

Proposal Reviews

#37: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

California State University, Sacramento Foundation

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Delta Regional Review

Sacramento Regional Review

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External Scientific Review #3

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Environmental Compliance

Budget

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Please provide an overall evaluation rating.

Explanation of Recommendation Categories: Fund

- **As Is** (a proposal recommended for funding as proposed)
- **In Part** (a proposal for which partial funding is recommended for selected project phases or components)
- **With Conditions** (a proposal for which funds are recommended if the applicant contractually agrees to meet the specified conditions)

Consider as Directed Action in Annual Workplan (a proposal addressing a high priority action that requires some revision followed by additional review prior to being recommended for funding)

Not Recommended (a proposal not currently recommended for funding-after revision may be considered in the future)

Note on "Amount":

For proposals recommended as Fund As Is, Fund In Part or Fund With Conditions, the dollar amount is the amount recommended by the Selection Panel.

For proposals recommended as Consider as Directed Action in Annual Workplan, the dollar amount is the amount requested by the applicant(s).

Fund	
As Is	-
In Part	-
With Conditions	-
Consider as Directed Action	-
Not Recommended	X

Amount: **\$0**

Conditions, if any, of approval (if there are no conditions, please put "None"):

None.

Provide a brief explanation of your rating:

The Selection Panel agrees with the Technical Panel that method issues exist with this proposal and that a clear link between this study and future best management practices is not made. Given the breadth of CALFED information needs, this intensive study of a habitat-generalist species in a narrowly defined agricultural circumstance may be too highly focused for program funding.

Research and Restoration Technical Panel Review:

CALFED Bay-Delta 2002 ERP PSP Research and Restoration Technical Panel Review Form

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;

Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;

Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	The four outside reviewers were split as to this proposal. Important methodological problems were identified, as were some permitting issues. Suggest re-submitting the proposal following re-writes that address the reviewers concerns.
-Above average	
X Adequate	
-Not recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

The goals are well stated. The justification is a bit shaky, because vineyard management is very diverse. Specifically, cover cropping regime may profoundly affect rodent densities and susceptibility to predation. These issues must be explicitly considered. Suggest consulting: Ingels, Chuck A., R.L. Bugg, Glenn T. McGourty, and L. Peter Christensen, eds. 1998. Cover Cropping in Vineyards: A Grower's Handbook. University of California, Division of Agriculture and Natural Resources. Publication 3338.

Other recent work by Chuck Ingels and Desley Whisson has shown that cover cropping regime affects pocket gopher densities (in reports). Mulching regimes affect vole densities (Ian Merwins work, among others). Suggest that smaller-scale, manipulative experiments may complement the sorts of large-scale studies proposed here. A reviewer pointed out some deficiencies in the logic and background information, such as lack of comparative data for

pastures vs. vineyards in terms of vole densities. This issue should be addressed in the research. Additionally, research comparing bird diversity and density under various farming systems should be consulted. This could help address some of the methodological issues raised below.

2. **Likelihood of Success (Approach, Feasibility, Capabilities and Performance Measures).** Is the project likely to succeed based on the approach, feasibility and project team capabilities? Are the proposed performance measures adequate for measuring the project's success?

The P.I. is well qualified; the graduate students level of experience is unclear. One reviewer raises methodological issues relative to intensity of sub-sampling vs. true replication. Without knowledge about the underlying distributions, it is difficult to assess which emphasis enhances statistical power. Suggest that the P.I. address this issue explicitly, as it may save a lot of time in the long run. Other reviewer concerns are stated below.

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

Products and outcomes would be of great value, if the reviewers concerns are addressed. There are some products of value likely from the project. The applicants suggest that the information could be useful to land managers and other decision-makers. The Swainson's hawk is a state threatened species, and the results of the study would aid in making management decisions relative to the hawk. However, this project is exclusively focused on the foraging and nesting behaviors of a single species and does not address potential management impacts on or conflicts with other species. There is some discussion of effects on land use planning, but there is no incorporation of concepts about ecosystem management or ecosystem-based approaches.

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The telemetry emphasis may be a bit premature, and should be discussed in detail by the panel, because this contributes a lot to the cost of the study and was questioned by one of the reviewers.

5. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

Sacramento Region: Low ranking. Data on Swainson's hawks and vineyards are important, but the panel did not feel the proposed experiments dealt with enough variables to give supportable conclusions for real-world application. Proposal mentions public involvement, but does not give specifics.

Delta Region: Low ranking. The P.I. has permits for handling but has not obtained access for private lands P.I. was not aware of any other wildlife friendly agriculture work; there was no mention of any regional planning efforts that are in place

This research is not well linked with other efforts, and seems likely to largely confirm current understanding about how expanding viticulture affects Swainson's hawks, adding only marginally (e.g., info on nest site selection) to current knowledge.

6. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

A Scientific Collecting Permit has been obtained but applicants must obtain a State 2081/Incidental Take Permit to comply with CESA. Swainson's Hawks are a State listed species and in this proposal they will be collected and released. No budget or timeline specified because they have obtained the only permit they felt was needed. No Budget form problems.

Miscellaneous comments:

None

Delta Regional Review:

Proposal Number: 37

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Overall Ranking: ☒Low ☐Medium ☐High

Provide a brief summary explanation of the committee's ranking:

This research is not well linked with other efforts, and seems likely to largely confirm current understanding about how expanding viticulture affects Swainson's hawks, adding only marginally (e.g., info on nest site selection) to current knowledge.

1. Is the project feasible based on local constraints?

☒Yes ☐No

How?

have permits for handling but have not obtained access for private lands

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

☒Yes ☐No

How?

goals 3 (promote wildlife friendly-agriculture) and 4 (increase knowledge of at-risk species)

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

☐Yes ☒No

How?

proposal not aware of any other wildlife friendly ag work; no mention of any regional planning efforts that are in place

4. Does the project adequately involve local people and institutions?

☒Yes ☐No

How?

university and Swainson's Hawk Technical Advisory Committee but no link to locals

Other Comments:

research could improve knowledge of nest site selection by Swainson's

Sacramento Regional Review:

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Overall Ranking: ☒Low ☐Medium ☐High

Provide a brief summary explanation of the committee's ranking:

Data on Swainson's hawks and vineyards is important, but the panel did not feel the proposed experiments dealt with enough variables to give supportable conclusions for real-world application.

1. Is the project feasible based on local constraints?

☒Yes ☐No

How?

The project is feasible, but the local constraints are unknown. Lack of land-owner cooperation in giving access may greatly hinder the success of the project. Supervisors have not been informed, and they may or may not be concerned based on the concerns of their constituents.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

☐Yes ☒No

How?

Does not focus on Sac Valley Region PSP priorities, however, proposal lists ERP Goals 1&4; DR 3&4; MR-2, MR-6 & CVPIA priorities for improving populations of a state threatened species.

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

☐Yes ☒No

How?

There are no other projects mentioned in the area.

4. Does the project adequately involve local people and institutions?

-Yes XNo

How?

Research project focused on grad student thesis. Mentions public involvement, but not how.

Other Comments:

Positives: Needed information on Swainson's Hawk relationship to crops, especially vineyards.

Negatives: Contracting & beginning of project may be tight. Not clear if nest census takes into account whether nests are currently in use. Important variables left un-addressed: 1) What role does crop rotation combined with viticulture acres have on availability and access to prey?

Effects on prey populations year to year. 2) Do vineyards significantly remove nesting habitat? 3) At what combination of crops, habitats, crop growth do Swainson's hawks have enough nesting sites and forage habitat to increase in population. Same question for their prey. The study doesn't account for enough of the variables related to habitat and ag to draw good conclusions upon which to develop solid BMPs or recommendations on vineyard development or practices.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	I would rate this proposal as fair. However, as there is no such option, I was forced to select 'poor'. The basic premise, goals and justification for the project are sound. However, the applicants do not demonstrate a strong familiarity with the current literature on the topics of habitat selection/preference and statistical issues in experimental design. They also do not clearly and convincingly explain some of their research protocol. It is possible that the study could be made stronger by altering the point count and telemetry methodology, which would at the same time reduce overall costs.
-Good	
XPoor	

1. Goals. Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goals, objectives and hypotheses are reasonably clear. However, as stated, it is unclear whether the results will be as useful to land and wildlife managers as the applicants suggest. In particular, they use null hypotheses without explicitly stating alternative hypotheses, which would likely aid them in evaluating their data and explaining their results. One stated goal is to evaluate habitat use dynamics, which are not well defined.

This project could be useful and important in determining management actions related directly to Swainson's hawks, but within the proposal there is little acknowledgment of current debates about what constitutes habitat preference, as well as ecosystem (or at least other species) impacts of single-species management.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Relative to existing knowledge, the general purpose of the study is justified. It would add to past studies on Swainson's hawk 'habitat use' information, particularly to information about foraging preferences of male hawks.

There are some unclear or seemingly contradictory elements in their justification of the importance of the research (which may only need to be better explained and/or cited). Specifically, they state that the hawk has better foraging success in 'shorter, less dense vegetation' as well as areas with greater prey biomass (when adjusted for cover) and therefore hawks should have better luck in pastures or similar areas because of greater microtine abundance and shorter vegetation. However, although it may be intuitive, they cite no evidence of lower microtine abundance in vineyards. They also do not show that the height of vineyards is more important than greater density of vegetation in pastures in reducing foraging efficiency. In section B, the explanations of how the researchers will determine is vague and therefore difficult to evaluate for quality.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The results of this study would likely add to the existing base of knowledge on Swainson's hawks in California. It is unclear that the existing design will meet all of the objectives of the project.

The results of nest searches and study of nesting territories will be very useful in further understanding the effects of vineyards on nest density. It is further enhanced by the proposed use of a methodology standardized for the species, which may make the data/results comparable with those from other studies.

Point counts would help to meet the objects of the project. However, the methodology used in this project could be better explained. There is little or no reference to techniques used in similar studies. Therefore, the origins and effectiveness of their specific methodology are also not presented. They do not address discussions in the literature about the number of point counts versus number of visits. They propose a relatively small number of census points relative to the number of strata, but instead propose a large number of visits per point. Without knowing the reasons behind their proposed methodology, it would seem that they could obtain more statistically significant results with greater number of census points and far fewer visits because of the lack of independence in visits to the same point. In addition, it is unclear whether information the researchers could gain from 25 versus, for example, 9 or fewer visits per point would be significant or outweigh the increases in cost (of time and labor). The information generated by modified point count protocol could be useful to decision-makers, especially when combined with previous studies.

The researchers may consider revising is the telemetry portion. In order to avoid sex-bias, the researchers chose to radio-collar only males. They also have a sample size of only 12 males captured over 2 breeding seasons. Because, as they point out, there is often different foraging behaviors (including site and prey selection) between sexes, it may be very important for managers to know if (for example) females are largely using vineyards and males are largely using alfalfa fields. It may be more informative (and possibly efficient or cost-effective) to increase the number of experimental units and reduce sampling of those units.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The approach is fairly well documented and technically feasible. As described, it could be successful in meeting the general objectives of the project. However, the scale of two of the three field components of the project could be modified to potentially improve the quality and usefulness of the results. The sample sizes of the census points and radio tagged birds could be increased while the amount of labor (and associated costs) involved could be significantly decreased.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

There are no clear indications that there will be adequate measures of performance during the course of the study. They will perform periodic quality checks on the data and data collection techniques during the course of the study.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

There are some products of value likely from the project. Specifically, the applicants suggest that the information could be useful to land managers and other decision-makers. They also plan to produce one or more peer-reviewed publications. The Swainson's hawk is a state threatened species, and the results of the study would aid in making management decisions relative to the hawk. However, this project is exclusively focused on the foraging and nesting behaviors of a single species and does not address potential management impacts on or conflicts with other species. There is some discussion of effects on land use planning, but there is no incorporation of concepts about ecosystem management or ecosystem-based approaches.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

It appears that the principle investigator is well qualified to implement the project. There is no indication that the graduate student researcher has completed any related research. He has a bachelor's degree in plant science. They are both affiliated with California State University, Sacramento.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget is adequate for the work proposed. However, it appears that the project could be implemented successfully with significantly less labor and at lower cost.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
XExcellent	Very good overall proposal. Add vineyard cover-cropping regime as a variable and make it an excellent proposal that will profoundly influence future policy.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Yes. Yes.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Yes. Yes. Research: yes.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

Fairly well designed, but not entirely. Vineyard cover-cropping regimes vary profoundly, and prey densities vary in response, so these issues should be assessed in this study. Cliff Ohmart of Lodi-Woodbridge Winegrape Commission, Chuck Ingels of UC Cooperative Extension (Sacramento County), and Desley Whisson (UC Davis) are resource people on this. Results will add to knowledge. Useful information will be generated, especially if cover cropping regime is considered up front, explicitly and in a replicated context, which would be very feasible.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

Yes. P=85%. Yes.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Yes. Yes. Yes. Yes.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

Yes. Yes, but add vineyard cover-cropping regime as a variable. Yes.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Good. Yes. Yes.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

Yes.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
XExcellent	An excellent project with good science which will lead to an increase in our understanding of the habitat requirements of the swainson's hawk.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

A. Yes - The four null hypotheses are excellent. B. Yes

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

A. yes - Excellent literature cited. B. yes C. yes

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

A. Yes B. Yes C. Yes D. Yes - This is this projects strong point, it will allow all parties to plan for this hawk and provide conservation practices where needed.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

A. Yes B. Great C. Yes - Good job has been done developing the proposal in the area.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

A. Yes B. Yes C. N/A

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

A. Yes - Many good products which will be used. B. N/A C. Yes

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Overall excellent

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

Yes - There is a good budget and it is reasonable.

Miscellaneous comments:

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	Overall the project goals do not seem a priority for CalFed/Bay-Delta. A clear nexus between the cost and potential benefit for CalFed is not apparent.
-Good	
XPoor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Goals are clear.

While the concept may be timely and important to some central valley projects and/or NCCP or HCP plans, the connection to Cal-Fed Bay Delta goals are not well defined in the proposal.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Poor.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The only objective likely to be achieved is the completion of a master's degree project.

The project is unlikely to provide information of value to decision makers in the Bay-Delta region.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

This part of the proposal is not developed well enough to allow an evaluation of the likelihood of success.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Poor

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

This project is unlikely to produce products of value to CalFed/Bay-Delta. The most useful work product appears to be the proposed GIS information. However, it is unclear from the proposal whether any of the researchers involved have sufficient GIS background to deliver on this goal.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

This is perhaps the strongest area of the proposal. Dr. Bell seems highly capable of guiding his students through a field research project of this scope.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget is the most troubling aspect of the proposal. The cost relative to direct CalFed/Bay-Delta benefit seems very high.

Miscellaneous comments:

External Scientific: #5

Research and Restoration External Scientific Review Form

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: **Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley**

Conflict of Interest Statements:

I have no financial interest in this proposal.

☒Correct

☐Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
<input checked="" type="checkbox"/> Excellent	See Miscellaneous comments. I recommend that this proposal be fully funded.
<input type="checkbox"/> Good	
<input type="checkbox"/> Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

In the light of the stated problem all goals, objectives, and hypotheses are clearly stated and consistent. This study is not only timely but overdue given the rapid expansion of viticulture and the diminishing range of Swainson's Hawk in the Central Valley.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

The study is justified in that it tests the clearly stated conceptual model which is based on previous research. The proposed research is justified

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The approach is well thought out and should meet the objectives. It is likely to successfully extend our knowledge of Swainson's Hawk habitat preferences in agricultural landscapes and will quantify the effect of viticulture on their territory placement, foraging behavior, and reproductive success. Publication of the results should be of general interest to other raptor scientists but more importantly will help agencies to responsibly zone land to conserve a state threatened species.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

This project has a high probability of success given the scale of the project and objectives. The approach is well documented and certainly feasible.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

In general the performance measures are adequate. However, Activity 2 should include more intensive pre-season comparison of point count skills to ensure the two research teams are equally matched.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

All four products are of high value.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The principal investigator has successfully researched raptor ecology and published in peer-reviewed journals. He will be able to direct this project to meet the goals and objectives and has sufficient institutional support to accomplish the project.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

Yes

Miscellaneous comments:

1. Radio telemetry of male birds only requires further justification. Behavioral differences may exist between male and females. 2. The methods need to be better explained and justified with respect to tracking birds for only 8 hours a day. This represents only half the summer daytime

duration and diurnal behavior patterns may exist for this species. 3. Point count techniques make no mention of assessing age of birds which is easier with Swainson's than with other buteos. 4. The following suggestion would add little to the workload but would perhaps add considerable value to the study and the eco-toxological effects of different agricultural practices on buteos. Failure to include this in the study should in no way detract from its considerable value or effect funding decisions. The study should collect biological samples from individuals, (e.g. blood, tissue, shell and/or feather samples). These can be used by other researchers to assess the presence and build up of pesticides and herbicides.

Environmental Compliance:

Proposal Number: 37

Applicant Organization: California State University, Sacramento Foundation

Proposal Title: Effects of Expanding Viticulture on the Home Range and Habitat Use of Nesting Swainson's Hawks in the Central Valley

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

-Yes **X**No

If no, please explain:

A Scientific Collecting Permit has been obtained but applicants must obtain a State 2081/Incidental Take Permit to comply with CESA. Swainson's Hawks are a State listed species and in this proposal they will be collected and released.

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

-Yes **X**No

If no, please explain:

No budget or timeline specified because they have obtained the only permit they felt was needed.

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

XYes -No

If yes, please explain:

Must obtain a 2081 permit to collect a State listed species.

Other Comments:

Budget:

Proposal Number: 37

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

☒Yes -No

If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

☒Yes -No

If no, please explain:

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

☒Yes -No

If no, please explain:

4. Are appropriate project management costs clearly identified?

☒Yes -No

If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

☒Yes -No

If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

6. Does the budget justification adequately explain major expenses?

☒Yes -No

If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes ☒No

If yes, please explain:

Other Comments: