4.0 CORRIDOR MONITORING

A wildlife corridor can be defined as a linear landscape feature that allows animal movement between two patches of habitat or between habitat and geographically discrete resources (e.g., water). It is useful to differentiate between regional and local wildlife corridors. Regional corridors link two or more large areas of natural open space and are necessary to maintain demographic and genetic exchange between wildlife populations residing within these geographically disjunct areas. Local corridors allow resident animals access to necessary resources (e.g., water, food, cover, or den sites) within a large habitat patch, and they also may function as secondary connections to the regional corridor system.

The term "corridor" is used in a species-specific context (Soule 1991; Beier and Loe 1992). For example, a landscape feature that functions as a corridor for a songbird, such as a gnatcatcher, may not suffice for a bobcat or a reptile. In order to evaluate the arrangement of open space for its usefulness as a wildlife corridor, it is first necessary to identify a group of focal target species. These are species that naturally occur in relatively low densities and are unable to cross large areas of man-modified or otherwise unsuitable habitat. No single parcel of open space in southwestern San Diego County is likely to support viable populations of these focal species, and habitat linkages between large blocks of occupied habitat are required for regional population viability. The focal species to be monitored at the designated preserve habitat linkages are California gnatcatcher, coastal cactus wren, mammalian predators (mountain lion, coyote, and bobcat), and deer. This monitoring effort will achieve the plan objectives of collecting new biological data, evaluating the impacts of land uses and construction activities in and adjacent to the preserve, and evaluating management and enforcement difficulties in the preserve.

4.1 METHODOLOGY

The monitoring locations for assessing utilization of key habitat linkages are listed in Table 4-1 and depicted in Figure 4-1. Identification of the presence of focal species will be based on the detection of animal sign (tracks and scat) and visual sightings. Constrained linkage areas where these species are consistently detected throughout the linkage will be considered actively utilized as corridors. Constrained linkages include narrow habitats limited by development such as buildings, paved roads, and fencing greater than 7 ft in

Table 4-1

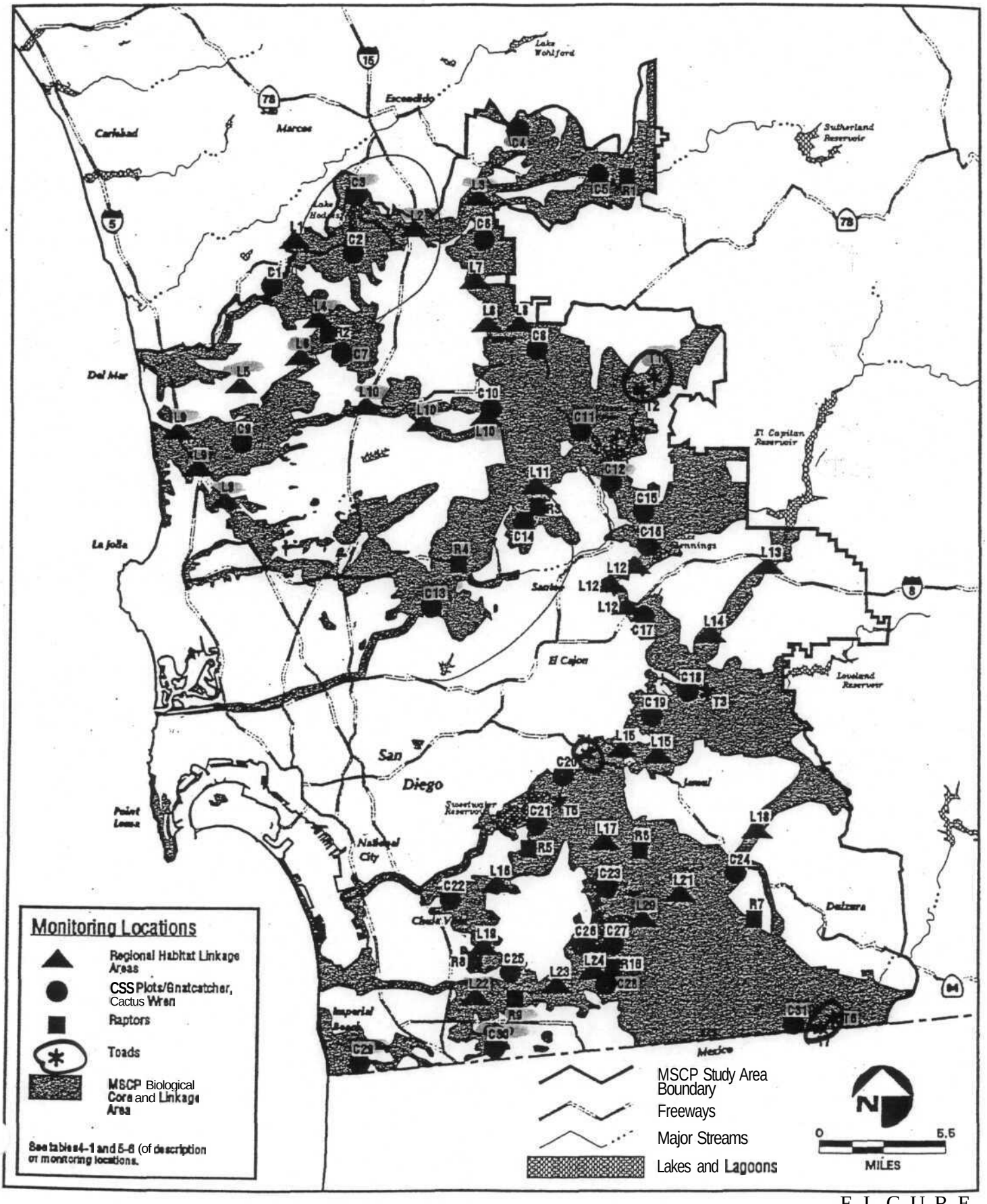
REGIONAL HABITAT LINKAGE MONITORING LOCATIONS[1]

MONITORING SITE[1]	GENERAL LOCATION	OTHER MONITORING[2,3]
L-1	Rancho Cielo/San Dieguito River	—
L-2	Lake Hodges/San Pasqual Valley	—
L-3	San Pasqual Valley/North Poway (Highland Valley)	---
L-4	Santa Fe Valley	Habitat (H-4)
L-5	Gonzales Canyon	—
L-6	McGonigle Canyon	—
L-7	Old Coach Road/Blue Sky Reserve	—
L-8	Central Poway	—
L-9	Torrey Pines Reserve/Los Penasquitos Canyon/NAS Miramar	---
L-10	Los Penasquitos Canyon/South Poway (Beeler Canyon	—
L-11	South Poway/Santee (Sycamore and Clark Canyons)	---
L-12	Lakeside/Crest/El Cajon	—
L-13	Harbison Canyon at Interstate-8	—
L-14	Southern Harbison Canyon	—
L-15	McGinty Mesa/Rancho San Diego (Middle Sweetwater River)	—
L-16	Sweetwater Reservoir/Rancho Del Rey	—
L-17	San Miguel Mountains/Proctor Valley/Jamul Mountains	---
L-18	Hollenbeck Canyon	—
L-19	Poggi Canyon	Plants (P-24)
L-20	Jamul Mountains/SE side of Lower Otay Lake	---
L-21	Jamul Mountains/San Ysidro Mountains (Little Cedar and Cedar Canyons)	—
L-22	Otay River Valley/West Otay Mesa	Habitat (H-22)
L-23	Otay River Valley at Future Highway 125 Crossing	---
L-24	O'Neal Canyon	—
L-25	Spring Canyon	—
L-26	Salt Creek	—
L-27	East Otay Mesa	—
L-28	San Ysidro Mountain East	—
L-29	Marron Valley	—

1 Refer to Figure 4-1 for a depiction of regional habitat linkage monitoring locations.

2 Refers to other types of monitoring that may occur at the same location; see Figures 3-1 and 5-2.

3 Refer to Table 3-1 for a complete list of habitat monitoring locations; refer to Table 5-2 for a complete list of field monitoring locations for covered plant species. •



FIGURE

OGDEN

Regional Habitat Linkage and Covered Animal Species Monitoring Locations

4-1

height. An even spatial distribution of animal detection will indicate animals are successfully traversing the linkage. Animal sign at only one end of the corridor suggests that the linkage may be blocked and a more intensive evaluation program should be initiated.

Prior to initiation of the field effort, the field biologists will review the previous survey data and other information to be familiar with survey sites and previous site conditions. During the initial site reconnaissance, a qualitative assessment of each site's habitat condition will be made to document any change relative to previous survey years. Changes to areas within and directly adjacent to the habitat linkage will be detailed on field forms (Appendix C) and maps/aerial photos (e.g., more development or disturbance since previous survey). Noise levels, lighting, and fencing conditions within and adjacent to the linkage will be assessed.

New animal sign in natural substrate conditions and at tracking stations will be recorded. These stations will be of four types: (1) finely raked sand or dirt, (2) graphite-powdered cards (Taylor and Raphael 1988), (3) bands of lime chalk, and (4) combinations of these methods. Poster-weight cards (22 inch x 28 inch and 44 inch x 56 inch in size), coated on one side with graphite powder or soot from a burning kerosene lamp, will be placed on the ground in physically constrained locations (e.g., drainage channels or culverts) within the corridor and checked every two to four days for tracks. When lime chalk is used, a four-inch layer of chalk will be spread across a 1.2 m wide area of the corridor pathway. Old tracks will be marked to avoid confusion with fresh tracks. Track identification will be verified using several source references (Halfpenny 1986; Taylor and Raphael 1988; Stall 1990). The number of tracking stations will vary between locations, but typically 3-5 stations will be adequate to detect wildlife use of the linkages. Linkage areas will be surveyed for bird species presence using standard survey protocol (refer to Section 5.3.2 for species-specific protocols).

Data will be collected on roadkills in the vicinity of monitored habitat linkages. CALTRANS and most jurisdictions in the MSCP study area maintain logs of the location and species of roadkilled animals. It is recommended that the County of San Diego implement a roadkill recording program for areas in the vicinity of monitored habitat linkages in their jurisdiction. Roadkill data will be collected continually for inclusion in the three-year comprehensive report. Observations of focal and other species will be recorded

on standard field forms (Appendix C) and sightings plotted on base maps of the monitored area.

4.2 SCHEDULE

Assessment of habitat linkage functions will occur on a three-year schedule which is concurrent with the monitoring of the coastal sage scrub plots for birds (Section 5.3.2.3). The field work will be scheduled between late July and late September. This is the tune period when young animals are dispersing away from their natal territories and such movements have the greatest likelihood of being detected. Stations will be checked every 3-4 days over two weeks each month (July, August, September) and the lime chalk re-raked and tracking cards replaced.

4.3 PRODUCTS

A monitoring report documenting results of the current assessment of habitat linkage function will be prepared within six months of completion of field work. This report will include a detailed reporting of focal species detected at each linkage location and recommendations for improving regional habitat connectivity (e.g., fencing at specific road undercrossings) for monitored linkages not apparently utilized by focal species.

4.4 COST

The estimated cost for monitoring all 29 designated habitat linkages is $75,840 (1996 dollars) for a three-year period, which includes $13,200 for coordination/review, data analysis, and report preparation. This effort includes approximately 1392 hours of field work for 29 linkage locations (48 field hours per location). Cost per location is $2,610. Additional costs associated with acquisition of digital orthophotography are discussed in Section 3.4.4.