United States Department of Agriculture

Environmental Monitoring on Wake Atoll Cooperative Agreement

Fiscal Year 2024 Funding Opportunity Announcement:

Funding Opportunity Number: USDA-APHIS-10028-WSNWRC00-24-001

Publication Date: 11/01/2023

Application Due Date: JANUARY 31, 2024, at 11:59 PM Eastern

Funding Opportunity: Environmental Monitoring on Wake Atoll

The United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) Wildlife Services (WS) is announcing the availability of cooperative agreement funding for environmental monitoring on Wake Atoll for the Wake Atoll Rat Eradication Project. The maximum available funding for this funding opportunity is $200,000.00 USD.

USDA APHIS WS entered into an Interagency Agreement with the U.S. Air Force (USAF) 611 Civil Engineer Squadron, Installation Management Flight (CES/CEI) to eradicate the Pacific rat (*Rattus exulans*) and White-toothed woodrat (*Neotoma leucodon*) from the entirety of Wake Atoll (Wake). Cooperatively, WS and Island Conservation (IC) will deliver the rodenticide Brodifacoum 25-W (B-25W) Conservation by several methods, to include by helicopter, hand broadcast, bait stations, and spot baiting. This project is collectively known as the Wake Atoll Rat Eradication Project (WAREP). This funding opportunity will test the decay of brodifacoum in selected environmental compartments, as stated in the Wake Atoll Rat Eradication Project's Environmental Assessment (EA).

Synopsis

Funding Opportunity Title: Environmental Monitoring on Wake Atoll

Funding Opportunity Number: USDA-APHIS-10028-WSNWRC00-24-001

Funding Type: Cooperative Agreement

Catalog of Federal Domestic Assistance (CFDA)/Assistance Listing Number and Title: 10.028, Wildlife Services

Application Due Date: Proposals must be received through ezFedGrants by January 31, 2024 at 11:59 PM Eastern. Proposals received after this deadline will not be reviewed or considered for funding. Submissions through Grants.gov will not be accepted.

Funding Opportunity Description: In this opportunity announcement, WS will make up to $200,000 USD available to fund environmental monitoring on Wake Atoll for the Wake Atoll Rat Eradication Project. This funding opportunity will test the decay of brodifacoum in selected environmental compartments, as stated in the Wake Atoll Rat Eradication Project's EA.

Eligible Participants: This competitive funding opportunity is unrestricted, and available to all entities.

Cost Sharing: Although cost sharing is not required, APHIS WS may consider an eligible entity's ability to contribute non-Federal funds for proposed activities.

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A. Program Description

Awarding Agency Name: USDA-APHIS-Wildlife Services

Funding Opportunity Title: Environmental Monitoring on Wake Atoll

Announcement Type: Initial Announcement

Funding Opportunity Number: USDA-APHIS-10028-WSNWRC00-24-001

CFDA/Assistance Listing Number: 10.028

Key Dates: Proposals must be received through ezFedGrants by January 15, 2024, at 11:59 PM Eastern. Proposals received after this deadline will not be reviewed or considered for funding. Submissions through Grants.gov will not be accepted. The performance period will begin in April-June 2024 and must end within twelve months after the start date.

Applicants can find the funding opportunity information on ezFedGrants or Grants.gov by searching the CFDA Number **10.028** or the Funding Opportunity Number **USDA-APHIS-10028-WSNWRC00-24-001.**

A.1 Funding Opportunity Description

APHIS-Wildlife Services (WS) entered into an Interagency Agreement with the U.S. Air Force (USAF) 611 Civil Engineer Squadron, Installation Management Flight (CES/CEI) to eradicate the Pacific rat (*Rattus exulans*) and White-toothed woodrat (*Neotoma leucodon*) from the entirety of Wake Atoll (Wake). Cooperatively, WS and Island Conservation (IC) will deliver the rodenticide Brodifacoum 25-W (B-25W) Conservation by helicopter, hand broadcast, bait stations, and spot baiting. This project is collectively known as the Wake Atoll Rat Eradication Project (WAREP).

The overall objective of this funding opportunity is to test the decay of brodifacoum in selected environmental compartments, as stated in the Wake Atoll Rat Eradication Project's Environmental Assessment (EA) through environmental monitoring.

APHIS-Wildlife Services anticipates awarding one cooperative agreement for a maximum of $200,000 USD to the following entities: Unrestricted.

A.2 Funding Priorities

It is ecologically prudent and a regulatory requirement to assess the decay of brodifacoum residues in the environment and its impact on island fauna. WAREP will apply the highly toxic rodenticide B-25W to all terrestrial areas of Wake Atoll using aerial application, hand broadcast, and bait station application methods. This presents a primary (bait consumption), secondary

(consumption of prey with incurred residues), and tertiary (consumption of forage items that consumed prey with incurred residues) risk to island terrestrial and aquatic fauna.

As B-25W pellets are applied on Wake, the presence of brodifacoum residues throughout the environment is expected to increase rapidly and peak shortly after the last bait application. Following the cessation of bait application and degradation, B-25W will incorporate into the food web; however, residue levels are expected to decline rapidly as brodifacoum percolates into the soil, is degraded by bacterial action, is metabolized by consumers, and is otherwise flushed from the environment by various physical and chemical processes. The funding priority will assess these expectations by collecting data detailing brodifacoum residues' decay in vital environmental compartments detailed in WAREP's Final Environmental Assessment (EA).

These compartments are marine and terrestrial water bodies, soil, sea and shorebirds, reptiles, terrestrial invertebrates, marine invertebrates, and marine fish. Samples will be collected two weeks before and immediately after the first aerial broadcast and immediately after and six months post-final aerial broadcast.

Applicant proposals must directly address and support the funding priority described above.

A.3 Other Funding Considerations
There are no other funding considerations.

A.4 Alignment with USDA APHIS Goals
The mission of APHIS Wildlife Services is to provide expertise to resolve conflicts between people and wildlife. Using an integrated approach, APHIS-Wildlife Services facilitates coexistence to protect agriculture, natural resources (including threatened and endangered species), property and infrastructure, and public health and safety.

This funding opportunity supports the overall mission of USDA, which is "to serve all Americans by providing effective, innovative, science-based public policy leadership in agriculture, food and nutrition, natural resource protection and management, rural development, and related issues with a commitment to deliverable equitable and climate-smart opportunities that inspire and help America thrive."

This funding opportunity supports the following USDA APHIS Strategic Goals:

USDA APHIS Strategic Goal 5: Manage wildlife damage and threats to agriculture, natural resources, property, and people

> **Objective 5.3**: Protect public health and safety by managing negative human/wildlife interactions.

Objective 5.4: Reduce damage from invasive species and protect resources, critical habitats, and species of concern.

A.5 Legislative Authority

USDA-APHIS-WS's primary statutory authorities are found in two acts of Congress: The Act of March 2, 1931 (46 Stat. 1468-69; 7 USC §§ 8351-8352) as amended; and The Act of December 22, 1987 (Public Law No. 100-202, § 101(k), 101 Stat. 1329-331, 7 USC § 8353).

The Act of March 2, 1931, as amended (7 U.S.C. § 8351 – Predatory and other wild animals and § 8352 – Authorization of expenditures for the eradication and control of predatory and other wildlife animals), authorizes the Secretary of Agriculture to conduct a program of wildlife services concerning injurious animal species and take any action the Secretary deems necessary in conducting the program. The Secretary of Agriculture has delegated this authority to WS.

The Act of December 22, 1987 (7 U.S.C. § 8353 - Control of nuisance mammals and birds and those constituting reservoirs of zoonotic diseases; exception) authorizes, except for urban rodent control, the Secretary of Agriculture to conduct activities and to enter into agreements with States, local jurisdictions, individuals, and public and private organizations and institutions for the control of nuisance mammals and birds and those mammal and bird species that are reservoirs of zoonotic diseases. The Secretary of Agriculture has delegated this authority to WS.

Under 7 USC Part 2279 (g) and notwithstanding Chapter 63 of Title 31, APHIS is authorized to use cooperative agreements or grants to reflect a relationship with a state or other recipient to carry out programs to protect the nation's animal and plant resources or to carry out educational programs or special studies to improve the safety of the nation's food supply.

B. Federal Award Information

Total Amount to be Awarded: APHIS WS anticipates awarding a maximum of $200,000 USD to support a project that addresses the funding priorities described in Section A.2.

Type of Assistance Instrument: A cooperative agreement will fund the award. WAREP managers shall remain impartial and will not influence the collection of samples on Wake or the monitoring results but do recognize that getting personnel, supplies, and equipment on and off Wake is logistically challenging (see Section H.1).

Anticipated Awards: APHIS WS anticipates awarding one cooperative agreement.

Anticipated Award Start Date: The performance period will begin in April-June 2024.

Period of Performance: This project must be completed twelve months after the start date. Funding will not be allowed or available, nor activities approved or allowed to occur outside of

the performance period. The funding for this opportunity is subject to statutory limitations which do not allow extensions beyond the period of performance.

Competitive Process: This is a competitive funding opportunity. Proposals will be evaluated by a team of reviewers who will recommend one funding opportunity based on the merits outlined in Section E.2. Recipients are not pre-determined. Final funding decisions are at the discretion of APHIS-WS.

Cost Sharing: Although cost sharing is not required, APHIS WS may consider an eligible entity's ability to contribute non-Federal funds to carry out this cooperative agreement. Additional information on cost sharing is outlined in Section C.2.

Collaboration with Federal Agencies: Due to strict requirements around the distribution of funds to Federal agencies in cooperative agreements across fiscal years, sub-awarding this funding (any payments) to Federal agencies may not be included in the APHIS share of the Financial Plan. The recipient may use funds from non-federal sources to pay for services from Federal agencies; if applicable, such expenses should be listed in the recipient share in the Financial Plan.

B.1 Cost Guidance

Each applicant must submit a detailed Financial Plan that provides sufficient information to determine the costs of the cooperative agreement. Allowable costs must be reasonable, allocable, and necessary to the project. The Office of Management and Budget (OMB) cost principles (2 CFR Part 200 Subpart E) must determine whether a cost can be applied to the project and, if so, how much it can be charged.

Allowable uses of cooperative agreement funds include but are not limited to, activities, equipment, supplies, and services needed to complete approved program activities that support the priorities and considerations described in Section A.2, including:

- *Supplies and Equipment*. The Federal definition of equipment is tangible personal property (including information technology systems) having a useful life of more than one year and a per unit value of $5,000 or more unless the applicant's definition of equipment is more restrictive.
- *Information technology systems*. The term "information technology," defined in 2 CFR Part 200.1, includes, but is not limited to, computers, networks, ancillary equipment, software, firmware, similar procedures, services (including support services), and related resources. This term also includes any equipment, interconnected system(s), or subsystem(s) of equipment that is used in the automatic acquisition, storage, manipulation, movement, control, display, switching, interchange, transmission, or reception of data or information.

- *Personnel*. APHIS will allow costs for salaries and wages provided the total compensation to individual employees is reasonable for the work performed, conforms to the established policy of the organization, and is consistently applied to Government and nongovernment activities.
- *Travel.* APHIS-WS will allow costs for travel to and from Hickam Airforce Base in Honolulu, Hawaii, and shipping costs incurred from sending supplies and equipment to and from Wake Island Airfield on the bi-weekly rotator or similar method of conveyance to be determined by APHIS-WS.

Funds may **NOT** be used for the following:

- Land acquisition
- Compensation for Federal Employees
- Travel of Federal Employees
- Federal sub-awards (any payment to Federal entities)
- Construction or significant rehabilitation of buildings
- Bonuses or commissions
- Fundraising
- Meeting, conference, symposia, or workshop honoraria, which is payment to individuals or guests other than for documented professional services
- Vehicle purchases or leases
- Positions funded by other Federal cooperative agreements or grants
- International travel (international travel can be allowable if it is disclosed in advance and may be necessary if we are to extend the opportunity to international organizations.)
- Projects or activities associated with APHIS-State-Industry cooperative program activities already funded via USDA APHIS annual cooperative agreements
- Promotional, outreach, or giveaway items such as calendars, rulers, pens, pencils, squishy balls, cups, refreshments, etc.

Nothing in this section prevents an eligible entity from using funds received to enter into sub-agreements with another qualified entity, University, or nonprofit entity or to reimburse a Tribe, state, or local agency for services rendered

C. Eligibility Information

C.1 Eligible Applicants

The following entities are eligible for funding through this opportunity: Unrestricted.

C.2 Cost-Sharing and Matching

2 CFR Part 200.1 defines cost sharing and matching as a "portion of the project costs not paid by Federal funds or contributions (unless otherwise authorized by Federal statute)." For additional information on cost share, please reference 2 CFR Part 200.306. Although cost sharing is not required, APHIS WS may consider an eligible entity's ability to contribute non-Federal funds to carry out this cooperative agreement but shall not require an eligible applicant to contribute as a condition to enter into this cooperative agreement.
If applicable, applicants should describe cost-share or in-kind funding for the project. Once the cooperative agreement is accepted and finalized, the cost share becomes legally binding, and the recipient will be required to meet the cost share ratio.

C.3 Other Criteria for Eligibility

All applicant organizations must have at least two users registered in ezFedGrants, a Grants Administrative Officer and a Signatory Official, to submit a proposal package successfully. This system will be used for all stages of the funding opportunity process, including submitting the proposal package, signing the cooperative agreement, and submitting reports.

Applicants will be checked against the System for Award Management (SAM.gov) to ensure they have not been disbarred or suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency. See Section D.3.

An eligible applicant may submit one proposal for this funding opportunity.

C.4 Administrative Eligibility Criteria

Proposal packages must meet these initial screening criteria to be considered for further review. Proposals must meet these criteria to be considered. The initial screening criteria are the following:

1. Proposals must be received by the deadline. Proposals received after the established deadline will not be reviewed or considered.
2. Proposals must be submitted by an eligible applicant.
3. All required documents and forms listed in Section D.2 must be included in the proposal package and comply with the submission instructions described in Section D. Any proposal package with missing or significantly incomplete documents or forms may not be considered for review, resulting in a rejected proposal.
4. Proposals must be consistent with the allowed use of funds guidance. Proposals that do not align with the cost guidance described in Section B.1 of this announcement may not be considered for review, resulting in a rejected proposal.
5. The timeline must be reasonable to complete objectives within twelve months. The proposal will only be accepted if it is designed to run for up to twelve months.

Applicants should refer to Appendix 1: Environmental Monitoring Funding Opportunity Criteria for a complete list of the Administrative Eligibility Criteria and the Evaluation Criteria for this funding opportunity.

D. Application and Submission Information

D.1 Obtaining an Application Package

All application materials are available through this announcement and through ezFedGrants. If assistance is needed with locating application materials, please reach out via email to NWRC.Agreements@usda.gov at least seventy-two hours before the application deadline.

D.2 Content and Form of the Application Package

The proposal package must include the following:

1. SF-424, "Application for Federal Assistance" – Completed when applying to the Opportunity in ezFedGrants
2. SF-424A, "Budget Information – Non-Construction Programs" that matches the submitted Financial Plan – Completed when applying to the Opportunity in ezFedGrants
3. Certification Regarding Lobbying (for Federal Assistance greater than $100,000)
4. SF-LLL, "Disclosure of Lobbying Activities" (for Federal Assistance greater than $100,000 when there are activities to disclose)
5. Waiver or approval response letter from the State's Single Point of Contact (SPOC) if the applicant is in a state that is required to comply with Executive Order 12372, Intergovernmental Review of Federal Programs
    a. Refer to this list to see if your organization falls under the Intergovernmental Review (SPOC) list for CFDA 10.028 Intergovernmental Review (SPOC List) (usda.gov)
6. Environmental Monitoring Proposal Work Plan (See Appendix 3 for a sample Environmental Monitoring Work Plan)
7. Environmental Monitoring Proposal Financial Plan (See Appendix 4 Environmental Monitoring Financial Plan Template). Indirect Costs are statutorily limited to the *de minimus* rate of 10% of direct costs, or lower.

Applicants should refer to Appendix 2: Environmental Proposal Checklist and Tips when preparing a proposal package for submission. Any proposal package with missing or significantly incomplete documents or forms will not be considered for review, resulting in a rejection. Letters of support are not required but may be included in the proposal package. Applicants should not request letters of support from APHIS employees; however, informal discussions are highly encouraged.

Project Proposal Work Plan
Applicants must submit an Environmental Monitoring Work Plan like the example in Appendix 3. Applicants are encouraged, but not required, to follow this example Environmental Monitoring Work Plan.

Project Proposal Financial Plan
Applicants must submit a Financial Plan that clearly identifies the costs associated with the proposed activities in the Work Plan and include all information outlined in the Environmental Monitoring Proposal Financial Plan Template example in Appendix 4. Applicants are encouraged, but not required, to use this Environmental Monitoring Financial Plan Template. Financial Plans must match the SF-424A submitted through ezFedGrants and provide additional details as necessary. When preparing this Financial Plan, applicants must comply with the cost guidance and funding restrictions described in Section B.1. This Financial Plan must account for the logistical challenges mentioned in Section H.1.

D.3 Unique Entity Identifier (UEI) and System for Award Management (SAM)
All applicants are required to register in SAM before submitting a proposal for this funding opportunity, provide a valid Unique Entity Identifier (UEI) in the application, and always maintain an active SAM registration with current information during the application process and award period of performance (2 CFR Part 200.206). To register, go to the SAM.gov website. During the SAM registration process, it is mandatory to complete the Financial Assistance Certification Report to receive federal financial assistance. Please allow a minimum of five days to complete the SAM registration. Registration is free. Frequently Asked Questions, User Guides, Demonstration Videos, etc., can be found on the SAM website under the “Help” tab.

Your organization will need a UEI, a 12-character alphanumeric ID assigned by SAM. During the application package review process, APHIS will conduct a risk assessment which includes review in the Federal Audit Clearinghouse. All applicants will be verified in SAM to ensure they have not been disbarred or suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency. APHIS may only make a Federal award to an applicant once the applicant has complied with all applicable UEI and SAM requirements.

Suppose an applicant still needs to fully comply with these requirements when APHIS is ready to make the Federal award. In that case, APHIS may determine that the applicant is not qualified to receive this award and use that determination to give it to another applicant.

When the anticipated total Federal share exceeds the simplified acquisition threshold, APHIS must review and consider any information about the applicant in the designated integrity and performance system accessible through SAM before issuing the award. An applicant, if desired, may review and comment on any information about their organization that a Federal awarding agency previously entered and is currently in the designated integrity and performance systems

accessible through SAM. APHIS will consider any comments provided by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and performance record under Federal awards when completing the risk assessment.

D.4 Submission Dates and Times

All proposals must be completed and received electronically through ezFedGrants by January 15, 2024, 11:59 PM Eastern . The electronic date and time stamp ezFedGrants will determine whether proposals were received before the deadline. Submissions through Grants.gov will not be accepted.

We understand unanticipated issues can arise; therefore, we urge applicants to submit their application package early to allow time to address any complications. If you are experiencing technical difficulties, please get in touch with NWRC.Agreements@usda.gov at least seventy-two hours before the deadline for assistance. Only proposal packages with complete documents or forms may be considered for review.

Applicants should refer to Appendix 2: Environmental Monitoring Proposal Checklist and Tips to ensure that all documents are included before submission of the proposal package.

D.5 Intergovernmental Review

The Intergovernmental Review Process (CFDA 10.028) is subject to Executive Order 12372, "Intergovernmental Review of Federal Programs." Awards will not be made until this process has been completed in the applicable states.

Names and addresses of States' Single Point of Contact (SPOC) are listed at: https://www.aphis.usda.gov/mrpbs/fmd/downloads/spoc_list.pdf. Please get in touch with your State's SPOC for additional information on your specific State requirements.

For applicants with this process in their State, submit your application to the SPOC simultaneously with submitting to APHIS WS. When the award is made, a copy of the SPOC waiver or approval letter will be required. Upload the waiver or approval response letter from the SPOC to your proposal package in ezFedGrants to fulfill this requirement. Please meet this requirement to avoid rejection of your application.

D.6 Funding Restrictions

Project funds are only available during the period of performance. They must be obligated by the recipient within twelve months from the date the funds are made available by APHIS WS (the beginning date of the period of performance on the Award Face Sheet/Notice of Award unless otherwise stated in the Award Face Sheet/Notice of Award. Any expenses before the

beginning date or after the end date of the period of performance will not be reimbursed. See Section B.1 for a list of unauthorized uses of funds.
Indirect costs are statutorily limited to not more than ten percent of total direct costs.

Due to strict requirements around the distribution of funds to Federal agencies across fiscal years, sub-awarding this funding (any payment) to Federal agencies may not be included in the APHIS share of the Financial Plan. Recipients may use funds from other sources to pay for services from Federal agencies; if applicable, such expenses should be listed in the recipient share in the Financial Plan.

Please refer to the cost guidance in Section B.1 for additional information on funding restrictions and limitations.

D.7 Other Submission Requirements
Only electronic submissions of proposals through ezFedGrants will be accepted. The ezFedGrants system requires registration, and during the registration process, you will select a password necessary to log in to the system. Hard-copy proposals and submissions through Grants.gov will not be accepted. APHIS complies with Section 508 of the Rehabilitation Act of 1973.

Applicants experiencing technical difficulties should reach out to NWRC.Agreements@usda.gov at least 72 hours before the application deadline of January 15th, 2024, 11:59 PM Eastern. for assistance. Proposals received after the deadline will not be reviewed or considered.

E. Application Review Information

E.1 Evaluation Criteria
APHIS-WS will use the following criteria to evaluate proposals during the review process. Applicants should consider the requirements when preparing the proposal package. Applicants should refer to Appendix 1: Environmental Monitoring Funding Opportunity Criteria for a complete list of the Administrative Eligibility Criteria and the Evaluation Criteria. NOTE: Proposed activities must align with current Federal, State, and Tribal regulations.

Evaluation Criteria

1. **Addresses the Priorities and Requirements in the Announcement.** This criterion assesses the extent to which the proposal strongly supports and addresses Environmental Monitoring on Wake.

    a. **Strong and direct support of this funding priorities.** This criterion assesses the extent to which the proposed activities directly address the concern identified in

the funding priorities and how the expected outcomes and deliverables will strongly support the funding priority area of concern.

b. **Strong and direct support for the overarching goal of the funding priority.** This criterion assesses the extent to which the expected outcomes and deliverables will support the overarching goal of the funding opportunity, which is to determine the decay of brodifacoum in environmental compartments on Wake.

2. **Feasibility of success.** This criterion assesses the extent to which the proposal will successfully produce the expected outcomes and deliverables based on critical factors, such as a well-organized and sound approach, a reasonable schedule, effective partnerships and collaborations, and the applicant's skills, knowledge, and experiences.

    a. **Plan of action**. This criterion assesses the extent to which the Work Plan lays out a logical, well-organized, and complete plan of action that is likely to produce successful outcomes and deliverables. It considers whether the approach is explained sufficiently so the reader can understand what activities will be performed, how they will be conducted, and what will be produced.
    b. **Proposed activities or methods.** This criterion assesses the extent to which the proposed activities or methods are technically sound.
    c. **Adequate budget.** This criterion assesses the extent to which the budget is realistic, adequate, and sufficient to produce the outcomes and deliverables described in the proposal.
    d. **Reasonable schedule.** This criterion assesses whether the project schedule allows an appropriate amount of time for completing all proposed objectives in a twelve-month performance period, including but not limited to considering a reasonable amount of time to conduct sample analysis, the competing time commitments of stakeholders who are critical to project completion, and other risks that may cause schedule delays.
    e. **Partnerships and collaboration.** This criterion assesses the extent to which the proposal identifies and describes the partnerships and collaborations necessary to complete the proposed objectives and successfully produce the expected outcomes and deliverables.
    f. **Skills, knowledge, and experience**. This criterion considers the extent to which the key person(s) who will carry out the methods or activities have the qualifications, skills, ability, experience, and infrastructure (facilities and equipment) to conduct the proposed activities and produce successful outcomes and deliverables.

3. **Cost Effectiveness.** This criterion assesses the extent to which the proposal identifies a cost-effective approach to produce the desired outcomes and deliverables.

a. **All costs are reasonable and necessary.** This criterion assesses the extent to which the Financial Plan is clear, logical, and includes only reasonable and necessary expenses to produce the expected outcomes and deliverables. It also assesses the extent to which the Financial Plan provides sufficient detail for reviewers to fully understand how each budget item specifically supports the activities outlined in the Work Plan without including things that are not allowed or appear superfluous or tangential to producing the outcomes and deliverables.
b. **Use of existing resources**. This criterion assesses the extent to which the proposal includes cost-saving measures by leveraging existing resources or partnerships where possible. For example, the proposal describes the practical use of existing personnel, vehicles, computers, venues, supplies, and other items to complete the project. This criterion will evaluate cost share, making up less than five percent of the total score.

E.2 Review and Selection Process

APHIS WS has the final authority in determining which proposal is funded for this initiative. Proposals that meet the eligibility criteria in Section C will be subject to an administrative review by an APHIS WS Agreements Specialist and evaluated by reviewers based on the proposal's merit. APHIS WS is responsible for reviewing submissions against the evaluation criteria in Section E.1. The review panel will consist of internal and external subject-matter experts from various departments, agencies, and academia as appropriate. High-quality proposals strongly support the priorities and address the needs, considerations, and evaluation criteria described in this funding opportunity.

Project funding necessitates a cap of $200,000 USD for this opportunity. Reviewers may prefer a Work Plan that meets the evaluation criteria in E.1 and is notably less than this cap.

Reviewers will not be associated with projects they are reviewing to avoid potential conflicts of interest. If an actual or perceived conflict of interest occurs, a reviewer shall recuse themselves as appropriate.

A risk assessment will be conducted during the selection and review process. See Section D.3 for additional information on the components of this risk assessment.

E.3 Anticipated Announcement and Federal Award Dates

The simultaneous review of all applications follows a single application deadline. APHIS WS will review proposals within sixty days of the application deadline. All applicants will be notified by email of the award status.

F. Federal Award Administration Information

APHIS-WS will administer the awarded cooperative agreement, collaborate with recipients to provide advice on how to get personnel, equipment, and supplies to Wake; receive and review project documents; offer comments and suggestions; track project performance; and communicate as necessary to ensure progress in accomplishing the project, identifying obstacles, and resolving concerns.

Recipients will track performance and expenditures, provide progress reports and project deliverables in accordance with the project Work Plan, and communicate with APHIS WS staff to assess and evaluate progress.

F.1 Federal Award Notices

The applicant selected for funding will receive a notification stating their application has been approved. This notification is not an authorization to begin performance on the project or to expend the funds. The APHIS-WS Agreements Specialist or WAREP's Logistics Officer may informally contact the applicant with application/Federal award status details.

Applicants selected for funding will receive an Award Face Sheet/Notice of Award, which will be routed to the applicant's Signatory official(s) via ezFedGrants. The Award Face Sheet/Notice of Award will provide pertinent instructions and information, including but not limited to the information described in 2 CFR Part 200.211 and a reference to the Terms and Conditions for APHIS awards. The Signatory Official must provide an E-Signature in ezFedGrants for the Federal Award Document unless an alternate Federal Award signature process is provided to the applicant by APHIS-WS. This Award Face Sheet/Notice of Award, fully signed by the applicant's Signatory Official and WAREP's Eradication Commander, which can be obtained electronically in ezFedGrants, is the only document that authorizes the project to begin.

F.2 Administration and National Policy Requirements

Successful applicants must comply with the requirements contained in the "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards," 2 CFR Part 200; "Nonprocurement Debarment and Suspension," 2 CFR Part 417; "Requirements for Drug-Free Workplace," 2 CFR Part 421; "New Restrictions on Lobbying," 2 CFR Part 418; and Office of Management and Budget regulations governing "Controlling Paperwork Burdens on the Public," 5 CFR Part 1320.

By the Office of Management and Budget's guidance located at 2 CFR part 200, all applicable Federal laws, and relevant Executive guidance, the Federal awarding agency will review and consider applications for funding under this notice of funding opportunity following the Guidance for Grants and Agreements in Title 2 of the Code of Federal Regulations (2 CFR), as updated in the Federal Register's 85 FR 49506 on August 13, 2020. Particularly on: selecting recipients most likely to be successful in delivering results based on the program objectives

through an objective process of evaluating Federal award applications (2 CFR Part 200.205); prohibiting the purchase of certain telecommunication and video surveillance services or equipment in alignment with section 889 of the National Defense Authorization Act of 2019 (Pub. L. No. 115—232) (2 CFR Part 200.216); promoting the freedom of speech and religious liberty in alignment with Promoting Free Speech and Religious Liberty (Executive Order 13798) and Improving Free Inquiry, Transparency, and Accountability at Colleges and Universities (Executive Order 13864) (2 CFR Parts 200.300, 200.303, 200.339, and 200.341); providing a preference, to the extent permitted by law, to maximize use of goods, products, and materials produced in the United States (2 CFR Part 200.322), and, terminating agreements in whole or in part to the greatest extent authorized by law, if an award no longer effectuates the program goals or agency priorities (2 CFR part 200.340).

Successful applicants must also comply with the General Terms and Conditions for APHIS awards, approved project Work Plan, approved project Financial Plan, and the applicable authorization to issue the Award Face Sheet/Notice of Award.

F.3 Reporting

The Recipient's Project Coordinator will provide quarterly performance reports on program activities outlined in the application and adequately certified Federal Financial Reports, SF-425s, to the APHIS-WS Program Manager through ezFedGrants as outlined in the Award Face Sheet/Notice of Award and under the General Terms and Conditions for APHIS awards. APHIS-WS will use the reports to verify compliance with the provisions in the cooperative agreement.

The Recipient will also provide the environmental monitoring results within forty-five days after each collection period. Upon completion of all field and laboratory activities, the awardee will collate the information collected over the performance period and draft an Environmental Monitoring Plan Report detailing the persistence of brodifacoum in Wake's environmental compartments and the impacts of brodifacoum residues resulting from the application of B-25W. The awardee will submit this report thirty calendar days after receiving the final laboratory results. WS and IC will be afforded a 15-calendar day review period for comments submitted in matrix format.

The awardee shall utilize WS's and IC's comments to make final edits and changes to draft the final report, resulting in the Environmental Monitoring Plan Final Report. The awardee will respond to all WS's and IC's comments in the matrix and submit it with the Final Report. The awardee will submit the Final Report and comment matrix within fifteen calendar days of receiving WS and IC comments.

The performance and financial reports will be due as specified on the Award Face Sheet/Notice of Award. Any requests for an extension of time to submit reports must be made in writing to WAREP's Eradication Commander. Extensions of time for submission of the reports will be

considered on a case-by-case basis and are subject to the discretion of the Eradication Commander. If allowed, approval will be provided in writing.

F.4 Project Evaluation

The Recipient's performance will be evaluated, through the review of performance and financial reports, based on the following criteria to determine if the Recipient met the project standards and if the proposed results and benefits were achieved:

1. Adherence to the project schedule
2. Adherence to project budget
3. Delivery of results that meet the cooperative agreement performance standards and achieve the stated outcomes; and,
4. Periodic discussion of project progress with the APHIS WS Program Manager.

G. Federal Awarding Agency Contacts

For administrative questions about this funding opportunity, required documents, or the ezFedGrants application process, please contact NWRC.Agreements@usda.gov.
For programmatic questions regarding Environmental Monitoring on Wake, please contact the following WAREP staff:

Primary point of contact:
Eric Lanners, Logistics Officer, Wake Atoll Rat Eradication Project
Eric.lanners@usda.gov, (970) 266-6330

Secondary point of contact:
Tyler Bogardus, Eradication Commander, Wake Atoll Rat Eradication Project
Tyler.bogardus@usda.gov, (808) 208-1521

H. Other Information

USDA is not obligated to make any award because of this announcement nor to make any changes to future announcements. Only the APHIS Authorized Departmental Officer can bind the Government to an expenditure of funds. This obligation of funds shall only occur in writing by authorized officials and under the approved USDA APHIS cooperative agreement format.

H.1 Logistical Challenges

The Recipient must understand that getting staff, equipment, and supplies on and off Wake is challenging logistically. The primary method of getting everything to Wake is a bi-weekly rotator. To be able to collect samples two weeks before and immediately after the first broadcast, the Recipient's staff must stay on Wake for one month and return for a two-week stay to collect samples immediately after and six months post final aerial broadcast. Due to seat availability on the bi-weekly rotator and housing limitations on Wake, the Recipient can only

send two personnel at once. WAREP will make available one UTV to be used by the Recipient's staff to collect samples.

Logistics associated with all field and laboratory sites are the Recipient's responsibility. The Recipient will ensure that the appropriate approvals, agreements, and permits are in place to collect samples on Wake. The Recipient is responsible for all travel costs and arrangements, excluding the rotator flights to Wake. Recipient will be required to submit certain Personally Identifiable Information (PII) for each individual who will travel via the rotator flights to Wake.

The Recipient must understand that Wake is an active USAF installation and must abide by any DoD or Missile Defense Agency rules. The Recipient must also understand that Wake is hot, humid, and dusty, and accessing sample sites poses safety concerns for their staff. WAREP will provide a Safety Plan that all staff and contractors, including the Recipient, must follow.

H.2 Communications

All reports and data generated under this agreement are the government's property, and distribution by the awardee to any source, unless previously authorized by the WS or 611 CES, is prohibited. The awardee shall not make available to the news media or publicly disclose any data generated or reviewed under this agreement. If the news media approaches, the awardee shall refer them to WS and the USAF Technical Point of Contact (POC) for a response.

The Recipient shall not photograph any sensitive areas on Wake, including runways or Missile Defense Agency infrastructure. The awardee will make any media taken on Wake to Base Command available before the awardee leaves Wake.

Appendix 1: WAREP Environmental Monitoring Eligibility and Evaluation Criteria

Administrative Eligibility Criteria

Proposal packages must meet these initial screening criteria to be considered for further review. Proposals must meet these criteria to be considered. The initial screening criteria are the following:

1. Proposals must be received by the deadline. Proposals received after the established deadline will not be reviewed or considered.
2. An eligible applicant must submit proposals.
3. All required documents and forms listed in Section D.2 must be included in the proposal package and comply with the submission instructions described in Section D. Any proposal package with missing or significantly incomplete documents or forms may not be considered for review, resulting in a rejected proposal.
4. Proposals must be consistent with the allowed use of funds guidance. Proposals that do not align with the cost guidance described in Section B.1 of this announcement may not be considered for review, resulting in a rejected proposal.
5. Timeline must be reasonable to complete objectives within eighteen months. The proposal will only be accepted if it is designed to run for up to twelve months.

Evaluation Criteria

1. **Addresses the Priorities and Requirements in the Announcement.** This criterion assesses the extent to which the proposal strongly supports the Environmental Monitoring of Wake identified in Section A.

    a. **Strong and direct support of this funding priorities.** This criterion assesses the extent to which the proposed activities directly address the concern identified in the funding priorities and how the expected outcomes and deliverables will strongly support the funding.
    b. **Strong and direct support for the overarching goal of the funding priority.** This criterion assesses the extent to which the expected outcomes and deliverables will support the overarching goal of the funding opportunity, which is to evaluate the decay of brodifacoum in environmental compartments of Wake Atoll.

2. **Feasibility of success.** This criterion assesses the extent to which the proposal will successfully produce the expected outcomes and deliverables based on critical factors, such as a well-organized and sound approach, a reasonable schedule, effective partnerships and collaborations, and the applicant's skills, knowledge, and experiences.

a. **Plan of action**. This criterion assesses the extent to which the Work Plan lays out a logical, well-organized, and complete plan of action that is likely to produce successful outcomes and deliverables. It considers whether the approach is explained sufficiently so the reader can understand what activities will be performed, how they will be conducted, and what will be produced.
b. **Proposed activities or methods.** This criterion assesses the extent to which the proposed activities or methods are technically sound.
c. **Adequate budget.** This criterion assesses the extent to which the budget is realistic, adequate, and sufficient to produce the outcomes and deliverables described in the proposal.
d. **Reasonable schedule.** This criterion assesses whether the project schedule allows an appropriate amount of time for completing all proposed objectives in a twelve-month performance period, including but not limited to considering a reasonable amount of time to conduct sample analysis, the competing time commitments of stakeholders who are critical to project completion, and other risks that may cause schedule delays.
e. **Partnerships and collaboration.** This criterion assesses the extent to which the proposal identifies and describes the partnerships and collaborations necessary to complete the proposed objectives and successfully produce the expected outcomes and deliverables.
f. **Skills, knowledge, and experience**. This criterion considers the extent to which the key person(s) who will carry out the methods or activities have the qualifications, skills, ability, experience, and infrastructure (facilities and equipment) to conduct the proposed methods or activities and produce successful outcomes and deliverables.

3. **Cost Effectiveness.** This criterion assesses the extent to which the proposal identifies a cost-effective approach to produce the desired outcomes and deliverables.

a. **All costs are reasonable and necessary.** This criterion assesses the extent to which the Financial Plan is clear, logical, and includes only reasonable and necessary expenses to produce the expected outcomes and deliverables. It also assesses the extent to which the Financial Plan provides sufficient detail for reviewers to fully understand how each budget item specifically supports the activities outlined in the Work Plan without including things that are not allowed or appear superfluous or tangential to producing the outcomes and deliverables.
b. **Use of existing resources**. This criterion assesses the extent to which the proposal includes cost-saving measures by leveraging existing resources or partnerships where possible. For example, the proposal describes the practical use of existing personnel, vehicles, computers, venues, supplies, and other items

to complete the project. This criterion will evaluate cost share, making up less than five percent of the total score.

Appendix 2: WAREP Environmental Monitoring Checklist and Tips

Proposal Checklist

The proposal package must include the following:

1. SF-424, "Application for Federal Assistance" – Completed when applying to the Opportunity in ezFedGrants
2. SF-424A, "Budget Information – Non-Construction Programs" that matches the submitted Financial Plan – Completed when applying to the Opportunity in ezFedGrants
3. Certification Regarding Lobbying (for Federal Assistance greater than $100,000)
4. SF-LLL, "Disclosure of Lobbying Activities" (for Federal Assistance greater than $100,000 when there are activities to disclose)
5. Waiver or approval response letter from the State's Single Point of Contact (SPOC) if the applicant is in a state that is required to comply with Executive Order 12372, Intergovernmental Review of Federal Programs
6. Copy of the signed Negotiated Indirect Cost Rate Agreement if indirect costs are claimed
7. Environmental Monitoring Proposal Work Plan (See Appendix 3)
8. Environmental Monitoring Proposal Financial Plan (See Appendix 4)
9. Any permits required for sampling and to bring samples from Wake Atoll to CONUS
10. The plan must be collaborative in nature and sampling number could be adjusted adaptively by the awardee or USDA depending on priorities
11. Include a gross necropsy plan for sea turtle or other species of significant interest to examine for signs of anti-coagulation poisoning

Tips for Applicants

- **DO** submit proposals early; it is encouraged not to wait until the deadline day to submit any proposal
- **DO** remember that the reviewer's job is to ensure Government's funds are well spent, with those proposals selected for funding providing the highest likelihood of tangible end products that will test for the decay of brodifacoum in Wake's environment
- **DO** take some time to think out your proposal. A proposal that is well-written and easy to follow will be well-received by the review panel
- **DO** understand the challenges of collecting environmental samples at Wake Atoll
- **DO NOT** underestimate the challenges of getting samples on and off Wake Atoll
- **DO** provide sufficient detail for a reviewer to be convinced that you have thought out the process well and understand the resources needed to complete the proposed objectives and activities
- **DO** ask questions. We want to help you submit the best proposal possible.

New Applicant Information

The applicant must complete the application process by following the instructions below.

1. Register in SAM and Obtain a Unique Entity Identifier (UEI) Number
    a. Applicants must register and complete the Financial Assistance Certification Report on SAM.gov.
    b. A UEI number will automatically be assigned when a new entity is registered in SAM.gov. If your organization is registered in SAM.gov, you have been automatically assigned a UEI number, and no additional actions are needed.

2. Apply for an eAuthentication Account
    a. Applicants must have a USDA Level 2 eAuthentication Account to register for ezFedGrants. USDA eAuthentication is the system used by USDA agencies to enable customers to obtain accounts that will allow them to access USDA Web applications and services via the Internet. Please note that USDA will only accept eAuthentication Accounts from individuals, and you must verify your identity when creating an account.
    b. An individual may apply for a USDA eAuthentication Account by visiting the Create an Account page. For help with eAuthentication accounts or passwords, please visit the eAuthentication help desk online portal at https://www.eauth.usda.gov/eauth/b/usda/helpdesk/requesthelp.

3. Getting Started in ezFedGrants
    a. ezFedGrants requires each applicant to have a minimum of at least one Grants Administrative Officer and one Signatory Official to submit an application/proposal package successfully.
    b. To complete an application for a proposal selected for funding, the applicant must access the “Search Opportunities” screen and search for the correct Opportunity Number.
    c. For help with ezFedGrants, applicants may contact the ezFedGrants help desk at ezFedGrants@cfo.usda.gov.

Appendix 3: Sample Wake Atoll Environmental Monitoring Plan

1.0 Description of Services

Wildlife Services (WS) entered into an Interagency Agreement with the U.S. Air Force (USAF) 611 Civil Engineer Squadron, Installation Management Flight (CES/CEI) to eradicate the Pacific rat (*Rattus exulans*) and White-toothed woodrat (*Neotoma leucodon*) from the entirety of Wake Atoll (Wake). WS and Island Conservation (IC) will deliver the rodenticide Brodifacoum 25-W (B-25W) Conservation by helicopter, hand broadcast, bait stations, and spot baiting. This project is collectively known as the Wake Atoll Rat Eradication Project (WAREP). This Statement of Work establishes an Environmental Monitoring Plan between USDA-APHIS-WS and an Environmental Consulting Firm (hereafter referred to as "the awardee"), where the awardee monitors the impact of brodifacoum residues in the Wake environment resulting from two or three applications of B-25W.

2.0 Background

Wake is a small coral reef island complex (consisting of Wake, Wilkes, and Peale Islands) in the Pacific Ocean and lies approximately 2,200 miles (3,540 km) west of the Hawaiian Islands. These three islands collectively form a V-shaped with a shallow lagoon that opens to the Pacific Ocean toward the northwest (Figure 1). Wake is situated in the Pacific Remote Islands Marine National Monument, managed in partnership with the US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (Department of the Interior 2022a). Wake is also situated in the Wake Atoll National Wildlife Refuge, managed solely by USFWS. This wildlife refuge is 200,528 hectares, with only 741 hectares being terrestrial habitats (Department of the Interior 2022b). The US Air Force has management authority over all terrestrial areas above the mean high tide mark (Department of Defense 2017).



Figure 1. Wake Atoll, Comprised of Wilkes, Wake, and Peale Islands

3.0 Justification

It is ecologically prudent and a regulatory requirement to assess the decay of brodifacoum residues in the environment and its impact on island fauna. WAREP will apply the highly toxic rodenticide B-25W to all terrestrial areas of Wake Atoll using aerial application, hand broadcast, and bait station application methods. This presents a primary (bait consumption), secondary (consumption of prey with incurred residues), and tertiary (consumption of forage items that consumed prey with incurred residues) risk to island terrestrial and aquatic fauna.

Part A – Environmental Monitoring Plan & Final Report

4.0 Monitoring Need

As B-25W pellets are applied on Wake, the presence of brodifacoum residues throughout the environment is expected to increase rapidly and peak shortly after the last bait application. Following the cessation of bait application and degradation, B-25W will incorporate into the food web; however, residue levels are expected to decline rapidly as brodifacoum percolates into the soil, is degraded by bacterial action, is metabolized by consumers, and is otherwise flushed from the environment by various physical and chemical processes. This Environmental Monitoring Plan will assess these expectations by collecting data detailing brodifacoum residues' decay in vital environmental compartments detailed in WAREP's Final Environmental Assessment (EA). The EA projects the following:

4.1 Marine and Terrestrial Water Bodies

The application of B-25W using aerial broadcast applications may result in some pellets bouncing or being dropped accidentally into aquatic habitats on or surrounding Wake. Incidental deposition of brodifacoum into water resources may occur through drift or runoff from broadcast applications; however, the expected brodifacoum levels in water bodies and the surrounding ocean would be negligible. Bait applications are planned during the dry season to further reduce the potential for brodifacoum runoff entering aquatic resources due to rain events (Department of Agriculture 2021, 41).

Brodifacoum has low water solubility, and environmental fate properties suggest that water residues bind to suspended solids and sediment, reducing the probability of any impacts on water quality. Its low solubility and high binding affinity for soil also reduce leaching into any groundwater resources on Wake Atoll (Department of Agriculture 2021, 41). No natural freshwater systems are present on Wake. Drinking water is produced from a reverse osmosis filtration system, and no effects on drinking water sources are expected on Wake Atoll from the proposed project (Department of Agriculture 2021, 41).

4.2 Soil

Broadcast applications of B-25W may result in brodifacoum residues in the soil if bait pellets or blocks are left on the soil surface and degrade over time. The presence of brodifacoum residues in the soil is related to the removal rates of pellets by the target pests and non-target wildlife. There is a greater likelihood of brodifacoum soil residues on Peale Island since bait removal rates will likely be lower than on Wilkes and Wake Island, which have higher densities of rats (Department of Agriculture 2021, 42).

Residues of brodifacoum that may occur in soil are not anticipated to result in long-term effects on soil quality due to bait removal and degradation of brodifacoum. Previous eradication projects that have used brodifacoum have shown soil residues after application; however, these residues degrade over time (Department of Agriculture 2021, 42).

4.3 Sea and Shorebirds

Brodifacoum is highly toxic to bird species. Birds exposed to sublethal concentrations exhibit various symptoms such as hemorrhaging, weight loss, decreased activity levels, wing droop, loss of equilibrium, lethargy, and other sublethal effects. Birds that ingest bait pellets containing brodifacoum or prey items with brodifacoum are at risk from acute and chronic exposure. However, the primary and secondary risks of brodifacoum exposure to seabirds are low due to their feeding habits that consist primarily of marine prey items (Department of Agriculture 2021, 46).

The poisoning risk from brodifacoum in shorebirds is higher than in seabirds since they are more likely to consume bait or prey items such as crabs and other invertebrates that have consumed bait pellets. The risk from ingesting the bait will be short-term due to bait removal by the targeted species and invertebrates and the degradation of the bait pellet. The risk is more significant for shorebirds on Peale Island since the baits are expected to be present for extended periods because of lower rat densities. There is also a greater likelihood of secondary and tertiary risk to birds on Peale Island since prey like crabs, other invertebrates, and vertebrates, such as skinks and geckos, will consume bait pellets not removed by rats. These risks will decrease over time as brodifacoum residues decrease in the environment (Department of Agriculture 2021, 47).

4.4 Reptiles (Geckos and Skinks)

Gecko and skink species observed on Wake Atoll are primarily insectivores but may feed on bait pellets. Brodifacoum residues may accumulate in invertebrates that feed on cereal baits and secondary exposure to skinks and geckos that consume prey items containing brodifacoum residues. The short- and long-term impacts of sublethal brodifacoum residues in these species are unknown; however, the risk is expected to diminish over time (Department of Agriculture 2021, 49).

4.5 Terrestrial Invertebrates

There is the potential for brodifacoum residues to occur in terrestrial invertebrates that consume brodifacoum pellets or blocks. The sublethal impacts of these residues on terrestrial invertebrates are unknown, but population increases of crabs and other invertebrate populations post-eradication suggest that the effects are minimal and transient. The presence of brodifacoum residues in terrestrial invertebrates does pose a secondary risk for those non-target species that rely on terrestrial invertebrates as a food source (Department of Agriculture 2021, 51).

4.5 Marine Invertebrates (Lagoon and Ocean)

Brodifacoum is considered toxic to aquatic invertebrates based on the available toxicity data for freshwater invertebrates; however, the application of B-25W is not expected to impact marine invertebrates that occur at Wake. Predicted brodifacoum residues and risks to the marine environment will be very low based on the application sites proposed for treatment and mitigation measures designed to protect marine environments. Furthermore, brodifacoum-containing pellets entering the marine environment will become saturated and break down rapidly, with remaining brodifacoum residues diluted and bound to suspended solids and sediment (Department of Agriculture 2021, 61).

Brodifacoum residues would be higher in small, isolated water bodies (terrestrial water bodies) on Wake Atoll since the dilution factor is less than what would be seen in the lagoon and ocean-facing coastline. Due to brodifacoum's chemical and environmental fate characteristics, the risk to aquatic invertebrates that use these wetland habitats would be higher for sediment-dwelling invertebrates. Brodifacoum toxicity to benthic invertebrates is expected to be comparable based on available freshwater invertebrate toxicity data. The risks to benthic invertebrates are likely low due to the reduced bioavailability as brodifacoum binds tightly to soil and sediment (Department of Agriculture 2021, 61).

4.7 Marine Fish

Toxicity data for marine fish species is limited, but available data for freshwater fishes shows that brodifacoum could be toxic to these species. However, direct impacts on marine fish are not expected because B-25W pellets entering the marine environment will break down rapidly. The remaining residues are diluted and bound to suspended solids and sediment, where brodifacoum will slowly degrade. The amount of brodifacoum that could enter the marine environment is expected to be very low from the proposed applications based on the treatment and mitigation measures designed to protect aquatic resources. Exposure and risk to marine fish species from brodifacoum residues in water or sediment are expected to be negligible. Secondary exposure to brodifacoum may occur for marine fish species that feed near shore. The risk to marine fish from secondary exposure to brodifacoum is insignificant based on the low detection frequency in potential prey items. The threat to marine fish from secondary

exposure will decrease as brodifacoum is metabolized and degraded in the marine environment (Department of Agriculture 2021, 58-9).

5.0 Environmental Monitoring Plan Protocols

This Environmental Monitoring Plan focuses on assessing the potential persistence of brodifacoum residues in Wake's natural systems to test the EA's projected impacts. The main objectives of this monitoring plan are:

1. Document the accumulation and clearance of brodifacoum residues from various environmental compartments
2. Assess the potential mortality of nontarget vertebrates (birds and fish) resulting from brodifacoum exposure
3. Evaluate potential brodifacoum exposure to humans through drinking water collected at the desalination plant

5.1 Sampling Timeline

This monitoring plan will focus on collecting samples in four phases from each island within thirteen environmental compartments before and after the eradication. The baseline samples will be collected two weeks before the first baiting application (Phase 1). Samples will also be collected after the first aerial broadcast (Phase 2), immediately after the final broadcast (Phase 3), and six months after the final bait application (Phase 4). There will be 435 total samples collected in phases (Table 2).

5.2 Sample Numbers

The awardee will collect three samples from Wake, Peale, and Wilkes Island for each environmental compartment during each phase, except for Phase 2 and certain compartments (lagoon fish, birds, and fish carcasses). Samples will be collected from each island to determine the persistence of brodifacoum relative to rat densities. Rats are in higher densities on Wilkes and Wake Island, and brodifacoum residues may persist longer on Peale Island due to lower bait uptake from rats. Extra samples will be allocated in Phases 2-4 to test for non-target impacts on seabirds, shorebirds, and marine fish. In the advent of a sea turtle carcass washing ashore during Phases 2-4, this carcass will be collected and tested for brodifacoum residues.

A baseline sample is collected before treatment to establish no pre-existing brodifacoum residues in the system before the bait application. This baseline sample will also serve as negative control substrates for each type of environmental compartment being tested. Samples will be fortified with a known quantity of brodifacoum in the awardee's lab and then tested for recovery; this establishes the detection limit (the concentration above which the analyte can be reliably said to be present within the sample) and the quantitation limit (above which the concentration of the brodifacoum can be quantified).

Table 2. Number of Samples Collected Each Phase by Collection Type

	Number of Samples Collected Per Phase				
Compartment	**Sample Size**	**Phase #1**	**Phase #2**	**Phase #3**	**Phase #4**
Ocean Water	1 L / sample	9	9	9	9
Lagoon Water	1 L / sample	9	9	9	9
Pond Water	1 L / sample	9	9	9	9
Soil	100 mg/sample	9	0	9	9
Reptiles	# of individuals	9	0	9	9
Insects	10 g pooled	9	0	9	9
Hermit Crabs	# of samples	9	0	9	9
Ghost Crabs	# of samples	9	0	9	9
Fiddler Crabs	# of samples	9	0	9	9
Ocean Reef Fish	# of samples	9	9	9	9
Lagoon Reef Fish	# of samples	9	12	12	12
Pond Fish	# of individuals	3	3	3	3
Bird Carcasses*	# of individuals	9	5	5	5
Fish Carcasses**	# of individuals	3	5	5	5
Sea Turtle Carcass	# of individuals	0	1	1	1
Desalination Plant	1 L / sample	3	3	3	3
	Samples Collected	117	65	119	119
	Total Number of Samples Collected				420

* Bird carcasses will be collected opportunistically due to higher bird densities on Wake and Wilkes Island

** Fish carcasses collected opportunistically, not location dependent

5.3 Sample Handling

Extreme caution must be taken in collecting samples to avoid contamination by brodifacoum in the environment, especially while bait pellets persist on the ground. Samplers must practice "ultra-clean" methods and wear sterile gloves during all sampling. All samples will be stored whole, and no necropsies will be allowed on Wake to mitigate contamination concerns due to a lack of a clean laboratory on site. Tissue samples will not be collected on the island to minimize the risk of contamination of samples through contact with equipment, dust, or hands contaminated with toxin residues. All samples will be refrigerated following collection in iced coolers and frozen at a prearranged refrigerator on Wake. Collections will be shipped frozen to the awardee's laboratories for analysis with the environmental monitoring team when they depart Wake after each phase.

Sample identification, date, location, and collector data will be recorded on the correct page in the field notebook and maintained with all samples, along with a documented chain of custody

between the source location and the awardee's laboratories. Brodifacoum residues will be evaluated by a reputable and qualified analytical chemistry laboratory and assayed and quantified using validated analytical chemistry methods. Detection and quantitation limits for each sample type would be established during analysis and compared to the limits set during the previous assays that employed high-performance liquid chromatography (HPLC) followed by ultraviolet-visible photodiode array absorbance (PDA) detection.

5.4 Marine and Terrestrial Water Body Sampling Protocol

Personnel Requirements: One
Equipment Requirements: Handheld GPS units, gloves, 1-liter water Nalgene bottles, sharpies, 36-qt foam coolers, gel ice packs, field notebook, pens, and pencils
Form: Water Sampling Form

Methodology:

Marine water samples will be collected randomly from each island's lagoon and ocean waters. Terrestrial water sampling will occur at one inland pond on each island. Water samples will also be collected from the reverse osmosis desalination plant to test for residues.
Water samples will be collected in chemically cleaned 1-liter Nalgene bottles. The collector will wear protective gloves, and bottles will be filled using only the bottles to collect material—no lids, cups, or trowels will be used to fill bottles. After removing the top, collection bottles will be submerged until the top is just below the water's surface, allowing the bottle to fill almost completely. Enough headspace will be left for freezing expansion, and the tops will be secured. All water samples will be chilled in coolers after collection. All samples will be labeled with sample identification, date, location, and collector data, then frozen in a prearranged refrigerator on Wake. This information will also be recorded in the field notebook.

5.5 Soil Sampling Protocol

Personnel Requirements: One
Equipment Requirements: Handheld GPS units, gloves, 125 ml jars with lids, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Soil Sampling Form

Methodology:

Soil samples will be collected randomly at three sample locations with high crab density during each phase on all three islands. Soil samples will be collected in chemically cleaned 125 mL glass jars. Labels will be affixed to each jar immediately before sample collection. The soil will be collected from the top 5–12 cm of the soil profile by pressing the jar directly into the ground or using the jar to scoop the soil. Upon collection, the top of the bottle will be secured and chilled in a cooler. All soil samples will be labeled with sample identification, date, location, and collector data, then frozen in a prearranged refrigerator on Wake. This information will also be recorded in the field notebook.

5.6 Sea and Shorebirds Carcass Collection

Personnel Requirements: Two

Equipment Requirements: Handheld GPS units for each collector, gloves, Ziplock bags, sharpies, field notebook, pens, and pencils
Form: Non-Target Species Sampling Form

Methodology:
Non-target sea and shorebird carcasses will be collected and submitted for analysis to determine whether the organism was exposed to brodifacoum. During Phase 1, organized carcass searches will occur on Wilkes Island due to its prominence as a seabird nesting site. A methodical carcass search will occur on Wake and Peale Islands at known shorebird locations. Significant effort will be applied in this phase to document natural avian mortality on Wake and to remove carcasses that could be later confused with avian mortalities associated with the bait treatment.

Organized avian carcass searches will occur on each island during Phases 2 and 3. Each transect's start and end points will be marked with flagging attached to a rock or tied to vegetation. Searchers will be equipped with binoculars to extend their field of view. The location of the carcass will be marked in handheld GPS units for all samples. All avian samples will be labeled with sample identification, date, location, and collector data, then frozen in a prearranged refrigerator on Wake. This information will also be recorded in the field notebook. The environmental monitoring team will also practice passive surveillance during all other eradication monitoring activities and collect sea and shorebird carcasses found in each phase. If mass avian die-offs occur, two or three new (fresh carcasses, no degradation observed) will be collected for analysis by WAREP staff and tested by the awardee.

5.7 Reptile Sampling (Geckos and Skinks)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, Ziplock bags, glue traps, solvent, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Reptile Sampling Form

Methodology:
Geckos and Skinks will be opportunistically hand-collected primarily or captured by glue traps secondarily. If used, glue traps will be set after sunset at sites on each island and checked at twenty-four hours intervals until the target number of samples is reached. Glue traps on Wake and Peale islands will be placed in areas with known shorebird activity. A commercially available solvent will remove these reptiles from the traps. Any non-target vertebrate will be released or euthanized using cervical dislocation or an overdose of isoflurane gas. Geckos and Skinks will be anesthetized using an isoflurane gas, euthanized by decapitation, pithed, and placed in an individually labeled 4 x 8-inch plastic bag and chilled in a foam cooler and then frozen in a prearranged refrigerator on Wake. When each sampling phase is complete, all individual samples will be placed in a large 9 x 26-inch plastic bag by phase and collection island and returned to the freezer. All reptile samples will be labeled with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.8a Terrestrial Invertebrate Sampling (Hermit Crabs)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, Ziplock bags, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Hermit Crab Sampling Form

Methodology:
Terrestrial invertebrate sampling will be broken down into two categories: hermit crabs and insects. For each phase, hermit crabs will be collected opportunistically by hand from a randomly chosen site on each island and placed in a single plastic bag. Each sample can have up to five individuals. Upon collection, all samples will be cooled and then frozen in a prearranged refrigerator on Wake. All hermit crab samples will be labeled with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.8b Terrestrial Invertebrate Sampling (Cockroaches)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, glue traps, collection vials, Ziplock bags, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Cockroach Sampling Form

Methodology:
For each phase, cockroaches will be opportunistically collected using commercially available traps from a randomly chosen site on each island and placed in a single plastic bag. Traps will be checked at twenty-four-hour intervals during each phase. Cockroaches will be removed from the traps, placed in a labeled 20-ml scintillation vial, chilled, and then frozen in a prearranged refrigerator on Wake. When each phase is complete, these vials will be pooled in a large 9 x 26-inch plastic bag and labeled by island. All cockroach samples will be marked with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.9a Marine Invertebrate Sampling (Ghost Crabs)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, shovel, hand trowels, Ziplock bags, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Ghost Crab Sampling Form

Methodology:
Marine invertebrate sampling will be divided into two categories: Ghost Crabs on the ocean and Fiddler Crabs on the lagoon side of each island. Ghost crabs will be collected opportunistically from the oceanside during low tide. Crab burrows will be located, and samples will be collected by excavation with a hand trowel or shovel. Individual samples can be up to five, placed in a single plastic bag, chilled, and then frozen in a prearranged refrigerator on Wake. All Ghost Crab

samples will be labeled with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.9b Marine Invertebrate Sampling (Fiddler Crabs)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, shovel, hand trowels, Ziplock bags, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Fiddler Crab Sampling Form

Methodology:
Fiddler crabs will be collected opportunistically from the lagoon side mudflats of each island during low tide. Crab burrows will be located, and samples will be collected by excavation with a hand trowel or shovel. Individual samples can consist of five individuals and will be placed in a single plastic bag, chilled, and then frozen in a prearranged refrigerator on Wake. All Fiddler Crab samples will be labeled with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.10a Marine Fish Sampling (Reef Fish)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, speargun, fishing rod, Ziplock bags, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Reef Fish Sampling Form

Methodology:
Three fish samples will be collected on each island: resident reef fish with the highest potential for exposure and fish found in terrestrial ponds. Reef species are most likely to interact and consume bait pellets during bait application. Reliable and species-specific collection of reef fish is expected to be very difficult, and the samples collected on each island's ocean and lagoon side could be highly variable depending on conditions. The reef fish caught will be stunned, euthanized by decapitation, and pithed. All samples will be placed in a single plastic bag, chilled, and then frozen in a prearranged refrigerator on Wake. These samples will be labeled with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.10b Pond Fish Sampling (Milkfish)
Personnel Requirements: Two
Equipment Requirements: Handheld GPS units for each collector, gloves, cast or dip nets, Ziplock bags, 36-qt foam coolers, gel ice packs, sharpies, field notebook, pens, and pencils
Form: Pond Fish Sampling Form

Methodology:

Cast net or dip net will catch milkfish during each phase at Golf Course Pond, a terrestrial waterbody on Wake Island. Milkfish caught using these nets will be stunned, decapitated, and pithed. Each sample will comprise one individual. All samples will be placed in a single plastic bag, chilled, and then frozen in a prearranged refrigerator on Wake. These samples will be labeled with sample identification, date, location, and collector data. This information will also be recorded in the field notebook.

5.11 Desalination Plant

Personnel Requirements: One

Equipment Requirements: Handheld GPS units, gloves, 1-liter water bottles, sharpies, 36-qt foam coolers, gel ice packs, field notebook, pens, and pencils

Form: Desalination Plant Water Sampling Form

Methodology:

Water samples will be collected in chemically cleaned 1-liter Nalgene bottles. The collector will wear protective gloves, and bottles will be filled using only the bottles to collect material. After removing the top, collection bottles will be placed under the spigot found at the Desalination Plant and filled, allowing the bottle to fill almost completely. Enough headspace will be left for freezing expansion, and the tops will be secured. All water samples will be chilled in coolers after collection. All samples will be labeled with sample identification, date, location, and collector data, then frozen in a prearranged refrigerator on Wake. This information will also be recorded in the field notebook.

6.0 Environmental Monitoring Plan Data and Report

The awardee will email the environmental monitoring data results to WAREP team members by forty-five days after the completion of each phase (**Deliverables A1, A2, and A3**). The results will include all information on the field and laboratory efforts and provide a transparent chain of custody for each sample. The awardee will give each sample's sample identification, date, location, and collector and analyzer data. Upon completion of all field and laboratory activities, the awardee will take the information collected over the performance period and draft an Environmental Monitoring Plan Report (**Deliverable B1**) detailing the persistence of brodifacoum in Wake's environmental compartments and the impacts of brodifacoum residues resulting from the application of B-25W. The awardee will submit this report thirty calendar days after receiving the final laboratory results. WS and IC will be afforded a 15-calendar day review period for comments submitted in matrix format.

6.1 Environmental Monitoring Plan Report Final Report

The awardee shall utilize WS's and IC's comments to make final edits and changes to draft the final report, resulting in the Environmental Monitoring Plan Final Report (Deliverable B2). The awardee will respond to all WS's and IC's comments in the matrix (Deliverable B3) and submit it with the Final Report. The awardee will submit the Final Report and comment matrix within 15 calendar days of receiving WS and IC comments.

Part B – General Requirements

7.0 Supplies and Materials

The awardee will purchase all supplies and materials required to complete the Statement of Work (SOW). After the sampling, any remaining equipment and supplies must be addressed appropriately. Any disposal or storage costs are the awardee's responsibility unless specific arrangements are made in advance as part of the work plan. The awardee is responsible for all demobilization and clean-up actions that may be required for this project. The shipping of supplies, equipment, and samples is the awardee's responsibility.

8.0 Notification Requirements

The awardee must notify the WS and IC project of critical issues affecting the cooperative agreement performance, human health, or the environment. The problems that require notification include but are not limited to health risks, spills, unusual weather conditions, unacceptable materials, changes in critical personnel, etc.

9.0 Logistics

Logistics associated with all field and laboratory sites are the awardee's responsibility. The awardee will ensure the appropriate approvals, agreements, and permits are in place for all project sites. The awardee is responsible for all travel requirements except those to Wake on the bi-weekly rotator.

10.0 GIS Requirements

The field site collection efforts should include collecting and submitting GIS data when feasible. The following guidance is provided for completing environmental GIS data development or performing GPS surveys and inventories of environmental data.

- The awardee will develop GIS data to comply with all applicable Data Layer Specifications (DLS). The awardee shall provide final ArcGIS shapefiles for all spatial data collected to WS and IC.
- The cooperator is responsible for delivering the spatial data in the applicable Universal Transverse Mercator (UTM) coordinate system, World Geodetic System 1984 (WGS84) datum, and spheroid for the field site locations utilized during the project activities to WS and IC.
- Before generating GIS data, the awardee shall coordinate with WS and IC to determine the current version used for all software, data, and standards.
- All metadata associated with the Air Force Environmental GIS Program data layers must meet the Federal Geographic Data Committee (FGDC) Content Standard for Geospatial Metadata (GSDGM), revised in June 1998. Metadata must also include all content stated in the metadata section of each Data Layer Specification (DLS).

11.0 Communications

11.1 Data Ownership

All reports and data generated under this agreement are the government's property, and distribution by the awardee to any source, unless previously authorized by the WS or 611 CES, is prohibited.

11.2 Media Contact

The awardee shall not make available to the news media or publicly disclose any data generated or reviewed under this agreement. If the news media approaches, the awardee shall refer them to WS and the USAF Technical Point of Contact (POC) for a response.

11.3 Sensitive USAF Infrastructure

The awardee shall not photograph any sensitive areas on Wake, including runways or Missile Defense Agency infrastructure. The awardee will make any media take on Wake to Base Command available before the awardee leaves Wake.

12.0 Deliverables

Deliverable Title	Submission Schedule
Phase 1 Lab Results (Deliverable A1)	45 Calendar Days After Leaving Wake Before the Eradication Start
Phase 2 Lab Results (Deliverable A2)	45 Calendar Days of Leaving Wake Immediately After the Eradication
Phase 3 Lab Results (Deliverable A3)	45 Calendar days of Leaving Wake 6 Months Post-Eradication
Environmental Monitoring Plan Report Draft (Deliverable B1)	30 Calendar Days After Receiving the Last Laboratory Results
Environmental Monitoring Plan Final Report (Deliverable B2)	15 Calendar Days after Receiving WS and IC Final Comments
Comment Matrix Response (Deliverable B3)	15 Calendar Days after Receiving WS and IC Final Comments

13.0 Points of Contact

The awardee shall interact with the WS POCs, Tyler Bogardus, Eric Lanners, and IC POC Tommy Hall. The email with Mr. Bogardus, Mr. Lanners, and Mr. Hall should include routine correspondence.

Tyler Bogardus
WAREP Eradication Commander
USDA-APHIS-Wildlife Services-Hawaii
808-208-1521
tyler.Bogardus@usda.gov

Eric Lanners, MS
WAREP Logistics Officer
USDA-APHIS-Wildlife Services-Hawaii
970-266-6330
eric.lanners@usda.gov

Tommy Hall
WAREP Eradication Operations Officer
Island Conservation
831-917-3123
tommy.hall@islandconservation.org

14.0 Period of Performance

The performance period ends two months after delivering the Environmental Monitoring Plan Final Report and Comment Response Matrix.

References

Department of Agriculture, Animal Plant and Health Inspection Service, Wildlife Services. 2021. *Wake Atoll Rat Eradication Program Final Environmental Assessment*. by James Warren. Little Rock, AR. 2021.

Department of Defense, US Air Force, 15th Wing. 2017. "Wake Island." https://www.15wing.af.mil/UNITS/11th-AF-Det-1-Wake-Island/.

Department of the Interior, US Fish and Wildlife Service. 2022. "Pacific Remote Islands Marine National Monument." https://www.fws.gov/national-monument/pacific-remote-islands-marine.

Department of the Interior, US Fish and Wildlife Service. 2022. "Wake Atoll National Wildlife Refuge." https://www.fws.gov/refuge/wake-atoll.

Appendix 4: Wake Atoll Environmental Monitoring Financial Plan Template

(Please use the Excel Spreadsheet provided)

DETAILED FINANCIAL PLAN TEMPLATE WAKE ATOLL RAT ERADICATION ENVIRONMENTAL MONITORING				
This Financial Plan must match the SF-424-A, Section B – Budget Categories. Applicants must submit a revised budget template with their final report if budget modifications are approved.				
Recipient Name:				
Direct Costs				
Personnel	**Salary**	**Benefits**		
		Subtotal	$	-
Travel				
		Subtotal		
Equipment				
		Subtotal	$	-
Supplies/Materials				
		Subtotal		
Contractual/Services				
		Subtotal		
Construction				
		Subtotal	$	-
Other				
		Subtotal	$	-
		Grand Subtotal		
Indirect Costs (10%)				
		Grand Total		
*Program Support is capped at 10% for Universities & Non-profit Organizations.				