United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Ventura Field Office
2493 Portola Road, Suite B
Ventura, California 93003

April 5, 1996

To Interested Party:

Subject: Approved Survey Protocol for the Morro Bay Kangaroo Rat

The U.S. Fish and Wildlife Service (Service), with the assistance of the California Department of Fish and Game (Department) and the Morro Bay Kangaroo Rat Recovery Team, has developed a survey protocol for the State and federally listed Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*). This joint-agency protocol should allow the Service and the Department to determine, with reasonable certainty, whether a given parcel contains Morro Bay kangaroo rats. Results from an approved survey method would allow the Service to determine whether a proposed action is in compliance with the Endangered Species Act of 1973, as amended. Because the species is also State listed, we believe that a jointly approved survey protocol may streamline the review process for projects that may affect Morro Bay kangaroo rat habitat.

Enclosed is a copy of the protocol for your records. Additional copies may be obtained by contacting the Ventura Field Office at the address listed above, or this protocol may be photocopied and distributed. If you have further questions on this matter, please contact Kate Symonds of my staff at 805/644-1766.

Sincerely,

Diane K. Noda

Diane K. Noda
Field Supervisor

Enclosure

SURVEY PROTOCOL FOR THE MORRO BAY KANGAROO RAT
U.S. Fish and Wildlife Service
California Department of Fish and Game
April 3, 1996

This survey protocol is intended to provide the U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Game (Department) with sufficient information to assess the presence or absence of the State and federally listed Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*). Accurate survey data are needed to provide the Service with sufficient information to respond adequately to requests for applicable Federal incidental take permits under the Endangered Species Act of 1973, as amended (Act). Any trapping performed in accordance with this protocol will require a permit under section 10(a)(1)(A) of the Act. Visual surveys performed in accordance with this protocol will not require a permit under section 10(a)(1)(A) of the Act. However, the Service will only accept visual survey results from biologists with extensive experience with kangaroo rats and whose credentials have been reviewed and approved of by the Service. Details of handling and disposition of any specimens are described in permits issued by the Service.

The Department may require a permit for surveys conducted in accordance with this protocol. For information, please contact the Department's Wildlife Management Division, 1416 Ninth Street, Sacramento, California 95814, or call the Wildlife Management Division at (916) 654-3796.

If at any time during surveying Morro Bay kangaroo rats are captured or diagnostic sign is identified, then presence has been established and surveying may cease. Diagnostic sign is that which is characteristic of kangaroo rats and may include tail drag marks, dust bath sites, and surface seed pit caches. Presence may be determined from diagnostic sign alone because the possibility exists that Morro Bay kangaroo rats may be present but not enter traps.

Because Morro Bay kangaroo rats have been captured on sites where diagnostic sign was not detected during the previous year, indicating that the species may have invaded the site within a year's time, this protocol consists of two survey periods. One survey per year shall be conducted for two consecutive years. Each survey period shall consist of a visual survey and possibly live trapping. Live trapping will be required under the following circumstances: (1) if possible sign of kangaroo rats is found; or (2) if no sign is found after 2 visual surveys. In the latter case, live trapping is required following the second visual survey where no sign was found. Sign which is determined to be possible kangaroo rat sign is animal sign which the biologist believes may be of the kangaroo rat, although it is not typically diagnostic.

The surveys shall be conducted between April 1 and June 30. If the property has been surveyed twice as described in this protocol and no diagnostic sign was found either time, and no Morro Bay kangaroo rats have been trapped, the survey is considered complete and the property is considered to be unoccupied by the species for two years following the last survey. Survey results indicating the Morro Bay kangaroo rat is present are considered valid until new survey results show the species is no longer present on the site.

The following conditions shall be met for the survey results to be considered valid:

1. The visual survey and trapping described below shall occur between April 1 and June 30. The visual survey may be conducted in March if weather conditions are warm and dry and have remained as such for 3 days prior to initiation of the visual survey.

2. A property shall be subjected to a 100% visual examination by a biologist approved by the Service. The property shall be traversed in a series of transects close enough together so that all of the ground surface is visually covered. In open grasslands, transect spacing may be 10 or fewer meters apart, but habitats with heavy shrub cover may require spacing as close as 3 meters. To avoid missing areas, transect routes may be temporarily marked. The biologist(s) must be able to recognize all types of diagnostic sign for kangaroo rats (e.g., burrows, tail drag marks, tracks, scat, dust baths, surface seed pit caches). The biologist(s) shall thoroughly evaluate the soil surface to determine the likelihood of diagnostic sign being obliterated and thus hiding the presence of Morro Bay kangaroo rat sign. Conditions during the visual surveys must allow sign from the daily activity of other small mammals and even tenebrionid beetles to be clearly evident. Visual surveys shall be conducted only during the morning (or late afternoon if there has been no wind) when shadows make tail drag marks easier to detect. Visual surveys shall be conducted the week preceding or the week following a new moon, with emphasis on surveying during the new moon phase as much as possible.

3. If diagnostic sign of the kangaroo rat is found during a visual survey, presence has been established and surveying may cease.

4. If possible sign is found during a visual survey, such as scat or an active burrow that resembles that of a kangaroo rat, live trapping shall begin on the first afternoon the weather, ground conditions, and moon phase are appropriate (see below). Trap response is variable depending on extraneous factors such as moon phase, weather conditions, and availability of natural forage. Therefore, to maximize trap response, trapping shall <u>not</u> be performed: 1) during the week preceding or succeeding the full moon; and 2) during or within 3 days following inclement or extreme weather (e.g., rain, high winds) when animals are either less active or vulnerable to hypothermia. Trapping shall be conducted during the new moon phase as much as possible.

5. Trapping shall be conducted for a minimum of 3 consecutive nights. If traps are vandalized or otherwise inappropriately disturbed, trapping may need to be extended to compensate for any lost trapping opportunity. Traps shall be concentrated in areas with sign. At least one trap shall be placed at each active burrow or dust bath. Traps shall be placed near any tracks, particularly along apparent runways. This may mean 10 or more traps in a relatively tight cluster. Traps shall also be set in evenly spaced intervals of 10 to 15 meters (2 traps per station) along potential movement corridors between areas exhibiting kangaroo rat sign. Where 2 traps are placed, 1 of the traps may be of mesh construction. Traps shall be baited with a mixture of food items such as crimped oats, wild bird seed, apples, walnuts, and peanut butter, provided that the peanut butter does not act as an ant attractant. Traps shall be opened and baited in late afternoon and checked approximately 2-4 hours after sunset and again at dawn. Traps may be checked once again during the night. No intervals between checks of any traps shall exceed 6 hours. Traps are to be closed after they are checked at dawn.

6. To maximize the possibility of determining whether sign is from a Morro Bay kangaroo rat or other small mammal species, particularly where active burrows are found, other techniques, such as tracking boards, are recommended to be used simultaneously with trapping activities.

7. Each captured Morro Bay kangaroo rat shall be removed from the wild for placement in the captive breeding facility at the University of California, Berkeley, California, unless otherwise authorized by the Service. The biologist shall notify the Service's Ventura Field Office at 805/644-1766 and the Department's Wildlife Management Division at 916/654-3796 on the day of the capture.

8. If presence has not been established during the first survey, a second visual survey shall be conducted the following calendar year. If no sign is found after 2 visual surveys, live trapping shall be conducted after the second visual survey to provide further assurance of the status of the species on the site.

9. A final report shall be prepared following each survey period that includes the survey date(s) and time(s), survey location on a map, day and night time weather conditions including temperature and wind speed, moon phase, the preceding week's weather conditions, names of biologist(s), number of person-hours spent searching for sign per hectare searched (i.e., survey effort), a copy of the field notes that list trap check times by date, and a description of the survey methods and results, including any capture location(s). The report shall be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Ventura Field Office, 2493 Portola Road, Suite B, Ventura, California, 93003 and to the Chief, Wildlife Management Division, Department of Fish and Game, Sacramento, California, 95814 within 30 days of completion of each survey period.

10. Specific circumstances may justify or necessitate exceptions or revisions of this survey protocol on a case-by-case basis. At the discretion of the Service, after consultation with the Department, such revisions may be allowable under this protocol if: (1) the surveying biologist explains to the Service in writing why exceptions or revisions of this protocol are needed and justified; and (2) the Service and the Department concurs with such revision in writing.

11. The Service, after consultation with the Department, reserves the right to reject Morro Bay kangaroo rat surveys conducted under this protocol as inadequate if: (1) specific methods described above are not implemented as determined by the Service and prior written exception in provision #10 has not been obtained; or (2) survey methods used are inconsistent with this protocol.

FOR THE U.S. FISH AND WILDLIFE SERVICE

By: Diane K. Noda — 4/3/96
Field Supervisor, Ventura Field Office — Date

FOR THE CALIFORNIA DEPARTMENT OF FISH AND GAME

By: Terry M. Mansfield — 4/3/96
Chief, Wildlife Management Division — Date