

## **RESPONSE LETTER TO THE ANIMAL PROTECTION INSTITUTE:**

### Basic Outline

- 1) We would like to respond to the concerns that API raises in their letter
- 2) We agree completely with API that *“the use of rodenticides in the Farallon National Wildlife Refuge warrants close examination of the risks and the perceived benefits.”*  
We would like to call attention to some of the benefits of removing mice from the Farallons.
- 3) Project benefits to:
  - i) ASSP
    - (a) API: ASSP decline is in question
    - (b) See Sydeman et al 1998 for clear evidence of ASSP decline on the Farallons
    - (c) Other authorities agree ASSP are in clear danger (Audubon, BirdLife Int'l)
    - (d) BUOW are a predation threat that researchers now realize is much more substantial than previously assumed
      1. Data emerging from wing counts, owl pellet studies
  - ii) BUOW
    - (a) Researchers on the island have documented very high mortality in overwintering burrowing owls by the end of the spring season, indicating that the environment of the Farallons is ultimately inhospitable to these unfortunate birds.
  - iii) Farallon ecosystem:
    - (a) Invertebrates are a major diet item. On other islands mice significantly depress insect populations that play crucial ecosystem roles (Cole et al. 2000; Rowe-Rowe et al. 1989)
    - (b) Plants are another major diet item. Herbivory w/in a native plant community unaccustomed to being eaten can be directly damaging & can also benefit non-native plants that are adapted to withstand herbivory pressure
- 4) As API suggests, however, we must weigh these benefits against the sum total of anticipated and potential risks inherent to the project.
- 5) Non-target risks:
  - i) Anticoagulant rodenticides are non-toxic to invertebrates (Booth et al 2001)
  - ii) API lists *predatory mammals/humans as species of concern*
    - (a) On SFI, no terrestrial mammals present (other than mice & project staff trained in safe rodenticide use)
  - iii) The heart of the EA's analysis will be a careful examination of possible threats to other non-targets (salamanders, songbirds, owls, gulls)
    - (a) Examples of successful mitigation strategies:
      1. Application timing
      2. Grain-based pellet
      3. Green dye
      4. Live-capture & hold songbirds, owls during application

- iv) EA will address need to carefully design bait application rate & method to avoid unnecessary rodenticide exposure (beyond that required to ensure 100% bait availability to mice)
- 6) *API claims rodenticide use is often ineffective in the long term*
- 7) While it may be the case that unregulated and poorly monitored rodent control projects have a low success rate on the mainland, the odds improve significantly with closely regulated and carefully planned eradications for conservation purposes. The Service and its partners know of the completion of over 20 successful island mouse eradications worldwide, and that number is steadily growing. The small size of the South Farallons, the relative scarcity of non-target species present on the islands during the early winter months, and locally available expertise in island rodent eradications all contribute to the probability of this project being not only successful, but exemplary on a global scale.
- 8) The only eradication technique that managers have implemented successfully is the distribution of bait containing a rodenticide into every potential mouse territory on the island. All of the baits that Refuge managers are considering have been specially formulated and tested for use in conservation projects. The baits contain the minimum effective concentration of rodenticide (measured in tens of parts per million).
- 9) *Alternative, non-lethal means of ASSP protection*
- 10) Service has tried BUOW translocation w/ limited capture success
- 11) Indefinite translocation is unsustainable
- 12) The Refuge has been concerned about the decline in the ashy storm-petrel population for many years, but researchers have only recently documented the magnitude of the burrowing owls' impact on petrels, as well as the damage that mice are having on the islands' ecosystem in general. Island managers have tried to enhance petrel breeding habitat on the island, relocated burrowing owls, and considered ongoing mouse control as management options. However, all of these activities would have to continue indefinitely and would soon become prohibitively expensive given the Refuge's limited funding.

## References

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- Cole, F. R., L. L. Loope, A. C. Medeiros, C. E. Howe, and L. J. Anderson. 2000. Food habits of introduced rodents in high-elevation shrubland of Haleakala National Park, Maui, Hawai'i. *Pacific Science* 54:313-329.

Rowe-Rowe, D. T., B. Green, and J. E. Crafford. 1989. Estimated impact of feral house mice on sub-Antarctic invertebrates at Marion Island [Indian Ocean]. *Polar Biology* **9**:457-460.

Sydeman, W. J., N. Nur, E. B. McLaren, and G. J. McChesney. 1998. Status and trends of the ashy storm-petrel on southeast Farallon Island, California, based upon capture-recapture analyses. *Condor* **100**:438-447.