6,2,5 (362K) I1-046

I. Executive Summary/Inquiry Submittal Format

a. Project Title and Applicant Names

Project Title: Predation threat assessment study and predator management in San Pablo Bay tidal marshes for the purpose of conserving the endangered California clapper rail.

Applicant Names: Ms. Cay C. Goude, Division Chief for Endangered Species, Sacramento Field Office, U.S. Fish and Wildlife Service, 3310 El Camino Avenue, Suite 130, Sacramento, California 95821-6340, and Ms. Betsy Radtke, San Pablo Bay National Wildlife Refuge, P.O. Box 2012, Mare Island, California 94592

b. Project Description and Primary Biological/Ecological Objectives

The project will determine the need for predator control to assist in the recovery of endangered and threatened species (especially for the California clapper rail) in tidal marshes in San Pablo Bay and to support and assess predator control programs established as a result of this information. Based upon the information and data gathered from the threat assessment study, the project will implement active predator management activities to eliminate or reduce predation threats to endangered and threatened species over a projected maximum three-year period.

c. Approach/Tasks/Schedule

Approach. The U.S. Fish and Wildlife Service (Service) will cooperate with the U.S. Dept. of Agriculture Animal Damage Control (ADC) to hire a temporary employee to conduct the initial study and field work. For the study, ADC will provide the supervision needed to establish the protocols and study sites while the Service will provide daily supervision, housing and administrative support. Local Audubon Societies will assist with volunteer avian surveys. An ADC predator management specialist will be hired each year for a projected maximum three year period to implement predator management activities in tidal marshes in San Pablo Bay.
Tasks. Activities will fall within two major tasks -- research study and predator management.
Schedule. The study to assess predation threats will be implemented from October 1997 through April 1999. Predator management will be initiated in May 1999 for a period of one to three years, depending upon determined threats and available funding.

d. Justification for Project and Funding by CALFED

Red foxes were first observed in the marshes of San Francisco Bay (Bay) in 1986. Since that time, the proliferation of the non-native foxes has had a profound effect on California clapper rail populations in certain areas of the Bay. An estimated 195 to 282 pairs of clapper rails populate the tidal marshes of San Pablo and Suisun bays. Red fox have been observed west of the Petaluma River and along Dutchman Slough in San Pablo Bay, yet a comprehensive predator management program has not been initiated in or near the tidal marshes of San Pablo Bay.

In the 1984 Recovery Plan for the Clapper Rail, the general issue of predation as a limiting factor on clapper rail populations was addressed in Recovery Plan Task 23. Segments of this task are rated as Priority 2. It calls for the identification of "other limiting factors for the...rail" and implementation of "corrective action". The 1984 recovery plan is currently being revised to reflect existing conditions for the clapper rail. The issue of predation on the clapper rail and the need for predator management will be high-priority objectives/tasks in the revised plan. This interim predator control program is needed to support existing populations and to ensure successful recruitment into new marsh habitats.

e. Budget Costs and Third Party Impacts

Cost Breakdown Table

Project Task	Full Time Equivalents	Total Cost
Task 1: Threat Study	1.5 FTE	$ 122 ,302
Task 2: Predator Management ($80,000 per year for 3 years)	3 FTE's (1 FTE each year for 3 years)	$ 240,000
Total		$ 362,302

Third Party Impacts. California Department of Fish and Game goals and objectives for conserving the California clapper rail, a California State endangered species, will benefit from implementation of the predator threat assessment study and predator management project.

f. Applicant Qualifications

The Service as a fish and wildlife resource agency has staff with extensive knowledge and experience in developing and implementing ecosystem recovery plans to conserve federally protected species, while ADC has extensive experience in predator management.

g. Monitoring and Data Evaluation

The Service will assist CALFED in reviewing all reports and data associated with the project.

h. Local Support/Coordination with other Programs/Compatibility with CALFED objectives

The Service is actively providing technical support for all aspects of the CALFED Program.

II. Title Page

a. Title of Project

Predation threat assessment study and predator management in San Pablo Bay tidal marshes for the purpose of conserving the endangered California clapper rail.

b. Name of applicant/principle investigator(s), address, phone/fax/E-mail (if different from above)

Ms. Cay C. Goude, Division Chief for Endangered Species, Sacramento Field Office, U.S. Fish and Wildlife Service, address same as above, phone 916-979-2725, FAX 916-979-2723, E-mail: Cay_Goude@mail.fws.gov and Ms. Betsy Radtke, San Pablo Bay National Wildlife Refuge, address same as above, phone 707-552-6213, FAX 707-552-6214, E-mail: Betsy_Radtke@mail.fws.gov

c. Type of Organization and Tax Status

Federal Agency

d. Tax Identification Number and /or Contractor license, as applicable

N/A

e. Technical and Financial Contact person(s), address, phone/fax/E-mail (if different from above)

Technical Contact: Jim Browning, Senior Staff Biologist, address, phone, and fax same as above, E-mail: James_Browning@mail.fws.gov and Ms. Betsy Radtke, San Pablo Bay National Wildlife Refuge, address, phone, fax and E-mail same as above

Financial Contact: Ms. Betsy Radtke, San Pablo Bay National Wildlife Refuge, address, phone, fax and E-mail same as above, and Mr. John Steuber, Assistant California State Director, U.S. Department of Agriculture Animal Damage Control, 2800 Cottage Way, Room W-2316, Sacramento, California, 95825, phone 916-979-2675, FAX 916-979-2680.

f. Participants/Collaborators in Implementation

U.S. Fish and Wildlife Service and Animal Damage Control staff and National Audubon Society volunteers as appropriate.

g. RFP Project Group Types(s) (Construction; Acquisition; Other Services)

Group 3: Services

III. Project Description

a. Project Description and Approach

This project will develop and implement a systematic approach to assess predation threats on California clapper rails (*Rallus longirostris obsoletus*) in the tidal marshes of San Pablo Bay. Field work through this project will focus on mammalian predators -- primarily nonnative species such as red fox, Norway rats, and feral and domestic cats. Information on avian predators will be compiled from volunteer efforts and past research projects. Extensive California clapper rail surveys are beyond the scope of this project, but have been proposed as one component of the Napa-Sonoma Marsh Restoration Project currently being submitted by the California State Coastal Conservancy for Category III funding through CALFED.

The project will review available clapper rail survey information to determine the distribution and relative abundance of clapper rails in tidal marshes of San Pablo Bay. Based upon this information, a systematic protocol for assessing predation threats will be developed including, but not limited to, (1) nighttime spotlight surveys, (2) establishment of track and scent stations, (3) den searches and (4) red fox sighting response cards. A final report will be produced that analyzes the presence, relative abundance and potential impacts of mammalian and avian predators on California clapper rail and other endangered, threatened and sensitive species.

The U.S. Fish and Wildlife Service will cooperate with the U.S. Dept. of Agriculture Animal Damage Control to hire a temporary employee to conduct the study and field work. Animal Damage Control will provide the supervision needed to establish the protocols and study sites while the Fish and Wildlife Service provides the daily supervision, housing and administrative support. Local Audubon Societies will assist with volunteer avian surveys.

Based upon information provided from implementation of the predation threat assessment study, the project will implement active predator management activities by ADC staff to eliminate or reduce predation threats to endangered and threatened species over a projected maximum three-year period. Red foxes and other predators on California clapper rails will be removed from tidal marshes and adjacent non-tidal areas in San Pablo Bay.

b. Location and/or geographic boundaries of project

Tidal marshes within San Pablo Bay in Solano, Napa, Sonoma, and Marin counties, California.

c. Expected benefit(s)

Proper funding is crucial to assessing the predation threat and providing sufficient predator management to conserve the endangered California clapper rail within tidal marshes of San Pablo

Bay. The project will address the need to identify and manage introduction of new exotic species, a stressor subcategory under the stressor category "Undesirable Species Interactions" discussed in Attachment C, especially as it relates to saline emergent wetlands habitat discussed in Attachment B. The project also will have the expected benefit of enhancing populations of migratory birds as a result of predator management. The project also represents a monitoring, assessment, and reporting project which will provide additional information to decision makers on management and restoration of wildlife resources within San Pablo Bay. The project will provide for consistency with the policies, regulations, and project responsibilities under the Service authority and jurisdiction.

d. Background and Biological/Technical Justification

Predation by native and nonnative predators, especially red foxes, in conjunction with extensive habitat loss and fragmentation, are the current primary threats to the conservation of the clapper rail. With historic populations at Humboldt Bay, Elkhorn Slough, and Morro Bay now extinct, San Francisco Bay represents the last stronghold and breeding population of the clapper rail.

Red foxes were first observed in the marshes of San Francisco Bay area in 1986. Since that time, the proliferation of the non-native foxes in the south San Francisco Bay area has had a profound effect on California clapper rail populations. Surveys from the mid-1970's estimated between 4,200 and 6,000 birds in California with estimates falling to 1,500 birds by the mid 1980's. In 1991, this reached an estimated all-time historical low of about 500 birds, with 300 rails in south San Francisco Bay.

As a result of the rapid decline and almost complete elimination of clapper rail populations in certain marshes, the San Francisco Bay National Wildlife Refuge implemented a predator management plan with an ultimate goal of increasing rail population levels and nesting success through management of red fox predation. This program has proven highly successful in increasing the overall south San Francisco Bay populations. Since instating the predator management program, the south San Francisco Bay clapper rail population has rebounded from the low estimate of 300 birds in 1991 to a current estimate of 500 to 600 individuals.

An estimated 195 to 282 pairs of clapper rails populate the north bay tidal marshes, including Suisun Bay. The North Bay region has many of the features that contribute to efficient hunting of these and other tidal marsh birds by predators -- especially long linear marshes adjacent to levees. Red fox have been observed west of the Petaluma River and along Dutchman Slough, yet a comprehensive predator management program has not been initiated in or near the tidal marshes of San Pablo Bay.

The proposed project will assess the current predation threat to clapper rails throughout the tidal marshes of San Pablo Bay. The results will be used to determine the best locations to establish

and implement predator management over a projected maximum three year period to aid in the recovery of California clapper rails. The information provided will help to prioritize locations in San Pablo Bay for the implementation of predator management activities by ADC staff and thus increase the efficacy of the predator management program. The primary objective of these predator management activities will be to increase the distribution and abundance of California clapper rails in these areas to assist with meeting the recovery needs for this endangered species.

Numerous tidal marsh restoration efforts are being conducted in the North Bay. The initial predator control program funded by this proposal will be necessary to support existing populations and to ensure successful recruitment of rails into new marsh habitat. Long-term predator control will likely be needed at a reduced level of effort after this initial program. Long-term predator management will be funded through numerous State, Federal, and private funding efforts.

The 1984 Recovery Plan for the Clapper Rail did not specifically address red fox predation on clapper rails as it was not identified as a major contributor to population decline until later. However, the general issue of predation as a limiting factor on clapper rail populations was addressed in Recovery Plan Task 23. Segments of this task are rated as Priority 2. It calls for the identification of "other limiting factors for the...rail" and implementation of "corrective action".

The 1984 recovery plan is currently being revised to reflect existing conditions for the clapper rail. Based on knowledge and information now available, the issue of predation on the clapper rail and the need for predator management will be high-priority objectives/tasks in the revised plan.

e. Proposed Scope of Work

See project description and approach above.

f. Monitoring and Data Evaluation

Service and ADC staff will be involved in reviewing data and information associated with the predator threat assessment study and predator management, evaluating the results, and maximizing the efficacy of predator management activities.

g. Implementability

Service and ADC staffing can be implemented upon receipt of funds.

IV. Costs and Schedule to Implement Proposed Project (no more than 2 pages plus tables and/or figures)

a. Budget Costs

Cost Breakdown Table

Project Task	Full Time Equivalents	Total Cost
Task 1: Threat Study	1.5 FTE	S 122,302
Task 2: Predator Management ($80,000 per year for 3 years)	3 FTE's (1 FTE each year for 3 years)	S 240,000
Total		$362,302

b. Schedule Milestones

The predator assessment study will be initiated in October 1997 and completed in October 1998. Predator management will be initiated in November 1998 for a projected maximum three year period.

c. Third Party Impacts

California Department of Fish and Game goals and objectives for conserving the California clapper rail, a California State endangered species, will benefit from implementation of the predator threat assessment study and predator management project.

V. Applicant Qualifications

The U.S. Fish and Wildlife Service as a fish and wildlife resource agency has staff with extensive experience in evaluating ecosystems and their components, including wetlands, flora and fauna, fisheries, contaminants, and water quality throughout the San Francisco Bay estuary. In addition, the Service is the only agency with regulatory responsibilities under the Endangered Species Act (ESA). This combination of experience and regulatory responsibility requires extensive Service participation in the preparation of tasks and objectives for meeting ensuring the conservation of federally listed and proposed species. Furthermore, the Service, through the National Wildlife Refuge System, has extensive knowledge and experience in managing public lands to benefit fish and wildlife resources, and in working cooperatively with local land owners and managers to enhance the fish and wildlife resource values on their lands. The Service has demonstrated the ability to successfully manage a predator control program in the South Bay. The U.S. Department of Agriculture Animal Damage Control possesses expert knowledge and field

experience in eliminating and reducing predation threats to endangered and threatened species, while minimizing adverse impacts to these species during the implementation of their work.

VI. Compliance with standard terms and conditions

Compliance with standard Federal contracting terms and conditions will be met.