

**A socio–economic and behavioral analysis of  
farmers' decisions to adopt or reject the  
CALFED conservation initiatives**

**Rheyra M Laney**

# Initial Selection Panel Review

0070

A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

Sonoma State University

*Applicant amount requested: \$175,228*

*Fund This Amount: \$175,228*

The Panel members found this to be a fascinating proposal because it seeks answers to the questions "what is likely to change farmers' mindset about a project; how to carry a project to success; and how to be an advocate for the project"? The Panel recognizes that it is important for the program to invest in researching this. The Panel recommends funding this proposal if revised. In particular, the applicant should strengthen the methodology, develop a broader sampling base; consider the use of a focus group to gather information (vs. phone survey); use students experienced with farmers and knowledgeable of the farming industry; and work closely with a well established entity within the ag community to ensure acceptability from farmers (and a reliable sampling).

In addition, there may be the opportunity to coordinate questions for the survey tool with other projects in this PSP. The Panel recommends that if possible, the applicant work with other projects to develop and implement it.

Fund with conditions. Conditions which need to be met include: 1) Use local farm bureaus and resource conservation districts and perhaps conduct town hall meetings or forums as a part of the Task 2 and Task 3 activities; 2) Identify survey respondents who did not adopt conservation innovations; 3) Identify survey respondents who applied for and won grant awards to conduct conservation innovations but subsequently opted to not perform the innovation(s); 4) Clarify that survey respondents targeted are not selected solely based upon PSP

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grants, but also are based on conservation innovations funded by other sources; and 5) Provide more clarity on sampling strategies for both baseline (single region or multiple region) and subsequent targeted sampling. Describe what criteria will be used to ensure the survey is not biased by only interviewing easy to reach participants.

Fund With Conditions

# Technical Panel Review

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

*Amount Requested:* \$175,228

Panel Rating:

Very Good - High quality in nearly all respects

## Panel Summary

This is a very straight-forward proposed project that would result in detailed interview data for a modest cost. The conceptual model was good and methodology clear. The hypotheses were testable and linked to both the conceptual diagram and the literature review. This proposal has the potential to yield information that would be helpful to a program manager audience, and to have an impact on overall program development and success of future projects in California. This study has considerable merit based on the attitudinal data that would be gathered, synthesized, and used to benefit the design of future projects.

The panel raised several concerns related to the proposed project's feasibility, including the proposal's reliance on farmers involved in projects funded through this PSP, which may be a very small pool, and that the sample size may be too small for some of the analyses proposed. It may be necessary to include farmers that have adopted other conservation practices outside of this solicitation in the study design and analysis. Panelist concerns also included the interpersonal skills of graduate and undergraduate students to implement the surveys involved in the study. Additional suggestions were offered by the panel, including that researchers may want to seek farmers, local farm advisors, or trusted agency representatives who would introduce them to farmers to facilitate the interview process from a local perspective. Researchers also may not want to dismiss mail surveys on a

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cost-basis, and may need to implement additional strategies to find participants.

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*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

*Amount Requested:* \$175,228

## Goals

<b>Rating</b>	excellent
<b>Comments</b>	The justification, goals, and objectives are clearly presented. A strong connection is provided that links the goals, objectives, research methods, and data uses throughout the proposal. The goals and objectives will be able to be clearly measured and assessed.

## Justification And Conceptual Model

<b>Rating</b>	excellent
<b>Comments</b>	A strong justification and framework is presented that clearly explains how the project would be developed and implemented. This approach is innovative and soundly based in previous research that directly shapes its likelihood of success. A logical and manageable framework is suggested which will likely lead to clearly defined advances for program and policy efforts.

## Approach

<b>Rating</b>	good
<b>Comments</b>	A clear framework and methods are presented. However additional detail would enhance the proposal. This is

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	particularly true in the sampling and data collection methods. While they are clear, additional detail would present a perfectly clear image of how data could be gathered and utilized. The analysis suggested might pose potential problems considering the sample size.
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**Feasibility**

<b>Rating</b>	very good
<b>Comments</b>	The project, compilation of data, and development of outcomes appears feasible. Additional information and detail on specific data and methods for obtaining them would be useful in better determining the likelihood of success/feasibility. The scale of the project is consistent with the goals and objectives. It would appear to be within the abilities of the authors.

**Performance Evaluation**

<b>Rating</b>	good
<b>Comments</b>	The performance measures listed are adequate, but could be greatly expanded and explored in more detail. This would help the reader determine exactly how evaluations will take place and how this information will be used.

**Proposed Outcomes**

<b>Rating</b>	very good
<b>Comments</b>	A strong series of outcomes are presented and clearly defined. These appear feasible and directly applicable to advancing program and policy. Additional information on exactly how outreach efforts will be designed and implemented will help this proposal.

**Capabilities**

<b>Rating</b>	very good
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<b>Comments</b>	The authors have a sufficient background, experience, and professional success to design and implement this project.
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**Cost-Benefits**

<b>Rating</b>	very good
<b>Comments</b>	The budget is sufficient to meet the research and outreach needs presented. Monies designated for research team members are adequate and not excessive. The research and out reach efforts described present a product considering the requested funds.

**Overall Evaluation Summary Rating**

<b>Rating</b>	very good
<b>Comments</b>	This project represents an important effort that will significantly contribute to local/state planning and development efforts. It presents strong research and outreach efforts that will contribute to existing knowledge and applied efforts to more efficiently utilize natural resources. Overall the proposal appears to provide a useful contribution to natural resource management.



# External Technical Review #2

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

*Amount Requested:* \$175,228

## Goals

<b>Rating</b>	fair
<b>Comments</b>	<p>The proposal describes the problem to "understand why farmers choose to adopt or reject the CALFED-sponsored conservation initiatives funded through this solicitation." It is therefore a proposal to monitor and learn from the other proposals that are expected to be funded. The proposal addresses the ecosystem goals (ERP goals) only indirectly: by understanding farmers' motivations for adoption or rejection, the proposal expects to identify how policymakers and project designers (in the future) can intervene to influence farmers' choices and increase adoption rates of actions which further ERP goals.</p> <p>The objectives of this project are clearly stated at a general level, but beyond that the ways in which they can be expected to produce tangible results are only vaguely described. How these results - even if they are conclusive - will lead to greater acceptance of conservation-based farming practices and systems is unclear. The specific kinds of practices are not specified, and the specific ways in which this information could be used by policymakers or project designers in the future is also not specified.</p>

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## Justification And Conceptual Model

<p><b>Rating</b></p>	<p>poor</p>
<p><b>Comments</b></p>	<p>The conceptual model described in the proposal is not fully developed, nor is it well grounded in the most relevant scholarly literature. A model of innovation and adoption is put forward, but any detailed reference or representations from key fields like decision theory, risk analysis, or economic models of farm/household behavior are absent. Many of the references cited are quite dated, or come from outside the key literatures. For example, there are hundreds of excellent studies of farmer behavior and adoption in the agricultural economics literature, but these are not cited.</p> <p>Some parts of the conceptual model are only vaguely laid out. Some farmers are identified as "utilitarian farmers" without explaining where this term comes from, or in what sense "utilitarian" is being applied here (I am aware of no other use of this term). The hypotheses do not flow explicitly from the "model" in part because the conceptual model is incompletely described. What does it mean to hypothesize that "Projects that are easily compatible with farmers' present management systems and are within their capabilities will allow even weakly motivated farmers to participate"? How is "compatible" being defined? Capabilities?</p> <p>Detail is lacking on the economic variables that would influence farmer behavior in this kind of setting. There is no mention of assets, wealth, debt, prices, wages, off-farm income, whether land is owned or rented, etc.</p>

## Approach

<p><b>Rating</b></p>	<p>poor</p>
<p><b>Comments</b></p>	<p>The approach is described in non-specific terms since the study anticipates monitoring and surveying farmers who may, or may not, participate in the yet to be determined projects funded by this very competition. The sample of farmers is uncertain (adoption activities involving "more than 10" farmers), as is the location ("If possible, the study will focus on only two or three regions, ..."). The method of selecting participating farmers and a control group in order to avoid selection bias is not fully explained. The study acknowledges that "before-and-after" interviews with participating farmers are unlikely to be feasible.</p> <p>There is a spatial component to the approach intended to capture spatial (regional) variations in farmer attitudes, and the proposal involves GIS-based identification of a sample of farmers. The justification for this complicating aspect of the study is not adequately explained, other than a strong presumption that spatial variation in farmer attitudes exist and are important to take account of. However, the proposal does not include systematic recognition of the spatial/regional differences that are also likely to exist with respect to economic variables such as prices for land, labor, transportation, or differences in soil quality and farm productivity. Data collection is based entirely on questionnaires that do not include detailed economic data of the kind necessary to account for these differences (e.g., land prices, soil types).</p> <p>The intended results, as they are described, are likely to provide only ambiguous indications related to farmer motivation. Sample size is small (30 farmers in a random sample that is stratified leaves at most 15 farmers in each category of adopters), and there is</p>

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unlikely to be a clean distinction between "adopters" and "non-adopters" (e.g., partial adopters). Most important, however, it will not be possible to attribute adoption/non-adoption to the "attitudinal types" since the study will not be controlling for differences in the economic circumstances of farmers: without detailed data collection on the differences in these economic circumstances (wealth, land ownership, debt, prices), this will not be possible. There is no doubt that attitudes (for example, toward risk) will depend importantly on the differences in economic circumstances of the farmers, and the kinds of data needed for such an assessment are not included in the questionnaires. (Some partial labor information will be collected in the questionnaires).

One element of the study proposes to test the hypothesis that "extension programs that instill a positive impression on farmers ... will increase adoption rates among weakly motivated, and even unfavorably inclined, utilitarian farmers." There is an endogeneity problem with this however, to the extent that extension educators are more responsive and more engaged with farmers who respond positively to the interaction. The cause and effect direction may be difficult to ascertain.

**Feasibility**

Rating	good
Comments	The project's approach is technically feasible, although there is some uncertainty about what kind of CALFED-funded conservation initiatives will be the target of the study, and what sample size of farmers (adopters and non-adopters) will be included and their characteristics. The project requires cooperation with other CALFED projects and with farmers, and there may be unforeseen obstacles in both areas. The three-year time frame should allow sufficient time for the proposed data collection activities. There are no environmental compliance issues to address for this

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	activity. The requirement to gain university approval when using human subjects (in interviews) has been acknowledged in the proposal.
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**Performance Evaluation**

<b>Rating</b>	poor
<b>Comments</b>	<p>The performance evaluation monitoring plan is not fully developed or explained in the proposal. The criteria used to test hypotheses are not explicitly explained. Indeed, the manner in which the researchers will distinguish between "utilitarian farmers" and other farmers, how "dominant attitudes" will be defined and what criteria will be used to conclude that regional differences in these exist is not explained. Since pre-post comparisons are said to be infeasible, the proposal indicates the use of "treatment-control comparisons" among groups of farmers, but few details are provided on the specifics of sampling frames, statistical methods, or quantitative measures. Methods for controlling for economic differences among farmers in order to test hypotheses regarding attitudinal differences are not included. The performance evaluation description emphasizes contingency plans if the stated hypotheses are not supported, the project will "reconfigure its conceptual model, and develop a new set of hypotheses for testing..."</p> <p>The proposal does not include a list of project-specific performance measurements. Given the nature of the proposal, this project will not demonstrate the efficacy of the agricultural management or restoration action. (Presumably the success or adoption rates for the projects under study will be reported by those CALFED projects directly.)</p>

**Proposed Outcomes**

<b>Rating</b>	poor
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Comments	<p>The proposed outcomes and likely success of this project is questionable. This is due to several factors including a) the uncertainty about what kind of CAFED-funded conservation initiatives will be the target of the study, b) what sample size of farmers (adopters and non-adopters) will be included and their characteristics, c) the lack of a well-defined and fully explained survey design and pretest protocol, d) the incomplete and inadequate attention to the economic circumstances and market environment within which the farmers operate, and e) the inability to ensure consistent and comparable exposure to extension education activities across the studied farmers. Moreover, to the extent that several different conservation innovations are being promoted to farmers, their reasons and motivations in accepting or rejecting one particular innovation are likely to be different than their reasons for others. The generalizability of the evidence from one innovation to another is uncertain, and this raises additional questions about the usefulness of these project-specific results for policymakers considering other, future projects.</p>
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**Capabilities**

Rating	fair
Comments	<p>The PI's prior grants and contracts do not appear to include other studies of this kind. The PI is a self-described "human ecologist", although trained in geography and an associate professor in geography with demonstrated skills, grants and publications in GIS-related work involving land use changes. The PI has three publications, none of which appear to involve behavioral models of decision making, innovation adoption, or farmers. Some familiarity with farming and farm problems in the US is essential to success in this kind of endeavor, and that appears to be lacking. The institutional support and ability to recruit students for this project appear to be adequate.</p>

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**Cost-Benefits**

<b>Rating</b>	very good
<b>Comments</b>	The budget appears to be reasonable and adequate for the work being proposed.

**Overall Evaluation Summary Rating**

<b>Rating</b>	poor
<b>Comments</b>	Due to the shortcomings identified above pertaining to the justification and conceptual model, approach, performance evaluation, proposed outcomes and capabilities, the proposal does not meet the criteria for a higher rating as defined for this review process.

# External Technical Review #3

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

*Amount Requested:* \$175,228

## Goals

<b>Rating</b>	very good
<b>Comments</b>	While the goal of the project is to evaluate why different farmers adopt CALFED-sponsored conservation initiatives and then use this information to help policymakers and project designers increase adoption rates, why would we expect a 1% increase in the rate of adoption to translate into a 1% increase in the environmental benefits associated with a CALFED project? That is, "passive farmers" may be "adopting" because they are essentially already following the requirements of the program and hence the benefits are much less for these producers than producers not already close to following the prescribed production practices. An underlying assumption is made that adoption translates to benefits. While the relationship of adoption to benefits is probably not one-to-one, the sign is at least in the same direction making the project goals worthy. However, caveats should at least be noted that adoption rates do not translate directly to environmental benefits.

## Justification And Conceptual Model

<b>Rating</b>	good
<b>Comments</b>	I compliment you for putting "figure 1" in your proposal - it is well done. How do we know that

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"extension activities" do not also influence the a-priori attitudes and motivations of the producers? That is, you are proposing to categorize producers into four different groups, but how do we know that producers' managerial innovations (e.g., flood or drip irrigation, etc.) and cost structure have not also been influenced by extension activities and the group they are classed into? In order to determine whether the constraints are low or high for a project, do you not also need a better understanding of the managerial innovations and cropping mix (e.g., small grains or high value specialty crops) or costs of adoption for the producers analyzed? While this is eluded to in your proposal, your conceptual model and data sections do not provide specifics for how managerial practices will be measured and used to determine different constraint and adoption levels. A "progressive producer" may be classed as "strongly favorable" but may actually be more of a utilitarian farmer that has a zero or low cost of adopting a CALFED project. Your conceptual model could use more substance as to how managerial practices and costs of adoption influence adoption rates and eventually environmental benefits attributable to an adopting producer. To really get at costs of adoption you need some idea of the profit function for the farm and this is generally not an easy item to estimate or obtain from a survey/interview.

Given that the local farm advisor or extension agent is arguably the most influential component of extension activities, your sample size of only 5 regions is really too narrow to quantify differences among extension and other regionally influenced variables. Your design would be greatly enhanced if you included more regions in your analysis. Spatial correlation between variables is likely to be an issue for your analysis as well and sampling from a few regions will only exacerbate these problems.

## Approach

<b>Rating</b>	fair
<b>Comments</b>	<p>I am concerned that producers selected for "characterizing farmers' a-priori attitudes and motivations" from your spatial sampling approach will have an inherent bias towards producers that have adopted or plan to adopt a CALFED sponsored project. Generating more sampling points until you get "50 farmers per region agreeing to participate" will most likely screen for producers that are most amenable to adoption.</p> <p>Rather than ask producers questions that are fairly ambiguous and difficult to verify, like "attitude towards outside advice and government programs" why not just ask producers if they have received any government payments in the last 5 years from commodity or conservation programs? Or look up the level of payments a producer or entity has received from the Environmental Working Group web site. Again, rather than ask producers what they perceive the environmental health of their land to be and its suitability for wildlife, why not ask or verify the wildlife populations that actually reside on their lands.</p> <p>Would not using a combination of mail surveys and personal interviews help to minimize the time-span of collecting data and help minimize the human hours dedicated to collecting producer data. Adding mail surveys could increase the number of producers and regions that can be included in the analysis while also ensuring adequate sampling. Attaining a high response rate for the personal interviews and making appropriate statistical adjustments to the mail responses would improve the number</p>

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	of responses and overall quality of the data received.
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**Feasibility**

<b>Rating</b>	good
<b>Comments</b>	Conducting similar interviews for 350 producers over a three-year period will be a challenge, particularly given that graduate and undergraduate students on the project could very well change over the three years. I believe that the feasibility of completing the project and ability to interpret the results would be much easier if all data were collected in the first year while statistical analyses, professional papers, and extension activities are focused on in the later half of the project. Because a single event could occur in the middle of the study that would drastically alter producer responses, keeping the time span for which interviews are conducted as short as possible will also increase the odds of success for the project.

**Performance Evaluation**

<b>Rating</b>	good
<b>Comments</b>	While plans for alternative hypotheses are not described in great detail, I believe the hypotheses tests presented can be performed as portrayed. Stating that the study will reconfigure its conceptual model if that data and analyses do not support the hypotheses is rather ambiguous - what is the criteria for "not supporting?" If activities like extension are impacting the initial a-priori attitudes and motivational classes of the producers, I don't see how your analysis can allow for this. Have you thought about how conducting the same extension program in two different regions with one having a credible extension advisor for many years and another not will impact producer attitudes, adoption rates, and long-term

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	commitment to implementing a program? However, my greatest concern on this project for its overall performance probably relates to whether adoption rates can be adequately associated with environmental benefits.
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**Proposed Outcomes**

<b>Rating</b>	good
<b>Comments</b>	While the proposal will not be able to make a direct connection with how items like extension activities and managerial innovation impact environmental benefits, I do think that some insights and direction can be obtained from the proposal that will be helpful to policy makers and project designers.

**Capabilities**

<b>Rating</b>	very good
<b>Comments</b>	While the principal investigator has not been funded on a grant or contract that equals the proposed level and duration of this proposal, everyone has a first time for securing major funding and the principal investigator has published on the subject matter within the last five years. Continuity and consistency of the graduate and undergraduate students over the three years are the biggest personnel concern for me given the way the "work tasks" are currently proposed.

**Cost-Benefits**

<b>Rating</b>	very good
<b>Comments</b>	I believe the cost side of the project is quite reasonable for the scope of work proposed. My experience has been that the number of personal interviews proposed will take more time to coordinate and conduct than what has been budgeted for. However,

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the "cost sharing" through release time for the principal investigator is substantial. As noted earlier, the benefits of this project greatly lie in how much adoption rates translate to environmental benefits for CALFED projects adopted by producers.

**Overall Evaluation Summary Rating**

<b>Rating</b>	good
<b>Comments</b>	<p>Overall, I would rate this proposal between good and very good, although somewhat closer to good than very good. The underlying objective of identifying how policymakers and project designers can influence adoption rates for CALFED programs is an admirable goal, but some of the greater challenges to address or overcome are:</p> <ul style="list-style-type: none"><li>• Quantifying what the correlation is for various farmers in their adoption and environmental benefits from a program.</li><li>• Selecting farmers that are willing to participate in a personal interview will likely screen farmers with an inherent bias to those most amenable to adopting a CALFED sponsored project.</li><li>• Given that the credibility of extension agents varies from region to region and technological factors are likely to be correlated with regional differences, 5 regions is really not enough to statistically quantify differences between regional factors. Spatial correlation between variables is likely to be an issue for your analysis as well and sampling from more regions will help address these issues.</li><li>• Cost and variability associated with personal interviews over time.</li></ul>

# External Technical Review #4

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

*Amount Requested:* \$175,228

## Goals

<b>Rating</b>	excellent
<b>Comments</b>	This very focused proposal clearly states its goal to research why outreach to farmers is or is not successful for several CALFED projects. Ecosystem goals that depend on farmers to make changes must be successful in convincing those farmers. This research is clearly described, and the findings will be useful to many groups.

## Justification And Conceptual Model

<b>Rating</b>	excellent
<b>Comments</b>	<p>The background on current models of farmer change is excellent. The conceptual model and hypothesis for the research are clear.</p> <p>One point for the project to consider: financial incentives may become an ever greater reality that can, in fact, make the difference to farmers. While CA apparently does not fund farmer incentives, and while CA farmers do not participate fully in USDA conservation programs now, the fact is that federal conservation programs are growing fast. Increased funding, the new Conservation Security Program, and the increasing likelihood that the next farm bill</p>

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	will embrace some level of green payments to replace commodity subsidies all mean that incentives can play a role in farmers' decisions - beyond persuasion and beyond the inherent costs of a practice.
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**Approach**

<b>Rating</b>	very good
<b>Comments</b>	<p>The study design is very clear. The results will be available and will be directly disseminated to interested groups. All groups who work with farmers will be very interested in learning from the findings.</p> <p>Three suggestions to consider: 1. The specific practices being urged on the farmers could make a big difference in their attitudes to them - especially in relation to their own farming operation. For example, if a certain practice took extra labor at a time of year that conflicts with harvest, then the problem is not merely one of cost, but also timing, convenience, or sheer impossibility. Another example would be a buffer that takes land out of production but also is inconvenient for machinery - the specifics of the context make a big difference in how one interprets the negative attitude. Therefore, consider including specific questions about the specific practices being promoted and what it means to the individual farmer's operation.</p> <p>2. Since you are doing in-person interviews for the second survey and will likely have the opportunity to learn more than you ask - I strongly urge you to collect qualitative responses from farmers and see what you learn. It helps to let farmers put things in their own words sometimes.</p> <p>3. I'd suggest consultation with the groups who are conducting the projects before designing the surveys. They can give fuller information about how they reach out to farmers, and how other partners do different</p>

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	approaches that contribute, and what they are really trying to get farmers to do.
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**Feasibility**

<b>Rating</b>	excellent
<b>Comments</b>	The study can clearly be done successfully - with one concern: what if the projects don't really get their practices on the ground until the end of year 2 or 3? Consider identifying other recently completed projects instead, to be sure you have enough farmers for the second survey.

**Performance Evaluation**

<b>Rating</b>	excellent
<b>Comments</b>	This proposal really is an evaluation of other projects. Yet it does describe internal monitoring as well, to make sure the research stays on track. The focus is on methods of outreach and farmer adoption, which can lead to ag management or restoration activities.

**Proposed Outcomes**

<b>Rating</b>	excellent
<b>Comments</b>	This study will be useful, and the inclusion of a strong dissemination plan is a strong point. Consider other websites to post findings, so folks doing similar work around the country can find it. (NRCS, SWCS, CSREES...)

**Capabilities**

<b>Rating</b>	excellent
<b>Comments</b>	The applicant seems well qualified for the research. The support provided by her University adds much value and capacity. Her experience in doing outreach on her own research is apparent in her teaching and

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	lecturing.
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**Cost-Benefits**

<b>Rating</b>	excellent
<b>Comments</b>	The budget is extremely reasonable, and surely reflects substantial in-kind support from the University.

**Overall Evaluation Summary Rating**

<b>Rating</b>	excellent
<b>Comments</b>	This research addresses what most proposals just have to hope for the best on - exactly what is the best way to find, convince, and partner with farmers to make changes on their land to benefit the ecosystem? The findings could be very helpful to many projects around the country.

# Bay Regional Panel Review

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

## *1. Applicability to ERP goals and regional priorities.*

Presumably, the proposal meets the ERP goals and objectives, by evaluating farmer behavior and attitudes toward desired ERP outcomes, as applied, or rejected by farmers in ERP project regions. If CALFED agrees that farmer's attitudes and behaviors in adoption of conservation and restoration goals are not well understood, and that perhaps rates of adoption are low, then such a study should be of great value. This being the case, the project could contribute to regional restoration goals by hopefully identifying appropriate incentives and approaches to encouraging adoption, and making that information available to a wide audience.

notes:

It appears that the sociological approach here is well-done, however it is very academically written.

The funding requested is relatively small compared to other proposals.

## *2. Links with other restoration actions.*

The project is intended to increase the effectiveness of current and future proposals through better understanding what motivates farmers to accept and adopt/ or preferably, integrate ecosystem restoration in their farming systems.

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Presumably, the study would yield statistically valid information to better understand why certain strategies and approaches, past and future, were/can be made more effective, or how adoption and implementation of conservation farming technologies could be enhanced in upcoming proposals. If the results of such a study could be used as a guide to shaping future application requirements, (ie. outreach, communication processes, farmer participation requirements or expectations), then we may perhaps conclude that future restoration projects could be made more effective, AND assume that other non-CALFED conservation initiatives might benefit from higher restoration technology adoption rates.

notes:

### *3. Local circumstances.*

Presumably the project would be appropriate to the project site, as it would engage its study in approved or ongoing projects. It is uncertain what local constraints might be encountered, as the localities are yet to be identified. The author appears to have experience in this area of work, and it would have to be assumed that the author and associates would utilize whatever set of approaches or mechanisms are most effective in drawing out interviews and information in the local setting. Once ERP projects are identified, the study proponents should engage in attempting to understand existing local conditions and farm economics that might serve as constraints or incentives to shape farmer attitudes and behavioral patterns. Presumably, questionnaires and interview techniques would then be locally tailored.

notes:

In order to be more generally applicable, this proposal would need to result in a unique model to address differences in

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local needs and practices. Otherwise, its results are likely to be location specific and not widely applicable.

### *4. Local involvement.*

It is unknown whether local landowner and stakeholder support are adequate, as specific localities are yet to be identified. Information would be available to the public at large, and the one of the main audiences might be future project applicants, or the CALFED sponsor. Presumably, CALFED could use the information to better evaluate future proposals, and perhaps set requirements, or encourage actions that would assist with preparation of more effective proposals. Some kind of end product guidance document or publication that could be used as a practical tool would be a desirable outcome.

notes:

### *5. Local value.*

We can presume that if adoption process incentives or disincentives are better understood, that future regional ecosystem restoration proposals would be delivered in a more effective way. It is likely that farmer attitudes and behavior toward ecosystem restoration might vary widely from region to region, based on a number of potential variables, so perhaps we can assume that information would be of greatest value for regions, or perhaps even subregions selected for study. Given the author's experience and apparent strong knowledge of subject matter, it is assumed that statistical methods and assumptions used would be appropriate and state-of-the-art.

notes:

### *6. Applicant history.*

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Unknown. Unable to make a call. Past publications listed in the application would seem to indicate that the applicant has significant experience and general qualifications to direct such a study.

notes:

### *7. Summary of Overall Panel Discussion and Review*

The approach to surveying farmers could yield good information and could be good for the ERP in general. The proposal itself is solid and well researched. However, because the proposed research is very academic, it is unclear how the results will be applicable to CALFED and farmers at hand. It is also a common type of study in the sociological literature. The panel was concerned that this proposal doesn't meet the needs of Bay Region farmers as readily as it may meet needs in other regions.

### *8. Panel Quality Ranking*

Good

notes:

### *9. Regional Priority Ranking*

Medium

notes:

# Delta Regional Panel Review

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

## *1. Applicability to ERP goals and regional priorities.*

Yes, if this project is successful it will provide valuable information about the necessary steps to convince farmers to participate in other restoration projects.

notes:

## *2. Links with other restoration actions.*

Yes, The information this project could determine what other project might be successful or feasible. In addition, the project could provide new information that could indicate what projects might not work because of farmer resistance.

notes:

## *3. Local circumstances.*

Since the project is a survey it could go forward immediately. The concern I see is how the UC Dept of Geography can help the principal investigator find an Agricultural Economics graduate student.

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## Delta Regional Panel Review

notes:

### *4. Local involvement.*

It is unclear from the application.

notes:

### *5. Local value.*

Yes, because the project will help determine what is necessary to have a successful project.

notes:

### *6. Applicant history.*

I have no knowledge.

notes:

### *7. Summary of Overall Panel Discussion and Review*

The panel agreed that the proposal had applicability that would reach beyond the goals of the ERP by bridging the gap between farmers and restoration agencies. The cost of this potentially valuable research is also low in comparison to other proposals. The project will not implement an on-ground component, but is a socio-economic study that would inform

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## Delta Regional Panel Review

future restoration and conservation activities in the region. There were concerns about technical methods proposed. Although it is predominantly an economic study, the PI is a geographer/sociologist. The panel suggested that the proposed work would benefit from additional economic expertise (suggested contact with Karen Klonsky at UC Agricultural Extension). There were also concerns about the reality of working with farmers, asking them to complete lengthy surveys, and going to their homes. An unrealistic response level is expected from the farmers. The panel agreed that the study could be very beneficial, but that it deserved detailed technical analysis and advising. The panel suggests having the technical review committee assist the PI in methodology.

### *8. Panel Quality Ranking*

Very Good

notes:

Panel initial ranking was good to very good.

### *9. Regional Priority Ranking*

Very High

notes:



# Sacramento Regional Panel Review

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

## *1. Applicability to ERP goals and regional priorities.*

1. This project meets the goal and objective of CALFED and ERP in that it proposes an assessment of the economic, agronomic, social and environmental benefits and costs associated with agricultural activities benefiting wildlife and fish. The information generated from the project may be used to increase potential success of future projects seeking to enhance ecosystem restoration in an agricultural landscape.

notes:

The proposal does not explicitly address the effectiveness of farmer-based conservation methods. The panel questioned its direct fit to the PSP and the benefit to CALFED.

## *2. Links with other restoration actions.*

The proposed project will not continue or expand upon past or current restoration investments in the region but may be of value to increase success potential of future projects. The projects results could be used as a model to get increased participation from farmers and ranchers for future restoration actions in the area.

notes:

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## Sacramento Regional Panel Review

### *3. Local circumstances.*

The project is feasible and appropriate to the project site. The project centers around getting farmers and ranchers to participate in a study. The study is basically using college graduate students and a professor to conduct detailed interviews with farmer/ranchers to collect data. The study will apply both behavioral and socioeconomic analytical approaches. It will interview at least 150200 farmers and ranchers, including adopters and rejecters of the conservation innovations. The interviews will collect data on their attitudes, perceptions and motivations, as well as the economic and agronomic impacts of the innovation on their production systems. I believe it will be difficult to get the farmer/ranchers to take the time from their busy schedules to submit to detailed interviews from college students.

notes:

### *4. Local involvement.*

The proposed project does not currently have local landowner or stakeholder support that would assure success. The public outreach activities in the proposal to keep local stakeholders informed on the project's results are through word-of-mouth, on a website, through reports and papers. No workshops or town meetings are proposed. I think the proposed approach is a bit too clinical and is missing the human contact side that is critical to building trust and rapport with the farming community.

notes:

Involvement (local) restricted to those that would be part of the survey.

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## Sacramento Regional Panel Review

### *5. Local value.*

The project's products may be a high value to the restoration of ecosystems in the region if the applicant can get enough participation in the study to develop meaningful data that could be used to increase participation in future ecosystem restoration projects.

notes:

### *6. Applicant history.*

I do not have a knowledge of the applicant's performance on previous projects. The applicant has secured several grants in the past for similar studies. The applicant has never received money for a CALFED grant before.

notes:

### *7. Summary of Overall Panel Discussion and Review*

Panelists struggled to justify the proposed expenditure on a sociological/behavioral study. The panel felt that the proposed phone interviews of farmers and ranchers by undergraduate students is a questionable methodology and unlikely to yield good participation and meaningful results. The program lacks a community-based outreach component such as town-hall meetings or open forums. Also, it appears that there is substantial overlap with existing sociological studies in other areas. A review of such work may be an effective and efficient means to achieve the goals of the study. Variation between regional views and practices of landowners suggests that the project results may not be widely applicable.

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## Sacramento Regional Panel Review

### ***8. Panel Quality Ranking***

**Fair**

notes:

### ***9. Regional Priority Ranking***

**Low**

notes:

# San Joaquin Regional Panel Review

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

## *1. Applicability to ERP goals and regional priorities.*

This project seeks to understand farmers' motivations and attitudes toward conservation and techno-managerial change, as well as the economic and institutional constraints that they face, in order to understand why farmers adopt or reject conservation innovations. With this understanding, policy makers and project managers will be better able to target their policies and design projects that engender broader participation and ultimately meet the Ecosystem Restoration Program's goals.

notes:

The panel believed that the goals of this proposal were clear, yet they thought the ability to successfully achieve the objectives by the researchers in or outside the region was uncertain. The methods proposed could lead to skewed results, given the researchers were only going to work with a group of agriculturalists and individuals who are already involved in CALFED projects.

## *2. Links with other restoration actions.*

Studies show that the factors affecting farmers' decisions are highly contextual and regionally specific, so they are focused on the Bay-Delta Region . The projects chosen will be those that are funded.

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## San Joaquin Regional Panel Review

notes:

This proposal does not clearly outline how it ties in with other CALFED ERP efforts directly, or organizations (i.e.:RCDs, NRCS, UC-Extension) working on restoration actions in the agriculture community. The panel felt it was not clear how the approach would target the utiliatraian farmers. There is concern that the applicant may have difficulty in getting participation from farmers.

### *3. Local circumstances.*

Did not detect any.

notes:

Sonoma State University is not very visible in the San Joaquin agriculture community. Some panel members believed the methods employed in this proposal will be difficult to accomplish and find agriculturalists who will cooperate.

### *4. Local involvement.*

Not convinced that the researcher is tied in to the networks needed in order to have the appropriate local involvement.

notes:

The panel felt the local involvement was limited and might not be able to successfully meet the objectives of the proposal. The panel desired an explicit statement of what organizations might be used for reaching out to agriculturalists in the San Joaquin region.

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## San Joaquin Regional Panel Review

### *5. Local value.*

If this project is successful in identifying the motivating factors of those farmers in the "utilitarian" sector, and programs are designed with this sector of farmers in mind, adoption beyond the small number of environmentally friendly progressive farmers will happen.

notes:

The panel was not certain if the results would provide the local value necessary to get through the frustration of agriculturalists. The perspective of the researcher is very scientific (human ecology) and the panel was not certain if the researcher understands the community and its perspectives enough to translate the results into useful information for the region.

### *6. Applicant history.*

Not familiar with previous work. Appears that connections and previous work in the ag industry is limited.

notes:

The panel was concerned that the applicant does not have the ability to connect with the region's agriculturalists.

### *7. Summary of Overall Panel Discussion and Review*

The panel felt that this proposal was of fair quality. Particularly they felt the methods and proponents may not be able to successfully reach out to the agriculture community to successfully attain the study objectives. Since the proposal

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## San Joaquin Regional Panel Review

only reached into the San Joaquin as one of three regions and the number of projects and individuals being included from the region is unspecified, the panel felt it was of moderate regional value.

### *8. Panel Quality Ranking*

**Fair**

notes:

The panel felt that this proposal was of quality. Particularly they felt the methods and proponents may not be able to successfully reach out to the agriculture community to successfully attain the study objectives.

### *9. Regional Priority Ranking*

**Medium**

notes:

The panel believed the proposal will be working in 3 regions, and only examining 4-5 projects, thus limiting the ability to capture all type of agri-environmental projects being employed.



# Environmental Compliance Review

*Proposal Number:* 0070

*Proposal Name:* A socio–economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

1. Is compliance with California Environmental Quality Act (CEQA) required for this project?

**No.**

2. Is compliance with National Environmental Policy Act (NEPA) required for this project?

**No.**

3. Does this project qualify for an Exemption or Exclusion under CEQA and NEPA, respectively?

**Does not apply.**

4. Did the applicant correctly identify if CEQA/NEPA compliance was required?

**Yes.**

5. Did the applicant correctly identify the correct CEQA/NEPA document required for the project?

**Yes.**

6. Has the CEQA/NEPA document been completed?

**Does not apply.**

7. If the document has not been completed, did the applicant allot enough time to complete the document before the project start date?

**Does not apply.**

8. If the document has not been completed, did the applicant allot enough funds to complete it?

**Does not apply.**

9. Did the applicant adequately identify other legal or regulatory compliance issues (Incidental Take permits, Scientific Collecting permits, etc.) that may affect the project?

**Yes.**

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## Environmental Compliance Review

10. Does the proposal include written permission from the owners of any private property on which project activities are proposed or, if specific locations for project activities are not yet determined, is it likely that permission for access can be obtained?

**Yes.**

Comments:

**Will work with willing participants.**

11. Do any of these issues affect the project's feasibility due to significant deficiencies in planning and/or budgeting for legal and regulatory compliance or access to property?

**No.**

# Budget Review

*Proposal Number:* 0070

*Proposal Name:* A socio-economic and behavioral analysis of farmers' decisions to adopt or reject the CALFED conservation initiatives

*Applicant Organization:* Sonoma State University

1. Does the proposal include a detailed budget for each year of the requested support?

**Yes.**

2. Does the Budget Form include a detailed budget for each task identified on the Task and Deliverables Form and in the proposal text?

**Yes.**

If no, please explain:

**Except for travel. I assume its for reimbursement of auto mileage and gas for 350 interviews. But, I don't see any explanation.**

3. Are the costs associated with each task and deliverable reasonable costs for performing the services?

**No.**

If no, please explain:

**\$25 per is kind of low. I'm not sure I understand the "replacement rate for release time" rationale. Although the proposal describes a low involvement as far as labor on Page 15, the budget states, for instance that Ms. Laney will put in 600 YR1, 600 YR2, 760 YR3. I think to get 350 interview and reports done it will take a minimum of this time (low estimate).**

4. Is each person (employee, consultant, subcontractor, etc.) identified on the Personnel Form also included on the Budget Form?

**Yes.**

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## Budget Review

5. Are there estimated hours and an associated hourly rate of compensation for each person identified on the Personnel, Tasks and Deliverables, and Budget forms?

**Yes.**

6. Does the budget include the benefit rate for all personnel identified on the Personnel and Budget forms?

**Yes.**

If no, please explain:

**32% kind of high.**

7. Are the proposed labor rates comparable to state rates?

**No.**

If no, please explain:

**"replacment rate for release time" previously mentioned.**

8. Is more than 25% of the work proposed to be performed by subcontractors?

**No.**

9. Are project management expenses appropriately budgeted?

**Yes.**

If no, please explain:

**If she only works 9 months of the year.**

10. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs? Are indirect rates, if used, appropriately applied?

**No.**

11. Does the proposal adequately explain major expenses? Are the labor rates and other charges proposed reasonable in relation to current state rates?

**No.**

## Budget Review

12. For equipment  $\geq$ \$5,000, was a separate worksheet filled out?

Please note: No overhead or indirect rate charges are allowed on the equipment purchases

**No.**

13. Is the purpose for all travel clearly represented in either the proposal itself, or in the Tasks and Deliverable Form?

Please note: Recurring travel costs for a specific task or subtask may be combined into one entry on the Budget Form, but the number of trips and cost for each trip must be clearly represented.

**No.**

14. Are travel and per diem at rates specified by the California Department of Personnel Administration for similar employees?

**No.**

15. Are other agencies contributing or likely to contribute a share of the projects? costs?

**Yes.**

If yes, when sufficient information is available, please total the amount of matching funds likely to be provided:

**Services in kind.**

16. If the applicant identified cost share or matching funds, are they also described in the text of the proposal?

**Yes.**

17. Does the applicant take exception to the standard grant agreement's terms and conditions? If yes, are the approaches the applicant proposes to address these issues a reasonable starting point for negotiation a grant agreement?

**No.**

If no, please explain:

**No exceptions to the std T's &C's.**

18. Are there other budget issues or "red flags" that warrant consideration?

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## Budget Review

**No .**

19. Provide revised amount requested based upon your review:

\$