

United States Geological Survey

Cooperative Agreement for CESU-affiliated Partner with Californian Cooperative Ecosystem
Studies Unit



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A. Program Description

A1. Authority

Authority:
Public Law 99-591 (43 U.S.C. § 36(c)), the USGS Organic Act of March 3, 1879, as amended (43 U.S.C. § 31 et seq.), 16 U.S.C. § 1(a)(2)(j), 16 U.S.C. § 1(g), 16 U.S.C. § 5933, and 16 U.S.C. § 753(a)

Catalog of Federal Domestic Assistance (CFDA) Number

15.808

A2. Background, Purpose and Program Requirements

The U.S. Geological Survey Western Ecological Research Center (USGS-WERC) is offering a funding opportunity to a CESU Partner of the Californian Cooperative Ecosystems Studies Unit (CESU) program in [the continuing development and advancement of a wildlife immunology research program](#).

Nearshore marine habitats worldwide are facing unprecedented challenges due to expanded commercial and industrial development, resource extraction and environmental changes, which all have the potential to significantly degrade coastal ecosystems and biological resources. Although nearshore areas in Alaska may have had fewer direct effects due to their remote nature and inaccessibility, they nevertheless are subject to impacts associated with a warming climate and potential effects of oil and gas development, tourism and harvest of marine resources. Alterations associated with increased temperatures and other stressors, have already been noted in Alaska marine waters, and continuing alterations, such as acidification, are anticipated. Commercial and industrial developments in the Alaska nearshore, including oil and gas extraction, are increasing, with the potential to contribute contaminants to the environment that can damage coastal resources. A primary lesson from the 1989 Exxon Valdez oil spill is that low levels of hydrocarbons persisting in the environment can have a long-lasting effect on survival of exposed species.

In recent work, we have found differences in gene transcription results between parks and among sites in Alaska, which indicate variation in both large-scale and local environmental conditions. Changing environmental conditions in coastal ecosystems necessitate methods to assess the health of intertidal communities and facilitate management decisions to sustain these resources. Gene transcription assays will be a valuable technique because they provide early evidence of changes in physiologic status. In the conclusions of our recently published paper, monitoring nearshore ecosystem health using Pacific razor clams (*Siliqua patula*) as an indicator species (Bowen et al. 2020, PeerJ) we determined that further development of gene transcription methods as well as controlled laboratory exposure studies would improve our capacity to

monitor for early signs of physiological impacts in razor clams and their ecosystems due to changing environmental conditions.

USGS-WERC is offering this opportunity to a CESU Partner having the capability to complete, and with demonstrated experience conducting and publishing results, transcriptomic analyses of the Pacific Razor Clam. Through this CESU agreement, the federal and state university partners will cooperate fully in development of a research program that will produce decision support tools and other products for use in nearshore marine ecosystem conservation strategies and management worldwide. The cooperation of the USGS and its CESU partner brings a combination of expertise to address this objective that is greater than that possessed by either partner on its own.

Research Objectives

This research has two distinct elements that will each result in a peer-reviewed publication and data release. All work will provide datasets that USGS and the CESU Partner will collaboratively use to produce peer-reviewed scientific publications. These publications and related products (e.g., data sets and models) will be used by agencies (e.g. USFWS, NPS, CA and AK state and local agencies, and NGOs) to inform their priorities, strategies, and objectives for the management of marine nearshore ecosystems. A final product will be a transcriptome panel that can be used to assess the health of nearshore marine ecosystems worldwide.

Here is a brief description of each of the two work elements to be addressed in this research:

1) Alaska's Pacific razor clams (*Siliqua patula*) are important for commercial and personal harvest, and as prey for marine animals. Currently, the largest commercial razor clam fishery in Alaska occurs in west Cook Inlet near Polly Creek and annual harvest averages approximately 300,000 pounds while recreational clam harvests provide a boost to local economies. The state's largest sport and personal use Pacific razor clam fishery historically occurred along a 50-mile area of beach between the Kasilof and Anchor rivers on the east side of Cook Inlet, where almost one million clams per year were harvested from 1977-2006. However, between 2009 and 2012, the annual harvest was 54% below the long-term mean (1977-2008), indicating ECI was showing dramatic declines. These declines resulted in subsequent restrictions of ECI clamming in 2013 with full closure in 2015. Following this closure, razor clam numbers have not recovered to historical abundances. In contrast, the razor clam fisheries in WCI continue to support a commercial and personal use fishery over the same time frame.

2) One of the limitations of this study was the relatively small number ($n=5$) of genes included in the transcript panel. This stems from the fact that relatively little is known about the genetic makeup of Pacific razor clams in comparison with other commercially harvested invertebrate species (Bowen et al., 2020). Studies have been performed on the Chinese razor clam (*Sinonovacula constricta*) identifying genes responding to heavy metals, anthropogenic sound, and bacterial challenge, but no transcription-based studies of the Pacific razor clam were found in the literature prior to initiation of our work. In fact, GenBank®, the National Institutes of Health genetic sequence database, an annotated collection of all publicly available DNA sequences, contains only three genetic sequences for Pacific razor clams, all representing one gene. In addition, a relatively recent transcriptomic study of the Chinese razor clam, found only 9.9% of the 147,669 transcribed sequences had significant matches in GenBank. Nevertheless, the 5 genes used in our study have been shown to respond to stressors in other efforts, both of the

Chinese razor clam and other bivalves. However, examination of additional genes or the entire Pacific razor clam transcriptome might reveal differences, consequently leading us to refine our conclusions.

B. Federal Award Information

B1. Total Funding

Estimated Total Funding

\$ 50,000

B2. Award Amount

Maximum Award

\$ 50,000

Minimum Award

\$ 17,000

B3. Anticipated Award Funding and Dates

Anticipated Award Date

March 16, 2021

It is anticipated that one award will be made with one base year and four renewal years. The total estimated funding for this project is \$400,000. Estimated funding available for FY21 is \$25,000. Additional funding will be based upon satisfactory progress and the availability of funding.

B4. Number of Awards

Expected Number of Awards

1

B5. Type of Award

Funding Instrument Type

CA - Cooperative Agreement

C. Eligibility Information

C1. Eligible Applicants

Eligible Applicants

25 – Others (see text field entitled “Additional Information on Eligibility” for clarification)

Additional Information on Eligibility

This financial assistance opportunity is being issued under a Cooperative Ecosystem Studies Unit (CESU) Program. CESU’s are partnerships that provide research, technical assistance, and education. Eligible recipients must be a participating partner of the Californian Cooperative Ecosystem Studies Unit (CESU) Program.

C2. Cost Sharing or Matching

Cost Sharing / Matching Requirement

No

C3. Other

Excluded Parties: USGS conducts a review of the SAM.gov Exclusions database for all applicant entities and their key project personnel prior to award. USGS cannot award funds to entities or their key project personnel identified in the SAM.gov Exclusions database as ineligible, prohibited/restricted or otherwise excluded from receiving Federal contracts, certain subcontracts, and certain Federal assistance and benefits, as their ineligibility condition applies to this Federal program.

D. Application and Submission Information

Grants.gov Application Submission and Receipt Procedures

Grants.gov Application Submission and Receipt Procedures

This section provides the application submission and receipt instructions for U.S. Geological Survey (USGS) program applications. Please read the following instructions carefully and completely.

1. Electronic Delivery

USGS is participating in the Grants.gov initiative to provide the grant community with a single site to find and apply for grant funding opportunities. USGS encourages applicants to submit their applications online through Grants.gov.

2. How to Register to Apply through Grants.gov

a. *Instructions:* Read the instructions below about registering to apply for USGS funds. Applicants should read the registration instructions carefully and prepare the information requested before beginning the registration process. Reviewing and assembling the required information before beginning the registration process will alleviate last-minute searches for required information.

Organizations must have a Data Universal Numbering System (DUNS) Number, active System for Award Management (SAM) registration, and Grants.gov account to apply for grants. If individual applicants are eligible to apply for this funding opportunity, then you may begin with step 3, Create a Grants.gov Account, listed below.

Creating a Grants.gov account can be completed online in minutes, but DUNS and SAM registrations may take several weeks. Therefore, an organization's registration should be done in sufficient time to ensure it does not impact the entity's ability to meet required application submission deadlines.

Complete organization instructions can be found on Grants.gov here:

<https://www.grants.gov/web/grants/applicants/organization-registration.html>

1) *Obtain a DUNS Number*: All entities applying for funding, including renewal funding, must have a DUNS Number from Dun & Bradstreet (D&B). Applicants must enter the DUNS Number in the data entry field labeled "Organizational DUNS" on the SF-424 form. For more detailed instructions for obtaining a DUNS Number, refer to:

<https://www.grants.gov/web/grants/applicants/organization-registration/step-1-obtain-duns-number.html>

2) *Register with SAM*: All organizations applying online through Grants.gov must register with the System for Award Management (SAM). Failure to register with SAM will prevent your organization from applying through Grants.gov. SAM registration must be renewed annually. For more detailed instructions for registering with SAM, refer

to: <https://www.grants.gov/web/grants/applicants/organization-registration/step-2-register-with-sam.html>

3) *Create a Grants.gov Account*: The next step is to register an account with Grants.gov. Follow the on-screen instructions or refer to the detailed instructions

here: <https://www.grants.gov/web/grants/applicants/registration.html>

4) *Add a Profile to a Grants.gov Account*: A profile in Grants.gov corresponds to a single applicant organization the user represents (i.e., an applicant) or an individual applicant. If you work for or consult with multiple organizations and have a profile for each, you may log in to one Grants.gov account to access all of your grant applications. To add an organizational profile to your Grants.gov account, enter the DUNS Number for the organization in the UEI (Unique Entity Identifier) field while adding a profile. For more detailed instructions about creating a profile on Grants.gov, refer

to: <https://www.grants.gov/web/grants/applicants/registration/add-profile.html>

5) *EBiz POC Authorized Profile Roles*: After you register with Grants.gov and create an Organization Applicant Profile, the organization applicant's request for Grants.gov roles and access is sent to the EBiz POC. The EBiz POC will then log in to Grants.gov and authorize the appropriate roles, which may include the AOR role, thereby giving you permission to complete and submit applications on behalf of the organization. You will be able to submit your application online any time after you have been assigned the AOR role. For more detailed instructions about creating a profile on Grants.gov, refer

to: <https://www.grants.gov/web/grants/applicants/registration/authorize-roles.html>

6) *Track Role Status*: To track your role request, refer to: <https://www.grants.gov/web/grants/applicants/registration/track-role-status.html>

b. *Electronic Signature*: When applications are submitted through Grants.gov, the name of the organization applicant with the AOR role that submitted the application is inserted into the signature line of the application, serving as the electronic signature. The EBiz POC **must** authorize people who are able to make legally binding commitments on behalf of the organization as a user with the AOR role; **this step is often missed and it is crucial for valid and timely submissions.**

3. How to Submit an Application to USGS via Grants.gov

Grants.gov applicants can apply online using Workspace. Workspace is a shared, online environment where members of a grant team may simultaneously access and edit different webforms within an application. For each funding opportunity announcement (FOA), you can create individual instances of a workspace.

Below is an overview of applying on Grants.gov. For access to complete instructions on how to apply for opportunities, refer to:

<https://www.grants.gov/web/grants/applicants/workspace-overview.html>

1) *Create a Workspace*: Creating a workspace allows you to complete it online and route it through your organization for review before submitting.

2) *Complete a Workspace*: Add participants to the workspace to work on the application together, complete all the required forms online or by downloading PDF versions, and check for errors before submission. The Workspace progress bar will display the state of your application process as you apply. As you apply using Workspace, you may click the blue question mark icon near the upper-right corner of each page to access context-sensitive help.

a. *Adobe Reader*: If you decide not to apply by filling out webforms you can download individual PDF forms in Workspace. The individual PDF forms can be downloaded and saved to your local device storage, network drive(s), or external drives, then accessed through Adobe Reader.

NOTE: Visit the Adobe Software Compatibility page on Grants.gov to download the appropriate version of the software

at: <https://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html>

b. *Mandatory Fields in Forms*: In the forms, you will note fields marked with an asterisk and a different background color. These fields are mandatory fields that must be completed to successfully submit your application.

c. *Complete SF-424 Fields First*: The forms are designed to fill in common required fields across other forms, such as the applicant name, address, and DUNS Number. Once it is completed, the information will transfer to the other forms.

3) *Submit a Workspace*: An application may be submitted through workspace by clicking the Sign and Submit button on the Manage Workspace page, under the Forms tab. Grants.gov recommends submitting your application package at least 24-48 hours prior to the close

date to provide you with time to correct any potential technical issues that may disrupt the application submission.

4) *Track a Workspace Submission*: After successfully submitting a workspace application, a Grants.gov Tracking Number (GRANTXXXXXXXXXX) is automatically assigned to the application. The number will be listed on the Confirmation page that is generated after submission. Using the tracking number, access the Track My Application page under the Applicants tab or the Details tab in the submitted workspace.

For additional training resources, including video tutorials, refer to: <https://www.grants.gov/web/grants/applicants/applicant-training.html>

Applicant Support: Grants.gov provides applicants 24/7 support via the toll-free number 1-800-518-4726 and email at support@grants.gov. For questions related to the specific grant opportunity, contact the number listed in the application package of the grant you are applying for.

If you are experiencing difficulties with your submission, it is best to call the Grants.gov Support Center and get a ticket number. The Support Center ticket number will assist the USGS with tracking your issue and understanding background information on the issue.

4. Timely Receipt Requirements and Proof of Timely Submission

a. *Online Submission*. All applications must be received by [INSERT TIME] Eastern time on the due date established for each program. Proof of timely submission is automatically recorded by Grants.gov. An electronic date/time stamp is generated within the system when the application is successfully received by Grants.gov. The applicant with the AOR role who submitted the application will receive an acknowledgement of receipt and a tracking number (GRANTXXXXXXXXXX) from Grants.gov with the successful transmission of their application. This applicant with the AOR role will also receive the official date/time stamp and Grants.gov Tracking number in an email serving as proof of their timely submission.

When USGS successfully retrieves the application from Grants.gov, and acknowledges the download of submissions, Grants.gov will provide an electronic acknowledgment of receipt of the application to the email address of the applicant with the AOR role who submitted the application. Again, proof of timely submission shall be the official date and time that Grants.gov receives your application. Applications received by Grants.gov after the established due date for the program will be considered late and will not be considered for funding by USGS.

Applicants using slow internet, such as dial-up connections, should be aware that transmission can take some time before Grants.gov receives your application. Again, Grants.gov will provide either an error or a successfully received transmission in the form of an email sent to the applicant with the AOR role attempting to submit the application. The Grants.gov Support Center reports that some applicants end the transmission because they think that nothing is occurring during the transmission process. Please be patient and give the system time to process the application.

D1. Address to Request Application Package

Program Website Link

D2. Content and Form of Application Submission

1. SF-424, Application for Federal Assistance

Applicants must submit the appropriate Standard Form (SF)-424, Application for Federal Assistance. The required application forms are available with this announcement on Grants.gov. The SF-424, Application for Federal Assistance must be complete, signed, and dated. Do not include any proprietary or personally identifiable information. Please note: Enter only the amount requested from this Federal program in the “Federal” funding box on the SF-424 Application form. Include any other Federal sources of funding in the “Other” box and provide details on those Federal source(s) and funding amount(s) in the required Budget Narrative (see the “Budget Narrative” section below).

Any applicant organization that has not completed the financial assistance certifications and representations within their SAM.gov registration must submit the appropriate signed and dated Assurances form. All of the required application forms are available with this announcement on Grants.gov.

Project Narrative

Applicants must submit the appropriate SF-424 Budget Information form and Budget Narrative. For non-construction programs or projects, applicants must complete and submit the SF-424A, “Budget Information for Non-Construction Programs” form. All of the required application forms are available with this announcement on Grants.gov. Federal award recipients and subrecipients are subject to Federal award cost principles in 2 CFR 200.

Detailed Budget Narrative

The project budget shall include detailed information on all cost categories and must clearly identify all estimated project costs. Unit costs shall be provided for all budget items including the cost of work to be provided by contractors or sub-recipients. In addition, applicants shall include a narrative description of the items included in the project budget, including the value of in-kind contributions of goods and services provided to complete the project when cost share is identified to be included (reference section C of this announcement). Cost categories can include, but are not limited to, those costs items included on the SF424A or SF424C.

Budget Sheets - This information will provide more details than what is required under the SF 424A form. Please include the following:

- a. Salaries and Wages. List names, positions, and rate of compensation. include their total time, rate of compensation, job titles, and roles.
- b. Fringe benefits/labor overhead. Indicate the rates/amounts in conformance with normal accounting procedures. Explain what costs are covered in this category and the basis of the rate computations.
- c. Field Expenses. Briefly itemize the estimated travel costs (i.e., number of people, number of travel days, lodging and transportation costs, and other travel costs).
- d. Lab Analyses. Include geochemical analyses, radiocarbon age dating, etc. Briefly itemize cost of all analytical work (if applicable)
- e. Supplies. Enter the cost for all tangible property. Include the cost of office, laboratory, computing, and field supplies separately. Provide detail on any specific item, which represents a significant portion of the proposed amount.

- f. Equipment. Show the cost of all special-purpose equipment necessary for achieving the objectives of the project. "Special-purpose equipment" means scientific equipment having a useful life of more than 1 year and having an acquisition cost of \$5,000 or more per item. Each item should be itemized and include a full justification and a dealer or manufacturer quote, if available. General-purpose equipment must be purchased from the applicant's operating funds. Title to non-expendable personal property shall be vested solely with the Recipient. Under no circumstances shall property title be vested in a sub-tier recipient.
- g. Services or consultants. Identify the tasks or problems for which such services would be used. List the contemplated sub-recipients by name (including consultants), the estimated amount of time required, and the quoted rate per day or hour.
- h. Travel. State the purpose of the trip and itemize the estimated travel costs to show the number of trips required, the destinations, the number of people traveling, the per diem rates, the cost of transportation, and any miscellaneous expenses for each trip. Calculations of other special transportation costs (such as charges for use of applicant-owned vehicles or vehicle rental costs) should also be shown.
- i. Publication costs. Show the estimated cost of publishing the results of the research, including the final report. Include costs of drafting or graphics, reproduction, page or illustration charges, and a minimum number of reprints.
- j. Other direct costs. Itemize the different types of costs not included elsewhere; such as, shipping, computing, equipment-use charges, or other services.
- k. Total Direct Charges. Totals for items a - j.
- l. Indirect Charges (Overhead). Indirect cost/general and administrative (G&A) cost. Show the proposed rate, cost base, and proposed amount for indirect costs based on the cost principles applicable to the Applicant's organization. If the Applicant has separate rates for recovery of labor overhead and G&A costs, each charge should be shown. **NOTE: CESU NEGOTIATED IDC IS 17.5%**
- m. Amount proposed. Total items k and l.
- n. Provide copy of recipient's rate agreement

Data Management Plan Requirements

Proposals submitted to USGS must include a supplementary document of no more than four pages labeled "Data Management Plan" (DMP). This supplementary document should describe how the proposal will conform to USGS policy on the dissemination and sharing of research results and associated data. A valid DMP may include only the statement that no detailed plan is needed (e.g. "No data are expected to be produced from this project"), as long as the statement is accompanied by a clear justification. This supplementary document may include:

- the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
- the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
- policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
- provisions for re-use, re-distribution, and the production of derivatives; and

- plans for archiving data, samples, and other research products, and for preservation of free public access to them.

Additional guidance on data management plans is available from the USGS Data Management web site here: <https://www.usgs.gov/products/data-and-tools/data-management/data-management-plans> Simultaneously submitted collaborative proposals and proposals that include subawards are a single unified project and should include only one supplemental combined DMP by the lead PI that also addresses all subaward data management needs, regardless of the number of non-lead collaborative proposals or subawards included.

Conflict of Interest Disclosure

Per the Financial Assistance Interior Regulation (FAIR), [2 CFR §1402.112](#), applicants must state in their application if any actual or potential conflict of interest exists at the time of submission.

(a) Applicability.

(1) This section intends to ensure that non-Federal entities and their employees take appropriate steps to avoid conflicts of interest in their responsibilities under or with respect to Federal financial assistance agreements.

(2) In the procurement of supplies, equipment, construction, and services by recipients and by subrecipients, the conflict of interest provisions in 2 CFR 200.318 apply.

(b) Notification.

(1) Non-Federal entities, including applicants for financial assistance awards, must disclose in writing any conflict of interest to the DOI awarding agency or pass-through entity in accordance with 2 CFR 200.112.

(2) Recipients must establish internal controls that include, at a minimum, procedures to identify, disclose, and mitigate or eliminate identified conflicts of interest. The recipient is responsible for notifying the Financial Assistance Officer in writing of any conflicts of interest that may arise during the life of the award, including those that have been reported by subrecipients.

(c) *Restrictions on lobbying.* Non-Federal entities are strictly prohibited from using funds under a grant or cooperative agreement for lobbying activities and must provide the required certifications and disclosures pursuant to 43 CFR part 18 and 31 U.S.C. 1352.

(d) *Review procedures.* The Financial Assistance Officer will examine each conflict of interest disclosure on the basis of its particular facts and the nature of the proposed grant or cooperative agreement, and will determine whether a significant potential conflict exists and, if it does, develop an appropriate means for resolving it.

(e) *Enforcement.* Failure to resolve conflicts of interest in a manner that satisfies the government may be cause for termination of the award. Failure to make required disclosures may result in any of the remedies described in 2 CFR 200.338, Remedies for noncompliance, including suspension or debarment (see also 2 CFR part 180).

Single Audit Reporting Statement

All U.S. states, local governments, federally recognized Indian tribal governments, and non-profit organizations expending \$750,000 USD or more in Federal award funds in the applicant's fiscal year must submit a Single Audit report for that year through the [Federal Audit](#)

[Clearinghouse's Internet Data Entry System](#). U.S. state, local government, federally recognized Indian tribal government, and non-profit applicants must state if your organization was or was not required to submit a Single Audit report for the most recently closed fiscal year. If your organization was required to submit a Single Audit report for the most recently closed fiscal year, provide the EIN associated with that report and state if it is available through the [Federal Audit Clearinghouse](#) website.

Certification Regarding Lobbying

Applicants requesting more than \$100,000 in Federal funding must certify to the statements in [43 CFR Part 18, Appendix A-Certification Regarding Lobbying](#). If this application requests more than \$100,000 in Federal funds, the Authorized Official's signature on the appropriate SF-424, Application for Federal Assistance form also represents the entity's certification of the statements in 43 CFR Part 18, Appendix A.

Disclosure of Lobbying Activities

Applicants and recipients must not use any federally appropriated funds (annually appropriated or continuing appropriations) or matching funds under a Federal award to pay any person for lobbying in connection with the award. Lobbying is influencing or attempting to influence an officer or employee of any U.S. agency, a Member of the U.S. Congress, an officer or employee of the U.S. Congress, or an employee of a Member of the U.S. Congress connection with the award. Applicants and recipients must complete and submit the [SF-LLL, "Disclosure of Lobbying Activities"](#) form if the Federal share of the proposal or award is more than \$100,000 and the applicant or recipient has made or has agreed to make any payment using non-appropriated funds for lobbying in connection with the application or award. The SF-LLL form is available with this Funding Opportunity on Grants.gov. See 43 CFR, Subpart 18.100 and 31 USC 1352 for more information on when additional submission of this form is required.

Overlap or Duplication of Effort Statement

Applicants must provide a statement indicating if there is any overlap between this Federal application and any other Federal application, or funded project, in regards to activities, costs, or time commitment of key personnel. If no such overlap or duplication exists, state, "There are no overlaps or duplication between this application and any of our other Federal applications or funded projects, including in regards to activities, costs, or time commitment of key personnel". If any such overlap exists, provide a complete description of overlaps or duplications between this proposal and any other federally funded project or application in regards to activities, costs, and time commitment of key personnel, as applicable. Provide a copy of any overlapping or duplicative proposal submitted to any other potential funding entity and identify when that proposal was submitted, to whom (entity name and program), and when you anticipate being notified of their funding decision. The statement and the description of overlap or duplication, when applicable, may be provided within the proposal or as a separate attachment to the application. If at any time a proposal is awarded funds that would be overlapping or duplicative of the funding requested from USGS, the applicant must immediately notify the USGS point of contact. Any overlap or duplication of funding between the proposed project and other active or anticipated projects may impact selection and/or funding amount.

D3. Unique Entity Identifier and System for Award Management (SAM)

Identifier and System for Award Management (SAM.gov) Registration: This requirement does not apply to individuals applying for funds as individual (i.e., unrelated to any business or nonprofit organization you may own or operate) or any entity with an exception approved by the funding bureau or office in accordance with bureau or office policy. All other applicants are required to obtain a Data Universal Numbering System (DUNS) number from Dun & Bradstreet and then register in SAM.gov prior to submitting a Federal award application. Federal award recipients must continue to maintain an active SAM.gov registration with current information through the life of their Federal award(s). See the “Submission Requirements” section of this document below for more information on SAM.gov registration. We may not make a Federal award to an applicant that has not completed the SAM.gov registration. If an applicant selected for funding has not completed their SAM.gov registration by the time the program is ready to make an award, the program may determine that the applicant is not qualified to receive an award. The program can use that determination as a basis for making an award to another applicant. **There is no cost to register with Dun & Bradstreet or SAM.gov.** There are third-party vendors who will charge a fee in exchange for registering entities with Dun & Bradstreet and SAM.gov; **please be aware you can register and request help for free.**

Obtain a DUNS Number

Request a DUNS Number through the Dun & Bradstreet website. For technical difficulties, send an email to the D&B SAM Help Desk. Please ensure that you are able to receive emails from SAMHelp@dnb.com. The Grants.gov “Obtain a DUNS Number” webpage also provides detailed instructions. Once assigned a DUNS number, your organization must maintain up-to-date information with Dun & Bradstreet. Applicants must enter their DUNS number in the “Organizational DUNS” field on the SF-424, Application for Federal Assistance form.

Register with the System for Award Management (SAM)

Register on the SAM.gov website. “Help” tab on the website contains User Guides and other information to assist you with registration. The Grants.gov Register with SAM page also provides detailed instructions. You can also contact the supporting Federal Service Desk for help registering in SAM. Once registered in SAM, entities must renew and revalidate their SAM registration at least once every 12 months from the date previously registered. Entities are strongly encouraged to revalidate their registration as often as needed to ensure their information is up to date and reflects changes that may have been to the entity’s DUNS or IRS information.

D4. Submission Dates and Times

Due Date for Applications

02/26/2021

Application Due Date Explanation

Electronically submitted applications must be submitted no later than 5:00 p.m., ET, on the listed application due date.

D5. Intergovernmental Review

Prior to application submission, U.S. state and local government applicants should visit the [OMB Office of Federal Financial Management website](#) and view the “State Point of Contact (SPOC) List” to determine whether their application is subject to the state intergovernmental review process under Executive Order (E.O.) 12372 “Intergovernmental Review of Federal Programs.” States not on the list do not participate in the intergovernmental review process, and therefore do not have a SPOC. If you are located within a State that does not have a SPOC, you may send application materials directly to a Federal awarding agency. If your state is on the list, contact the designated entity for more information on the state’s prior review requirements for Federal assistance applications.

D6. Funding Restrictions

Required Indirect Cost Statement to be submitted with Application

All organizations must include the applicable statement from the following list in their application, and attach to their application any documentation identified in the applicable statement:

We are:

- A U.S. state or local government entity receiving more than \$35 million in direct Federal funding each year with an indirect cost rate of [insert rate]. We submit our indirect cost rate proposals to our cognizant agency. Attached is a copy of our most recently approved rate agreement/certification.
- A U.S. state or local government entity receiving less than \$35 million in direct Federal funding with an indirect cost rate of [insert rate]. We have prepared and will retain for audit an indirect cost rate proposal and related documentation.
- A [insert your organization type; U.S. states and local governments, do not use this statement] that has previously negotiated or currently has an approved indirect cost rate with our cognizant agency. Our indirect cost rate is [insert rate]. [Insert either: “Attached is a copy of our most recently approved but expired rate agreement. In the event an award is made, we will submit an indirect cost rate proposal to our cognizant agency within 90 calendar days after the award is made.” *or* “Attached is a copy of our current negotiated indirect cost rate agreement.”]
- A [insert your organization type] that has never submitted an indirect cost rate proposal to our cognizant agency. Our indirect cost rate is [insert rate]. If we receive an award, we will submit an indirect cost rate proposal to our cognizant agency within 90 calendar days after the award date.
- A [insert your organization type] that has never submitted an indirect cost rate proposal to our cognizant agency and has an indirect cost rate that is lower than 10%. Our indirect cost rate is [insert rate; must be lower than 10%]. However, if we receive an award we will not be able to meet the requirement to submit an indirect cost rate proposal to our cognizant agency within 90 calendar days after award. We request as a condition of award to charge a flat indirect cost rate of [insert rate; must be lower than 10%] against [insert a clear description of the direct cost base against which your rate is charged (e.g., salaries; salaries and fringe benefits; or modified total direct costs). However, please note

that your organization cannot charge indirect costs in excess of the indirect costs that would be recovered if applied against modified total direct costs as defined in [§2 CFR 200.68](#). We understand that we must notify USGS in writing if we establish an approved rate with our cognizant agency at any point during the award period.

- A [insert your organization type] that has never submitted an indirect cost rate proposal to our cognizant agency and has an indirect cost rate that is 10% or higher. Our indirect cost rate is [insert your organization's indirect rate; must be 10% or higher]. However, if we receive an award we will not be able to meet the requirement to submit an indirect cost rate proposal to our cognizant agency within 90 calendar days after award. We request as a condition of award to charge a flat *de minimis* indirect cost rate of 10% to be charged against modified total direct project costs as defined in [2 CFR §200.68](#). We understand that we must notify USGS in writing if we establish a negotiated rate with our cognizant agency at any point during the award period. We understand that additional Federal funds may not be available to support an unexpected increase in indirect costs during the project period and that such changes are subject to review, negotiation, and prior approval by USGS.
- A [insert your organization type] that is submitting this proposal for consideration under the "Cooperative Ecosystem Studies Unit Network", which has a Department of the Interior-approved indirect cost rate cap of 17.5%. If we have an approved indirect cost rate with our cognizant agency, we understand that we must apply this reduced rate against the same direct cost base as identified in our approved indirect cost rate agreement per [2 CFR §1402.414](#). If we do not have an approved indirect cost rate with our cognizant agency, we understand that we must charge indirect costs against the modified total direct cost base defined in 2 CFR §200.68 "Modified Total Direct Cost (MTDC)". We understand that we must request prior approval from USGS to use the 2 CFR 200 MTDC base instead of the base identified in our approved indirect cost rate agreement. We understand that USGS approval of such a request will be based on: 1) a determination that our approved base is only a subset of the MTDC (such as salaries and wages); and 2) that use of the MTDC base will still result in a reduction of the total indirect costs to be charged to the award. In accordance with 2 CFR §200.405, we understand that indirect costs not recovered due to a voluntary reduction to our federally negotiated rate are not allowable for recovery via any other means.
- A [insert your organization type] that will charge all costs directly.

D7. Other Submission Requirements

E. Application Review Information

E1. Criteria

E2. Review and Selection Process

Review and Selection Process: Applications are considered based on the completeness of documentation, meeting of stated basic eligibility, and other category requirements. Specific evaluation factors are identified in the proposal narrative. Budget information is evaluated for reasonableness and appropriateness to applicant project goals.

Proposals are reviewed by the U.S. Geological Survey technical personnel. Individual proposals are evaluated and scored. The evaluations and scores will be submitted to the contracting officer for final award

Proposals will be evaluated based on the following criteria:

1. Research Topic (40 points)

How well does the proposed research address the **Research Objectives** as defined in the announcement?

2. Experience of Researcher (30 points)

What is the experience level of the applicant(s) as applicable to conducting studies that address the following: 1) effects of wildfire and energy development on greater sage-grouse populations; 2) impacts of increasing common raven populations on greater sage-grouse demographic rates; 3) use of statistical models to quantify relationships using field measurements as explanatory variables; and 4) use of actionable science (e.g., science tool development, workshops, training, outreach, and education) to address diverse land management and stakeholder needs for meeting sage-grouse conservation objectives.

3. Work Plan (30 points)

(a) How clear and appropriate are the proposed methods to address the stated objectives?

(b) How appropriate are the scientific objectives and methods for the proposed time frame and budget?

(c) Does the applicant(s) have the ability to provide training and guidance to the listed principal investigator at USGS-WERC for developing efficient sampling protocols for ascertaining impacts on greater sage-grouse demographic rates in response to multiple natural and anthropogenic perturbations.

E3. CFR – Regulatory Information

Refer to the U.S. Geological Survey (USGS) Award Terms and Conditions for the general administrative and national policy requirements applicable to USGS awards. USGS will communicate any other program- or project-specific special terms and conditions to recipients in their Notice of Award.

E4. Anticipated Announcement and Federal Award Dates

F. Federal Award Administration Information

F1. Federal Award Notices

F2. Administrative and National Policy Requirements

See the “[DOI Standard Terms and Conditions](#)” for the administrative and national policy requirements applicable to DOI awards.

Refer to the U.S. Geological Survey (USGS) Award Terms and Conditions for the general administrative and national policy requirements applicable to USGS awards. The USGS will communicate any other program- or project-specific special terms and conditions to recipients in their Notice of Award.

Data Availability

Per the Financial Assistance Interior Regulation (FAIR), [2 CFR §1402.315](#):

(a) All data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, valuation products or other scientific assessments in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual, resulting from a financial assistance agreement is available for use by the Department of the Interior, including being available in a manner that is sufficient for independent verification.

(b) The Federal Government has the right to:

(1) Obtain, reproduce, publish, or otherwise use the data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, produced under a Federal award; and

(2) Authorize others to receive, reproduce, publish, or otherwise use such data, methodology, factual inputs, models, analyses, technical information, reports, conclusions, or other scientific assessments, for Federal purposes, including to allow for meaningful third-party evaluation.

F3. Reporting

Financial Reports

All recipients must use the [SF-425, Federal Financial Report](#) form for financial reporting. At a minimum, all recipients must submit a **final** financial report. Final reports are due no later than 90 calendar days after the award period of performance end date or termination date. For awards with periods of performance longer than 12 months, recipients are required to submit **interim** financial reports on the frequency established in the Notice of Award. The only exception to the interim financial reporting requirement is if the recipient is required to use the SF 270/271 to request payment and requests payment at least once annually through the entire award period of performance. We will describe all financial reporting requirements in the Notice of Award.

Performance Reports

Performance reports must contain a comparison of actual accomplishments with the established goals and objectives of the award; a description of reasons why established goals were not met, if

appropriate; and any other pertinent information relevant to the project results. Final reports are due no later than 90 calendar days after the award period of performance end date or termination date. For awards with periods of performance longer than 12 months, recipients are required to submit **interim** financial reports on the frequency established in the Notice of Award.

Significant Development Reports

Events may occur between the scheduled performance reporting dates which have significant impact upon the supported activity. In such cases, recipients are required to notify the Bureau in writing as soon as the recipient becomes aware of any problems, delays, or adverse conditions that will materially impair the ability to meet the objective of the Federal award. This disclosure must include a statement of any corrective action(s) taken or contemplated, and any assistance needed to resolve the situation. The recipient should also notify USGS in writing of any favorable developments that enable meeting time schedules and objectives sooner or at less cost than anticipated or producing more or different beneficial results than originally planned.

Conflict of Interest Disclosures

Recipients must notify the program immediately in writing of any conflict of interest that arise during the life of their Federal award, including those reported to them by any subrecipient under the award. Recipients must notify the program in writing if any employees, including subrecipient and contractor personnel, are related to, married to, or have a close personal relationship with any Federal employee in the Federal funding program or who otherwise may have been involved in the review and selection of the award. The term employee means any individual engaged in the performance of work pursuant to the Federal award. Recipients may not have a former Federal employee as a key project official, or in any other substantial role related to their award, whose participation put them out of compliance with the legal authorities addressing post-Government employment restrictions. See the [U.S. Office of Government Ethics website](#) for more information on these restrictions. USGS will examine each conflict of interest disclosure based on its particular facts and the nature of the project and will determine if a significant potential conflict exists. If it does, USGS will work with the recipient to determine an appropriate resolution. Failure to disclose and resolve conflicts of interest in a manner that satisfies USGS may result in any of the remedies described in 2 CFR 200.338 Remedies for Noncompliance, including termination of the award.

Other Mandatory Disclosures

The Non-Federal entity or applicant for a Federal award must disclose, in a timely manner, in writing to the Federal awarding agency or pass-through entity all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Non-Federal entities that receive a Federal award including the terms and conditions outlined in 2 CFR 200, Appendix XII—Award Term and Condition for Recipient Integrity and Performance Matters are required to report certain civil, criminal, or administrative proceedings to SAM. Failure to make required disclosures can result in any of the remedies described in 2 CFR 200.338 Remedies for Noncompliance, including suspension or debarment.

Reporting Matters Related to Recipient Integrity and Performance

If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management

(SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)) about civil, criminal, or administrative proceedings in accordance with Appendix XII to 2 CFR 200.

G. Federal Awarding Agency Contact(s)

G1. Program Technical Contact

For **programmatic technical assistance**, contact:

First Name:

Last Name:

Address:

Telephone:

Email:

G2. Program Administration Contact

For **program administration assistance**, contact:

First Name:

FAITH

Last Name:

GRAVES

Address:

Telephone:

Email:

fgraves@usgs.gov

G3. Application System Technical Support

For **Grants.gov technical registration and submission, downloading forms and application packages**, contact:

Name:

Grants.gov Customer Support

Telephone:

1-800-518-4726

Email:

Support@grants.gov

H. Other Information

Payments

Domestic recipients are required to register in and receive payment through the U.S. Treasury's Automated Standard Application for Payments (ASAP), unless approved for a waiver by the USGS program. Foreign recipients receiving funds to a final destination bank outside the U.S. are required to receive payment through the U.S. Treasury's International Treasury Services (ITS) System. Foreign recipients receiving funds to a final destination bank in the U.S. are required to enter and maintain current banking details in their SAM.gov entity profile and receive payment through the Automated Clearing House network by electronic funds transfer (EFT). The Bureau will include recipient-specific instructions on how to request payment, including identification of any additional information required and where to submit payment requests, as applicable, in all Notices of Award.

Synopsis

G21AS00309

Cooperative Agreement for CESU-affiliated Partner with Californian Cooperative Ecosystem Studies Unit

General Information

Summary

Opportunity Category

D (Discretionary)

Opportunity Category Explanation

CFDA

15.808

Funding Instrument Type

CA - Cooperative Agreement

Funding Activity Category

ST (Science and Technology and Other Research and Development)

Funding Activity Category Explanation

Award Information

Cost Sharing / Matching Requirement

No

Percentage of Cost Sharing / Matching Requirement

Expected Number of Awards

1

Estimated Total Program Funding

\$ 50,000

Estimated Award Ceiling

\$ 50,000

Estimated Award Floor

\$ 17,000

Project Period | Expected Duration in Months

60

Key Dates

Estimated Post Date

02/09/2021

Application Due Date

02/26/2021

Application Due Date Explanation

Electronically submitted applications must be submitted no later than 5:00 p.m., ET, on the listed application due date.

Estimated Award Date

March 16, 2021

Estimated Project Start Date

03/30/2021

Estimated Project End Date

03/30/2026

Archive Date

Eligibility Information

Eligibility Category

25 – Others (see text field entitled “Additional Information on Eligibility” for clarification)

Additional Information on Eligibility (Grants.gov 4,000/GMM 2,500 character limit)

This financial assistance opportunity is being issued under a Cooperative Ecosystem Studies Unit (CESU) Program. CESU's are partnerships that provide research, technical assistance, and education. Eligible recipients must be a participating partner of the Californian Cooperative Ecosystem Studies Unit (CESU) Program.

Additional Information

Description (Grants.gov/Forecast) (18,000 character limit)

The U.S. Geological Survey Western Ecological Research Center (USGS-WERC) is offering a funding opportunity to a CESU Partner of the Californian Cooperative Ecosystems Studies Unit (CESU) program in [the continuing development and advancement of a wildlife immunology research program](#).

Nearshore marine habitats worldwide are facing unprecedented challenges due to expanded commercial and industrial development, resource extraction and environmental changes, which all have the potential to significantly degrade coastal ecosystems and biological resources. Although nearshore areas in Alaska may have had fewer direct effects due to their remote nature and inaccessibility, they nevertheless are subject to impacts associated with a warming climate and potential effects of oil and gas development, tourism and harvest of marine resources. Alterations associated with increased temperatures and other stressors, have already been noted in Alaska marine waters, and continuing alterations, such as acidification, are anticipated. Commercial and industrial developments in the Alaska nearshore, including oil and gas extraction, are increasing, with the potential to contribute contaminants to the environment that can damage coastal resources. A primary lesson from the 1989 Exxon Valdez oil spill is that low levels of hydrocarbons persisting in the environment can have a long-lasting effect on survival of exposed species.

In recent work, we have found differences in gene transcription results between parks and among sites in Alaska, which indicate variation in both large-scale and local environmental conditions. Changing environmental conditions in coastal ecosystems necessitate methods to assess the health of intertidal communities and facilitate management decisions to sustain these resources.

Gene transcription assays will be a valuable technique because they provide early evidence of changes in physiologic status. In the conclusions of our recently published paper, monitoring nearshore ecosystem health using Pacific razor clams (*Siliqua patula*) as an indicator species (Bowen et al. 2020, PeerJ) we determined that further development of gene transcription methods as well as controlled laboratory exposure studies would improve our capacity to monitor for early signs of physiological impacts in razor clams and their ecosystems due to changing environmental conditions.

USGS-WERC is offering this opportunity to a CESU Partner having the capability to complete, and with demonstrated experience conducting and publishing results, transcriptomic analyses of the Pacific Razor Clam. Through this CESU agreement, the federal and state university partners will cooperate fully in development of a research program that will produce decision support tools and other products for use in nearshore marine ecosystem conservation strategies and management worldwide. The cooperation of the USGS and its CESU partner brings a combination of expertise to address this objective that is greater than that possessed by either partner on its own.

Research Objectives

This research has two distinct elements that will each result in a peer-reviewed publication and data release. All work will provide datasets that USGS and the CESU Partner will collaboratively use to produce peer-reviewed scientific publications. These publications and related products (e.g., data sets and models) will be used by agencies (e.g. USFWS, NPS, CA and AK state and local agencies, and NGOs) to inform their priorities, strategies, and objectives for the management of marine nearshore ecosystems. A final product will be a transcriptome panel that can be used to assess the health of nearshore marine ecosystems worldwide.

Here is a brief description of each of the two work elements to be addressed in this research:

1) Alaska's Pacific razor clams (*Siliqua patula*) are important for commercial and personal harvest, and as prey for marine animals. Currently, the largest commercial razor clam fishery in Alaska occurs in west Cook Inlet near Polly Creek and annual harvest averages approximately 300,000 pounds while recreational clam harvests provide a boost to local economies. The state's largest sport and personal use Pacific razor clam fishery historically occurred along a 50-mile area of beach between the Kasilof and Anchor rivers on the east side of Cook Inlet, where almost one million clams per year were harvested from 1977-2006. However, between 2009 and 2012, the annual harvest was 54% below the long-term mean (1977-2008), indicating ECI was showing dramatic declines. These declines resulted in subsequent restrictions of ECI clamming in 2013 with full closure in 2015. Following this closure, razor clam numbers have not recovered to historical abundances. In contrast, the razor clam fisheries in WCI continue to support a commercial and personal use fishery over the same time frame.

2) One of the limitations of this study was the relatively small number (n=5) of genes included in the transcript panel. This stems from the fact that relatively little is known about the genetic makeup of Pacific razor clams in comparison with other commercially harvested invertebrate species (Bowen et al., 2020). Studies have been performed on the Chinese razor clam (*Sinonovacula constricta*) identifying genes responding to heavy metals, anthropogenic sound, and bacterial challenge, but no transcription-based studies of the Pacific razor clam were found in the literature prior to initiation of our work. In fact, GenBank®, the National Institutes of

Health genetic sequence database, an annotated collection of all publicly available DNA sequences, contains only three genetic sequences for Pacific razor clams, all representing one gene. In addition, a relatively recent transcriptomic study of the Chinese razor clam, found only 9.9% of the 147,669 transcribed sequences had significant matches in GenBank. Nevertheless, the 5 genes used in our study have been shown to respond to stressors in other efforts, both of the Chinese razor clam and other bivalves. However, examination of additional genes or the entire Pacific razor clam transcriptome might reveal differences, consequently leading us to refine our conclusions.

Awarding Officer Contact Name

FAITH GRAVES

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Awarding Officer Email Address

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Awarding Officer Email Description

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Link to Additional Information