UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Superintendent
Channel Islands National Park
1901 Spinnaker Drive
Ventura, CA 93001

Dear Superintendent:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Anacapa Island Restoration Project**, Ventura County, California (CEQ #000228). Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act (CAA).

The goal of the proposed action is to eradicate the non-native Black Rat from Anacapa Island and to keep Anacapa Island, as well as Santa Barbara Island, Prince Island, and Sutil Island, rat-free. The proposed action involves the aerial application of the rodenticide Brodifacoum into all rat territories on Anacapa Island over a period of two years. The application of rodenticide would occur during the fall of the year to minimize disturbance and exposure to other affected resources on the island. One of the greatest environmental concerns of this project is the exposure of non-target species to the rodenticide. Six alternatives are presented in the DEIS, including a Preferred Alternative and a No Action Alternative.

The six alternatives differ primarily in terms of 1) the type(s) of rodenticide used and 2) the application method(s) employed. There are three types of rodenticide (active ingredients) under consideration: Brodifacoum, Bromadiolone, and Diphacinone, and there are two application methods under consideration: aerial application from a helicopter, or by hand in areas inaccessible by helicopter, and "bait stations." The Preferred Alternative, Alternative 2, employs the aerial application of Brodifacoum over the extent of Anacapa Island. The other four alternatives are designed to reduce the impact of the rodenticide on non-target species. However, these alternatives are less effective in meeting the objective of 100% rat eradication.

EPA applauds the National Park Service's collaborative work with the Island Conservation and Ecology Group and the American Traders Trustee Council, as well as the public outreach that has been incorporated in the development of this document. EPA is also highly supportive of the proposal to split the project into two years to provide the opportunity to monitor, modify and improve operational procedures for the second year and to monitor the impacts of the project on non-target species.

In general, in our review of the DEIS, we have not identified any environmental impacts requiring substantive changes to the proposal. In addition, we believe the analysis provided adequately sets forth the environmental impacts of the Preferred Alternative and the other alternatives considered. We have rated this document LO-1, *Lack of Objections-Adequate Information*.

Our rating of LO-1 reflects our overall view of the adequacy of the document. However, we recommend the inclusion of clarifying language and a commitment to both monitor the impacts of the project to non-target species and to implement mitigation measures laid out in Chapters 2 and 4. Specifically, EPA requests that the Record of Decision (ROD) outline NPS's commitment to project monitoring and mitigation. EPA also requests that the Final EIS include a discussion of the emergency response plan for accidental spill of rodenticide during bait application. Please see the attache Detailed Comments for further discussion of these issues.

We appreciate the opportunity to review this DEIS. When the Final EIS is completed, please send two copies to me at the address above. If you have any questions or comments, please feel free to contact me or Nova Blazej, the primary staff person working on this project. Nova Blazej can be reached at 415-744-2089 or *blazej.nova@epa.gov*.

Sincerely,

David J. Farrel, Chief
Federal Activities Office

Attachments: Summary of EPA Rating Definitions
Detailed Comments

U.S. EPA DETAILED COMMENTS
DRAFT EIS: ANACAPA ISLAND RESTORATION PROJECT

PROJECT MONITORING & MITIGATION MEASURES
The DEIS states that the project will be split into two years to 1) allow for monitoring of efficacy of the project and 2) to allow the Park to monitor impacts to non-target species and to identify further necessary mitigation measures (p.13). The DEIS also includes descriptions of specific mitigation measures designed to protect non-target species, particularly deer mice and landbirds, from non-target poisoning (pp. 13, 63). The island populations of both deer mice and landbirds are expected to decline during the project period.

D1 *Recommendation:* We strongly recommend that the National Park Service 1) commit to monitor, modify and improve operational procedures for year 2, as necessary, and 2) to commit to specific mitigation measures to protect and restore the populations of deer mice and landbirds on Anacapa Island. Include this commitment in the Final EIS and in the Record of Decision (ROD).

EMERGENCY RESPONSE PLAN
The DEIS states that application of the rodenticide would be carried out by or under the supervision of licensed applicators. The document does not, however, state whether an emergency response plan is in place in the case of an accidental spill of rodenticide during the project application.

D2 *Recommendation:* In the EIS include a discussion of the emergency response plan that will be implemented in the case of accidental spill of rodenticide during the project application.

TEXT CLARIFICATIONS
Timing
Chapter Two of the DEIS includes a discussion of the "timing" of bait application and states that application would be restricted to September through December of each year to minimize disturbance and ecotoxicological impacts to non-target species. For clarity, it would be helpful to reiterate this restricted period of application in the discussion of each alternative. In addition, the discussion of the Preferred Alternative states that the 20 ha Middle Islet may be treated periodically to prevent re-invasion of East Islet (p.14). Clarify whether or not repeated treatment of Middle Islet would occur only during the restricted months of September through December or during other periods of the year when impacts to non-target species would be more significant. D3

U.S. EPA Comments on DEIS: Anacapa Island Restoration Project *August, 2000*
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D1: The Final EIS adds a monitoring element to all action alternatives. In summary, should first year implementation monitoring results indicate that objectives are not being met, or environmental effects are different from that what is described in the FEIS (see pg 16 "Effectiveness and Validation Monitoring") then a supplemental EIS would be prepared. The supplemental EIS would address potential modification of the project and their environmental effects.

D2: A Bait Spill Contingency Plan will be developed in case of an accidental release of bait into both the terrestrial or marine environment. The handling and storage of the bait, as well as the dispensing of bait (aerial or hand placement) will follow California Code of Regulations (Title 3. Food and Agriculture) Division 6. Pesticides and Pest Control Operations managed by the California Environmental Protection Agency, Department of Pesticide Regulation. These regulations outline the requirements of applicators and pesticide handling procedures. All of these regulations will be complied with to ensure that there is a low risk of bait spill into sensitive environments. In addition, consultation with the US Coast Guard and NPS IPM staff will take place to develop a plan to respond to any bait spills. Included will be an outline of procedures for clean up, monitoring, and reporting of any bait spill incidents. All staff will be trained to standards and thoroughly understand their responsibilities in an emergency.

D3: The re-treatment of the 20 ha headland on Middle Island may become necessary for protection of East Island from re-invasion of rats. The intention of treating the 20 ha headland is to open up territory for rats moving East on Middle Island, thus, as they move out of rat occupied territory into unoccupied territory, they would utilize open territory on Middle Island. The size of the headland is equivalent to about 20-40 average sized adult rat territories. Thus, the highest probability of re-invading East Island would be late in the rat breeding season as juveniles are dispersing and are seeking their own ranges to occupy. Thus, the re-treatment period would only be necessary if rats are utilizing the headland extensively. Monitoring for rat presence/absence will take place on the headland near the accessible points along the shoreline. The results of the monitoring will evaluate location of detection, number of detections and rate of re-occupancy of the headland to evaluate risk of re-invading East Island. If the risk of re-invasion is deemed high, the 20 ha headland on Middle Island will be re-treated. Similarly, monitoring stations will be placed on the East Island near the accessible shoreline to evaluate presence/absence of rats suggestive of re-invasion from Middle Island. Monitoring stations near the accessible shoreline may include the use of non-toxic indicator blocks and the use of bait containing the rodenticide brodifacoum. Thus, rats will likely have consumed a lethal dose after they have been detected, presenting a lower risk of re-invasion. However, bait stations alone would not adequately defend against re-invasion of East Island because, the cliffs are extremely steep and unstable and bait stations could not be placed on them. (*Continued on next page)*

D4 Island Rat Eradication Success Rate
Appendix C presents a table on "Island Rat Eradications Worldwide" to give an overview of the active bait ingredient(s) used in various rat eradication efforts on islands worldwide (p.104). This table would benefit greatly from the inclusion of statistics on the success rate of each of the rat eradication efforts. Information on the success rate of previous efforts would give the public and decision makers a clearer idea of the success rate they can expect for the proposed project.

D5 Likelihood of Rat Re-colonization
The DEIS includes some information on the behavior patterns of black rats on Anacapa Island (pp. 4, 5, 53). A more thorough discussion of the island rat population and individual behavior patterns, such as individual territory and foraging range, would be helpful. This information would help establish a better understanding of the potential for re-colonization of areas previously treated for rats and the overall probability of success of the project.

D3 Thus, only a few bait stations could be placed along the accessible areas along the shoreline, thus, leaving the potential for rats not encountering the stations before they cross the channel.

If the risk of re-invasion is deemed high, then the headland on Middle Island would be re-treated outside of the September-December window. However, the impacts to non-target species would not be significant because treatment would be on a limited section of the island (20 ha), the sowing rate would likely be lower because of fewer rats, reducing the relative risks further, and Brown Pelicans do not nest on Middle Island. Although there would likely be non-target mortality from re-treating the 20 ha headland of Middle Island, the impacts would not be significant.

D3 *Response Continued*

D4: Appendix C is a list of successful island rat eradications. Once the time and resources have been invested into an island eradication, it becomes necessary to sustain those resources until the eradication is complete. The economic resources have been devoted to this project and Anacapa Island falls within the size class of all successful island eradications. The project also has a 2-3 year follow up monitoring plan for detecting the presence/absence of rats on the island post eradication. If rats are detected after eradication, the detection response plan would be implemented as outlined in Appendix A.

D5: The rats on Anacapa Island have been a focus of a few studies (ICEG 2000, Howald 1997, Erickson 1990 and Collins 1979). The rats are distributed unevenly across the island. The highest density of rats can be found along the shoreline, where the intertidal zone is likely and important foraging area especially during the lean dry season, and the cliffsides provide good burrowing habitat. Rats utilize the rocky crevices of Anacapa Island and are found to overlap quite extensively with the high quality murrelet nesting habitat (McChesney et al. 2000). Erickson (1990) documented important rat habitats as those that provide adequate cover, either from dense brush or rock crevices. Dense brush on the islands include coreopsis, sagebrush, and wild cucumber. The wooded canyons also provide excellent rat habitat. Grassland habitats found on Middle and East Island do not provide good habitat for rats and thus, rats are found in low density. The presence of rocky crevices providing protection appears to be the most important feature for the distribution of rats on Anacapa Island (Erickson 1990). Rats can be found utilizing gullies and drainages on the islands as travel corridors, allowing freedom of movement between feeding and burrowing areas. Radio-telemetry studies conducted in 2000 and 1996 confirmed that movement of rats on Anacapa is primarily limited to drainages and gullies, and areas of dense shrubbery , very little movement of rats has been found on the grassland. In May 2000, studies were initiated to evaluate if rats would cross the channel between East and Middle Island. Rats from Middle and East Island were live trapped, fitted with a radio collar, and released in the channel, on the opposite island from which they were captured. After 3 months, no rat has been detected to cross the channel. Re-invasion prevention is outlined in response **D3**.