encouraged to apply; cross-initiative proposals were strongly encouraged; and applicants had the option to start their projects in April or August.

Purpose for Conducting Formative Assessment

ANR's Office of Program, Planning and Evaluation (OPPE) was charged to measure progress toward addressing the grants program's goals by documenting the extent to which it is operating as planned.

"After several years of significant investment, it is time for the Division to conduct an assessment of the progress from the Competitive Grants Program to evaluate whether the intended results are being reached or if the trajectory is on target to reach them. This year [2014] we will conduct an assessment in order to ensure that the focus of the program is appropriate and impacts are being achieved or can be projected."

-Bill Frost, ANR Update, March 13, 2014

Work Plan and Timeline

- Financial & programmatic administrative review—*July 2014*
- Qualitative analyses to measure deliverables & outcomes—*July & August 2014*
- Grantee/participant survey to measure the level of engagement and collaboration, as well as funds/resources leveraged—*August 2014*
- Discussion and feedback from Program Council—*September & November 2014*

Deliverable Findings

- 10 grant projects have developed 16 innovative new tools, methods, and technology.
- Over half of the grant projects plan to produce a new tool, method, or technology.
- Grant projects are also delivering new websites, videos, and social media; publications, curricula and handbooks; field days and trainings; and educational presentations, etc.

Getting from Investment to Impact

All funded grant proposals, progress reports and final reports received by June 2014 were reviewed and coded for deliverables and outcomes based on the RFP and agreed to by the Strategic Initiative leaders.

Conclusion: The grants program is reaching the goal of investing in projects that support high priority issues. Projects are producing significant deliverables to address Strategic Initiative priority areas, demonstrating return on investment.

Examples of New Tools and Methods Developed:

Emerging and re-emerging problems with pests and diseases

Grafton-Cardwell, Daugherty, Jetter and Lynn-Patterson's project *Risk Assessment, Economic analysis, and Extension Education for Asian Citrus Psyllid and Huanglongbing Disease Management in California* (2011) **developed an interactive online tool that links a geospatial database and economic models to improve decision making for ACP/HLB policy makers, growers and homeowners.** This tool includes a zoomable map which provides information on ACP density to inform both grower and homeowner management strategies -- http://ucanr.edu/sites/ACP/Distribution_of_ACP_in_California/.

Promoting positive youth development

London, Erbstein, and Geraghty's project *Putting Youth on the Map: Youth Well-being and Vulnerability in California* (2011) **developed an online, interactive tool with new two geo-referenced indices of youth vulnerability and youth well-being to inform youth care and investment for a diverse group of decision-makers** (<http://interact.regionalchange.ucdavis.edu/youth>). Also see UC Delivers story [Putting Youth on the Map](#).

Addressing regional/local food system issues

Surls, Baameur, Feenstra, Hardesty, and Wilen's project *UC ANR: A resource for Urban Agriculture* (2012) **developed an urban ag website portal to extend science-based information and marketing strategies to enhance the competitiveness of California's small urban agricultural producers and their products, and will support California's role as an agricultural producer in local markets** (<http://ucanr.edu/sites/UrbanAg>).

Tools to improve the relative competitiveness and productivity of California agriculture

Oberbauer's project *Increasing competitiveness of the California Dairy Industry through Genetic Selection* (2011) **developed a new genetic selection method** employing consideration of hoof health in sire selection as a means to increase herd health, improve milk yield, reduce economic inputs, environmental impacts, and improve animal welfare for the California dairy industry.

Addressing agricultural water use efficiency

O'Geen, Becchetti, Dahlgren, Doll, Elkins, Eviner, Fogg, Fulton, Harter, Hopmans, Ingels, Lewis, Niederholzer, Sandoval Solis, Schwankl, Tate, Wunderlich's project *Soil Survey Decision Support Tools for Water Resource Sustainability and Agricultural Productivity* (2012) created: 1) an **agricultural groundwater banking index** for the Central Valley, which included developing a **new map** accounting for the alteration of soils by deep tillage, and a spatial database of soil attributes that influence groundwater banking; 2) a **statewide map of plant available water holding capacity in California soils**; 3) the **SoilWeb**; 4) a **new 'modified soils' GIS layer** to account for this increase in groundwater recharge potential in the region.

Outcome Findings

- Projects are reporting science-based information being learned and applied to policy and decision-making.
- Projects are reporting learning outcomes—including new knowledge, methods, and skills learned by others, and indicating intention to adopt recommended practices.
- Projects are reporting action outcomes—including new knowledge applied, new skills/methods applied, and practices adopted.
- A couple projects reported contributing to improvements in social/health and environmental conditions.

Getting from Investment to Impact

Conclusion: The grants program is reaching the goals of supporting short-term, high-impact projects and contributing policy-relevant outcomes that address significant agricultural, economic, and environmental and social issues in California. Most reported outcomes are from the projects that began in 2011, and thus have had more time to realize outcomes.

Examples of Reported Outcomes Addressing Strategic Initiative Priority Issue Areas:

Exclusions of pests and pathogens

Williamson and Nadler's project *Root-knot nematode species identification using mitochondrial DNA* (2011) reported **regulatory agencies have begun to utilize a new DNA-based assay for routine root-knot nematode species identification**. Root-knot nematodes damage a wide range of California crops. Control options have been greatly reduced by recent increased restrictions on fumigant pesticides.

Promoting healthy behaviors for childhood obesity prevention

Zidenberg-Cherr's project *A Multi-Component, School-Based Approach to Supporting Regional Agriculture, Promoting Healthy Behaviors, and Reducing Childhood Obesity* (2011) explained that through the project, **school wellness policy advisory committees were created to integrate Shaping Healthy Choices Program activities into the school wellness initiatives**.

Food safety

Bianchi and Lowell's project *Outreach and Extension Programs for Co-Management of Food Safety and Ecosystem Services in Fresh Produce* (2011) reported **informing policy makers at the local and national level as they work to provide comment on the proposed rules in the Food Safety Modernization Act (FSMA, 2011)**. "National programs led by Cornell's Produce Safety Alliance are using the project's materials in developing outreach and extension programs to train fresh produce growers who will be affected by the pending FSMA produce rule."

Balancing multiple ecosystem services and biotic diversity on CA's working landscapes

Lewis, Doran, Eviner, Harper, Larson, O'Geen, and Tate's project *Creek Carbon - Dynamics of Carbon and Nitrogen in Restored Mediterranean Riparian Zones* (2011) reported that the **"Natural Resource Conservation Service, local Resource Conservation Districts and UC researchers are incorporating the concepts and preliminary results from this project into their assessments of conservation practice effectiveness and efforts to develop market based support for landowner ecosystem service provisioning."**

The shifting spatial structure of CA's natural resources under environmental change

Stephens and Kocher's project *Informing Sierra Nevada forest restoration: Re-measurement and analysis of 1911 forest inventory data from the central Sierra at large spatial scales* (2012) reported **providing the US Forest Service with a copy of the project's 1911 data which they are using in their Forest Plan Amendment**.

Examples of New Endeavors

- “Worked with colleagues outside my knowledge areas”
- “Industry entities are interested in doing similar studies with our cooperation and involvement.”
- “I am new to ANR and the grants program has given me the opportunity to create a collaborative relationship that I am confident will lead to future grant writing. In addition, it has given me the opportunity to get to know county academics and look forward to building on those relationships.”
- “I was co-author on a paper I normally would not be because it is not directly related to my research or extension program.”

Fostering Collaboration and Leveraging Resources

An online survey was conducted to assess whether ANR’s competitive grants program was: 1) encouraging collaboration among academics, 2) strengthening the research-extension network, and 3) leveraging new and/or additional resources.

Conclusion: Based on the data captured from the survey respondents, the grants program is indeed playing a meaningful role addressing the three goals stated above.

Overview

- Survey was sent to all principal investigators, co-investigators and collaborators listed on 2011, 2012 and 2013 grant cycles with a documented/functioning email address (152).
- The survey had an 87.5% response rate (133).
- 35% of respondents were CE Advisors, 17% CE Specialists, 17% AES Faculty, 5% CE/AES split appointment. The remaining 26% includes agency partners, community organizations, non-ANR UC and non-UC academics, and others.
- 48% of respondents served on 1 grant, 28% on 2 grants, 11% on 3 grants, 7% on 4 grants, and 6% on 5 or more grants.
- 24% of respondents were early career academics (< 6 years).

Survey Finding Highlights

Fostering Collaboration

- 70% (92) of respondents answered “yes” when asked: “Has participation in the grants program led to any new collaboration(s)?”
- 65% (84) of respondents answered “yes” when asked: “Did the grants program enable previous collaborations to be re-invigorated?”
- 66% (85) of respondents felt strongly or very strongly that the grants program is effective in bringing research and extension/outreach professionals together.

Leveraging Resources (monetary and in-kind)

- 38% (49) of respondents stated that the grants program served as seed funding to help them seek new, additional resources.
- 60% (27) of respondents who have leveraged additional resources stated that these new resources have been significant to their overall work.
- 39% (17) of respondents who have leveraged additional resources did so from federal agencies, 19% (8) from state, 12% (5) from commodity organizations, and 7% (3) from foundations.

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