RECOMMENDATIONS FOR TRACKING COVERED SPECIES AND ANNUAL REPORTING

One of the specific objectives of the MSCP Plan (August 1998) is to develop and implement a program for the conservation and management of endangered, threatened, and rare species. Major populations of these species are documented in the Biological Goals, Standards, and Guidelines for Multiple Species Preserve Design (Public Review Draft Resource Document, March 1995) and the MSCP 1995 and 1996 Species Evaluations (USFWS and CDFG, September 1996), and mapped on the MSCP vegetation quad maps (1"=2000'). Table 3-5 of the MSCP Plan documents the proposed conservation and take of these species and major populations. Take authorization holders must comply with the conservation levels, locations, and conditions specified in Table 3-5. In addition, the MSCP Mitigation and Implementation Agreement Monitoring Program for Biological Resources (CDFG, April 2, 1997) contains a checklist of mitigation measures to be implemented for the MSCP, along with timing and entities responsible for the mitigation measures.

To demonstrate compliance with these conditions, we recommend the following measures procedures be implemented by the take authorization holders and wildlife agencies:

1. GIS Tracking of Covered Species Populations.

Take authorization holders should:

- a. Document conservation of covered species using HabiTrak. SANDAG has a state local assistance grant to modify HabiTrak to add this capability.
- b. Map specific locations of covered species on all conserved lands, based on baseline surveys of conserved areas or CEQA documentation.
- c. Track the loss of major populations of selected species outside the preserve through the CEQA documentation process and HabiTrak.

USFWS should:

- a. Incorporate conserved species locations into the regional GIS database.
- b. Update the GIS database annually as needed to refine or revise species locations.
- Annual Reporting on Management and Monitoring. Take authorization holders should demonstrate the continued conservation, management and monitoring of covered species populations in the preserve, per Table 3-5 and MSCP policies. We recommend using individual species compliance datasheets as part of the annual reporting process.
- 3. Wildlife Agency Tracking of Permit Compliance. Wildlife agencies (USFWS and CDFG) should track compliance with permit conditions annually by reviewing the MSCP Mitigation and Implementation Agreement Monitoring

Program, and preparing and updating a comprehensive database on conservation actions.

GIS Tracking of Covered Species Populations

With some modifications, the existing HabiTrak tool will have the capability to track conservation and loss of covered species populations. The HabiTrak tool is appropriate because information on habitat conservation and loss resulting from individual project impacts is already being recorded using the HabiTrak tool. The species most appropriate for tracking their conservation and maintenance through HabiTrak are narrow endemic species and other plant and animal species for which the coverage analyses, and therefore permit conditions, were based on site-specific preserve design, special management measures, or site-specific monitoring. HabiTrak should also be used to track conservation of vernal pools. Species that are not narrow endemics and for which the coverage analysis was habitat-based or at a landscape level, and not based on site-specific preserve design and special management and monitoring measures (e.g., mule deer), are not recommended for tracking through HabiTrak. Conservation and loss of these species' habitats will be tracked using the existing HabiTrak process for tracking habitat conservation and loss.

Attachment A indicates the covered species for which major or core populations are recommended for tracking through HabiTrak, using both spatial and nonspatial data. Species not covered under the MSCP take authorizations are not included in the table. Note that even if a species is not recommended for tracking its conservation through HabiTrak, biological monitoring in the field is still required for the species.

The USFWS, City of San Diego, and County of San Diego have digital data on species population locations. The take authorization holders and wildlife agencies will conduct baseline mapping of species locations on properties they own, as part of the habitat management and monitoring procedures, to better define the locations. Spatial data for these populations, as well as vernal pools, would include the polygons mapped as part of the initial baseline surveys. These would be periodically updated through HabiTrak, as part of the monitoring process, to show fluctuations in population size or to refine locations. Nonspatial data would include the percentage of the population conserved and lost and population size, through time. Historic population size and historic population boundaries would be maintained in HabiTrak to determine trends and mark potential changes in habitat quality or seed bank size and location.

We will need to standardize procedures and formats for mapping and inputting data into HabiTrak, just as we have with tracking conservation and loss of habitats.

Annual Reporting on Management and Monitoring

As part of the annual reporting process, take authorization holders are required to document conservation and loss of habitat by vegetation community and location. Take authorization holders are also required to document conservation actions for covered

species in compliance with Table 3-5 and other MSCP policies. To standardize the annual reporting process, we recommend that take authorization holders complete a list of compliance actions for each covered species, and attach appropriate backup reports (e.g., monitoring reports, etc.). These will be included as part of the annual reports. An example of the type of standardized format that could be used for this purpose is included as **Attachment B** (MSCP Covered Species Compliance Action form).

Wildlife Agency Tracking of Permit Compliance

The MSCP Mitigation and Implementation Agreement Monitoring program for Biological Resources (CDFG, April 2, 1997) contains a checklist of mitigation measures to be implemented for the MSCP, along with timing and entities responsible for the mitigation measures. The wildlife agencies should annually review this document to verify completion of the mitigation measures listed. As an example, **Attachment C** is a portion of the MSCP Mitigation and Implementation Agreement Monitoring program that shows the matrix of responsibilities at the subregional level. There are also individual matrices for the County of San Diego, City of San Diego, and other take authorization holders.

For example, as part of the administrative record, the wildlife agencies could track compliance with the MSCP permit conditions by annually updating a comprehensive database of covered species locations. An example of the type of database that could be used is shown in **Attachment D** -- Agency Summary Scorecard for MSCP Covered Species Compliance, and associated tables). The database could be linked to GIS point and polygon data. The agencies should also calculate the percent conservation of major populations of covered species for comparison with the assumptions in Table 3-5. The agencies could use the matrix prepared by the Habitat Management Technical Committee to track ongoing management activities (**Attachment E**).

(Site-specific Permit Conditions)

Covered Species (County group in parentheses ¹)	Recommended GIS Tracking	Minimum Tracking Obligation
Plants	GIS Trucking	
San Diego thorn-mint*(A)	Yes	Sycamore Cyn, Sabre Spgs/Poway, 4S Ranch, Santa Fe Valley, El Capitan, McGinty-Sequan, Jamul Mtns, Alpine, Otay Lakes
Shaw's agave*(B)	Yes	Torrey Pines SR, Point Loma, Border Field SP and adjacent mesas
San Diego ambrosia*(A)	Yes	Mission Trails
Aphanisma (A)	No	Use HabiTrak vegetation gain/loss.
Del Mar manzanita (A)	Yes	Crest Cyn, San Dieguito River bluffs, Torrey Pines SR, Carmel Mtn, Los Penasquitos Cyn, Del Mar Mesa
Otay manzanita (A)	No	Use HabiTrak vegetation gain/loss.
Coastal dunes milk vetch (A)	No	Use HabiTrak vegetation gain/loss.
Encinitas baccharis*(A)	Yes	4-S Ranch, Rancho Cielo, Iron Mtn, Poway
Nevin's barberry*(A)	Yes	Not mapped in MSCP
Thread-leaved brodiaea*(A)	Yes	No known locations
Orcutt's brodiaea (A)	Yes	Tierrasanta, Mira Mesa, Kearny Villa, Montgomery Field, Proctor Valley Creek, Carmel Mtn, Del Mar Mesa, East Otay Mesa, Cedar Cyn, north of San Vicente Reservoir
Dense reed grass	No	Use HabiTrak vegetation gain/loss.
Dunn's mariposa lily*	Yes	San Miguel Mtn, Otay Mtn, Jamul Mtns
Slender-pod jewelflower (D)	No	Use HabiTrak vegetation gain/loss.
Lakeside ceanothus*(A)	Yes	Barona Valley-Wildcat Cyn, Ramona, El Cajon Mtn, Crest-Harbison Cyn
Wart-stemmed ceanothus (B)	Yes	Torrey Pines SR-Carmel Valley, Carmel Mtn, Santa Fe Valley, Fairbanks Rch, Del Mar Highlands, Crest Canyon, Spooner's Mesa
Salt marsh bird's-beak (A)	Yes	Sweetwater Marsh, Tijuana Estuary, Otay River mouth
Orcutt's bird's-beak (B)	Yes	Otay R. Valley, Dennery Cyn, Spooner's Mesa
Del Mar Mesa sand aster (A)	Yes	Torrey Pines SR, Carmel Mtn-Del Mar Mesa
Tecate cypress	No	Use HabiTrak vegetation gain/loss.
Short-leaved dudleya*(A)	Yes	Torrey Pines SR, Torrey Pines Ext., Crest Cyn, Carmel Mtn, Del Mar Mesa, Fairbanks Rch,, San Dieguito River bluffs
Variegated dudleya*(A)	Yes	Lake Hodges, Poway, Sycamore Cyn-Fortuna Mtn, East Elliott-Fanita Rch, Dehesa, San Miguel Mtn, Proctor Valley Rd, Otay Lakes, Otay River Valley, Otay Mesa, Marron Valley, Lower Salt Creek
Sticky dudleya (A)	No	Use HabiTrak vegetation gain/loss.

(Site-specific Permit Conditions) (continued)

Covered Species	Recommended	Major or Core Populations	
	GIS Tracking	Track Conservation and Loss	
Palmer's ericameria*(B)	Yes	Wild Animal Pk, Thompson Cr, McGinty	
		Mtn, Amber Ridge, Sweetwater R (Willow	
		Glen, Singing Hills), Steele Cyn Cr, Dulzura	
		Cr	
San Diego button-celery**(A)	Yes	Otay River Valley, Otay Lakes, Proctor	
		Valley, Tierrasanta, Del Mar Mesa	
Coast wallflower	No	Use HabiTrak vegetation gain/loss.	
San Diego barrel cactus (B)	No	Use HabiTrak vegetation gain/loss.	
Otay tarplant*(A)	Yes	Dennery Cyn, Otay River Valley, Wolf Cyn,	
		Poggi Cyn, Salt Cr, Proctor Valley, San	
		Miguel Mtn	
Heart-leaved pitcher sage (A)	No	Use HabiTrak vegetation gain/loss.	
Gander's pitcher sage*(A)	Yes	Jamul Mtns, San Miguel Mtn, Otay Mtn,	
		McGinty Mtn, East Otay Mesa	
Nuttall's lotus (A)	Yes	San Diego River Flood Control Channel, D St	
		Fill, Border Field SP	
Felt-leaved monardella (A)	No	Use HabiTrak vegetation gain/loss.	
Willowy monardella*(A)	Yes	Cedar Cyn, Sycamore Cyn	
San Diego goldenstar (A)	Yes	4-S Ranch, Del Mar Mesa, Carmel Mtn,	
		Fernbrook, Tierrasanta, Oak Cyn-Little	
		Sycamore Cyn-Sycamore Cyn, Dehesa,	
		Proctor Valley(Jamul Mtns), East Otay Mesa,	
D (***	Otay Ranch, Marron Valley	
Prostrate navarretia**(A)	Yes	Otay Mesa J1-3, J5, J13, J22, J28-29, K3-5, S1-3	
Dehesa bear-grass*(A)	Yes	McGinty Mtn, Sequan Pk, Dehesa	
Snake cholla*(A)	Yes	Border Field SP, Sweetwater Marsh, Florida	
		Cyn, Chollas Cyn, Pt Loma, Poggi Cyn,	
		Spring Cyn, Lower Salt Creek,	
California Orcutt grass**(A)	Yes	Otay Mesa J11-13	
Torrey pine (A)	No	Use HabiTrak vegetation gain/loss.	
San Diego mesa mint**(A)	Yes	Tierrasanta, Kearny Mesa	
Otay Mesa mint**(A)	Yes	Otay Mesa J14, J23-26, J28-30	
Small-leaved rose (B)	Yes	California Terraces project	
San Miguel savory (D)	No	Use HabiTrak vegetation gain/loss.	
Gander's butterweed (A)	No	Use HabiTrak vegetation gain/loss.	
Narrow-leaved nightshade	No	Use HabiTrak vegetation gain/loss.	
Parry's tetracoccus (A)	No	Use HabiTrak vegetation gain/loss.	
Animals			
Thorne's hairstreak butterfly	No	Use HabiTrak vegetation gain/loss.	
Salt marsh skipper	No	Use HabiTrak vegetation gain/loss.	
San Diego fairy shrimp**	Yes	All vernal pools	
Riverside fairy shrimp**	Yes	All vernal pools	

(Site-specific Permit Conditions) (continued)

Covered Species	Recommended GIS Tracking	Major or Core Populations Track Conservation and Loss
Arroyo southwestern toad	Yes	Cottonwood Ck, San Vicente Ck, Santa Ysabel Ck, Sweetwater River, Otay River, Tijuana River
Red-legged frog	Yes	No known locations
Southwestern pond turtle	No	Use HabiTrak vegetation gain/loss.
Orange-throated whiptail	No	Use HabiTrak vegetation gain/loss.
San Diego horned lizard	No	Use HabiTrak vegetation gain/loss.
California brown pelican	No	Use HabiTrak vegetation gain/loss.
Reddish egret	No	Use HabiTrak vegetation gain/loss.
White-faced ibis	No	Use HabiTrak vegetation gain/loss.
Canada goose	No	Use HabiTrak vegetation gain/loss.
Bald eagle	No	Use HabiTrak vegetation gain/loss.
Northern harrier	No	Use HabiTrak vegetation gain/loss.
Cooper's hawk	No	Use HabiTrak vegetation gain/loss.
Swainson's hawk	No	Use HabiTrak vegetation gain/loss.
Ferruginous hawk	No	Use HabiTrak vegetation gain/loss.
Golden eagle	Yes	Rancho San Diego, East Otay Mountain
		Sequan Peak, Loveland Reservoir, Lake
		Jennings, El Capitan, San Vicente Reservoir,
		San Pasqual Vallley (2), Santee, Lake Hodges
American peregrine falcon	No	Use HabiTrak vegetation gain/loss.
Light-footed clapper rail	Yes	Tijuana NWR, Kendell-Frost, San Diego
		River Flood Control Channel, Sweetwater
		marsh, E St marsh, South Bay NWF, Tijuana
		marsh
Western snowy plover	Yes	Torrey Pines State Beach, South San Diego
• •		Bay NWR, Sweetwater River mouth, Tijuana
		River mouth
Mountain plover	No	Use HabiTrak vegetation gain/loss.
Long-billed curlew	No	Use HabiTrak vegetation gain/loss.
Elegant tern	Yes	South San Diego Bay NWR
California least tern	Yes	Beacon Island, Mariner's Pt, Tijuana NWR,
		Sweetwater NWR, South San Diego Bay
		NWR
Burrowing owl	Yes	Spring Cyn, San Pasqual Valley, Lake
-		Hodges, Otay Mesa (NE of Brown Field),
		Otay Ranch, Otay River Valley, Future
		Urbanizing Area 4
Southwestern willow flycatcher	Yes	Tijuana R, Sweetwater R, Jamul Ck, San
-		Diego R, San Dieguito R, Dulzura Ck, Lower
		Otay Reservoir

(Site-specific Permit Conditions) (continued)

Covered Species	Recommended	Major or Core Populations
_	GIS Tracking	Track Conservation and Loss
Coastal cactus wren	Yes	Lake Hodges-San Pasqual Valley, Lake
		Jennings, south Sweetwater Reservoir-San
		Miguel Ranch, Salt Creek-Otay Mesa, Black
		Mtn, Spring Cyn
California gnatcatcher	Yes	Otay Mesa, San Miguel, Mission Trails-East
		Elliot, Santee, Kearny Mesa, North Poway,
		South Poway, Lake Hodges-San Pasqual
		Valley
Western bluebird	No	Use HabiTrak vegetation gain/loss.
Least Bell's vireo	Yes	Sweetwater R, San Diego R, Tijuana R
California rufous-crowned sparrow	No	Use HabiTrak vegetation gain/loss.
Belding's Savannah sparrow	No	Use HabiTrak vegetation gain/loss.
Large-billed Savannah sparrow	No	Use HabiTrak vegetation gain/loss.
Tri-colored blackbird	No	Use HabiTrak vegetation gain/loss.
American badger	No	Use HabiTrak vegetation gain/loss.
Mountain lion	No	Use HabiTrak vegetation gain/loss.
Southern mule deer	No	Use HabiTrak vegetation gain/loss.

¹ County of San Diego Subarea Plan:

- Group A = Plants rare, threatened or endangered in California and elsewhere
- Group B = Plants rare, threatened or endangered in California but more common elsewhere
- Group C = Plants which may be quite rare, but need more informati0on to determine their true rarity status

Group D = Plants of limited distribution and are uncommon, but not presently rare or endangered

^{*}Narrow endemic species

^{**}Vernal pool species

(Site-specific Permit Conditions)

Covered Species (County group in parentheses ¹)	Recommended GIS Tracking	Minimum Tracking Obligation
Plants	OIS THUMING	
San Diego thorn-mint*(A)	Yes	Sycamore Cyn, Sabre Spgs/Poway, 4S Ranch, Santa Fe Valley, El Capitan, McGinty-Sequan, Jamul Mtns, Alpine, Otay Lakes
Shaw's agave*(B)	Yes	Torrey Pines SR, Point Loma, Border Field SP and adjacent mesas
San Diego ambrosia*(A)	Yes	Mission Trails
Aphanisma (A)	No	Use HabiTrak vegetation gain/loss.
Del Mar manzanita (A)	Yes	Crest Cyn, San Dieguito River bluffs, Torrey Pines SR, Carmel Mtn, Los Penasquitos Cyn, Del Mar Mesa
Otay manzanita (A)	No	Use HabiTrak vegetation gain/loss.
Coastal dunes milk vetch (A)	No	Use HabiTrak vegetation gain/loss.
Encinitas baccharis*(A)	Yes	4-S Ranch, Rancho Cielo, Iron Mtn, Poway
Nevin's barberry*(A)	Yes	Not mapped in MSCP
Thread-leaved brodiaea*(A)	Yes	No known locations
Orcutt's brodiaea (A)	Yes	Tierrasanta, Mira Mesa, Kearny Villa, Montgomery Field, Proctor Valley Creek, Carmel Mtn, Del Mar Mesa, East Otay Mesa, Cedar Cyn, north of San Vicente Reservoir
Dense reed grass	No	Use HabiTrak vegetation gain/loss.
Dunn's mariposa lily*	Yes	San Miguel Mtn, Otay Mtn, Jamul Mtns
Slender-pod jewelflower (D)	No	Use HabiTrak vegetation gain/loss.
Lakeside ceanothus*(A)	Yes	Barona Valley-Wildcat Cyn, Ramona, El Cajon Mtn, Crest-Harbison Cyn
Wart-stemmed ceanothus (B)	Yes	Torrey Pines SR-Carmel Valley, Carmel Mtn, Santa Fe Valley, Fairbanks Rch, Del Mar Highlands, Crest Canyon, Spooner's Mesa
Salt marsh bird's-beak (A)	Yes	Sweetwater Marsh, Tijuana Estuary, Otay River mouth
Orcutt's bird's-beak (B)	Yes	Otay R. Valley, Dennery Cyn, Spooner's Mesa
Del Mar Mesa sand aster (A)	Yes	Torrey Pines SR, Carmel Mtn-Del Mar Mesa
Tecate cypress	No	Use HabiTrak vegetation gain/loss.
Short-leaved dudleya*(A)	Yes	Torrey Pines SR, Torrey Pines Ext., Crest Cyn, Carmel Mtn, Del Mar Mesa, Fairbanks Rch,, San Dieguito River bluffs
Variegated dudleya*(A)	Yes	Lake Hodges, Poway, Sycamore Cyn-Fortuna Mtn, East Elliott-Fanita Rch, Dehesa, San Miguel Mtn, Proctor Valley Rd, Otay Lakes, Otay River Valley, Otay Mesa, Marron Valley, Lower Salt Creek
Sticky dudleya (A)	No	Use HabiTrak vegetation gain/loss.

(Site-specific Permit Conditions) (continued)

Covered Species	Recommended	Major or Core Populations
•	GIS Tracking	Track Conservation and Loss
Palmer's ericameria*(B)	Yes	Wild Animal Pk, Thompson Cr, McGinty
		Mtn, Amber Ridge, Sweetwater R (Willow
		Glen, Singing Hills), Steele Cyn Cr, Dulzura
		Cr
San Diego button-celery**(A)	Yes	Otay River Valley, Otay Lakes, Proctor
		Valley, Tierrasanta, Del Mar Mesa
Coast wallflower	No	Use HabiTrak vegetation gain/loss.
San Diego barrel cactus (B)	No	Use HabiTrak vegetation gain/loss.
Otay tarplant*(A)	Yes	Dennery Cyn, Otay River Valley, Wolf Cyn,
		Poggi Cyn, Salt Cr, Proctor Valley, San
		Miguel Mtn
Heart-leaved pitcher sage (A)	No	Use HabiTrak vegetation gain/loss.
Gander's pitcher sage*(A)	Yes	Jamul Mtns, San Miguel Mtn, Otay Mtn,
		McGinty Mtn, East Otay Mesa
Nuttall's lotus (A)	Yes	San Diego River Flood Control Channel, D St
		Fill, Border Field SP
Felt-leaved monardella (A)	No	Use HabiTrak vegetation gain/loss.
Willowy monardella*(A)	Yes	Cedar Cyn, Sycamore Cyn
San Diego goldenstar (A)	Yes	4-S Ranch, Del Mar Mesa, Carmel Mtn,
		Fernbrook, Tierrasanta, Oak Cyn-Little
		Sycamore Cyn-Sycamore Cyn, Dehesa,
		Proctor Valley(Jamul Mtns), East Otay Mesa,
Prostrate navarretia**(A)	Yes	Otay Ranch, Marron Valley Otay Mesa J1-3, J5, J13, J22, J28-29, K3-5,
Hostrate navarrena (A)	108	S1-3
Dehesa bear-grass*(A)	Yes	McGinty Mtn, Sequan Pk, Dehesa
Snake cholla*(A)	Yes	Border Field SP, Sweetwater Marsh, Florida
Shake chona (11)	103	Cyn, Chollas Cyn, Pt Loma, Poggi Cyn,
		Spring Cyn, Lower Salt Creek,
California Orcutt grass**(A)	Yes	Otay Mesa J11-13
Torrey pine (A)	No	Use HabiTrak vegetation gain/loss.
San Diego mesa mint**(A)	Yes	Tierrasanta, Kearny Mesa
Otay Mesa mint**(A)	Yes	Otay Mesa J14, J23-26, J28-30
Small-leaved rose (B)	Yes	California Terraces project
San Miguel savory (D)	No	Use HabiTrak vegetation gain/loss.
Gander's butterweed (A)	No	Use HabiTrak vegetation gain/loss.
Narrow-leaved nightshade	No	Use HabiTrak vegetation gain/loss.
Parry's tetracoccus (A)	No	Use HabiTrak vegetation gain/loss.
Animals		
Thorne's hairstreak butterfly	No	Use HabiTrak vegetation gain/loss.
Salt marsh skipper	No	Use HabiTrak vegetation gain/loss.
San Diego fairy shrimp**	Yes	All vernal pools
Riverside fairy shrimp**	Yes	All vernal pools

(Site-specific Permit Conditions) (continued)

Covered Species	Recommended	Major or Core Populations
•	GIS Tracking	Track Conservation and Loss
Arroyo southwestern toad	Yes	Cottonwood Ck, San Vicente Ck, Santa
-		Ysabel Ck, Sweetwater River, Otay River,
		Tijuana River
Red-legged frog	Yes	No known locations
Southwestern pond turtle	No	Use HabiTrak vegetation gain/loss.
Orange-throated whiptail	No	Use HabiTrak vegetation gain/loss.
San Diego horned lizard	No	Use HabiTrak vegetation gain/loss.
California brown pelican	No	Use HabiTrak vegetation gain/loss.
Reddish egret	No	Use HabiTrak vegetation gain/loss.
White-faced ibis	No	Use HabiTrak vegetation gain/loss.
Canada goose	No	Use HabiTrak vegetation gain/loss.
Bald eagle	No	Use HabiTrak vegetation gain/loss.
Northern harrier	No	Use HabiTrak vegetation gain/loss.
Cooper's hawk	No	Use HabiTrak vegetation gain/loss.
Swainson's hawk	No	Use HabiTrak vegetation gain/loss.
Ferruginous hawk	No	Use HabiTrak vegetation gain/loss.
Golden eagle	Yes	Rancho San Diego, East Otay Mountain
C		Sequan Peak, Loveland Reservoir, Lake
		Jennings, El Capitan, San Vicente Reservoir,
		San Pasqual Vallley (2), Santee, Lake Hodges
American peregrine falcon	No	Use HabiTrak vegetation gain/loss.
Light-footed clapper rail	Yes	Tijuana NWR, Kendell-Frost, San Diego
		River Flood Control Channel, Sweetwater
		marsh, E St marsh, South Bay NWF, Tijuana
		marsh
Western snowy plover	Yes	Torrey Pines State Beach, South San Diego
		Bay NWR, Sweetwater River mouth, Tijuana
		River mouth
Mountain plover	No	Use HabiTrak vegetation gain/loss.
Long-billed curlew	No	Use HabiTrak vegetation gain/loss.
Elegant tern	Yes	South San Diego Bay NWR
California least tern	Yes	Beacon Island, Mariner's Pt, Tijuana NWR,
		Sweetwater NWR, South San Diego Bay
		NWR
Burrowing owl	Yes	Spring Cyn, San Pasqual Valley, Lake
		Hodges, Otay Mesa (NE of Brown Field),
		Otay Ranch, Otay River Valley, Future
		Urbanizing Area 4
Southwestern willow flycatcher	Yes	Tijuana R, Sweetwater R, Jamul Ck, San
		Diego R, San Dieguito R, Dulzura Ck, Lower
		Otay Reservoir

(Site-specific Permit Conditions) (continued)

Covered Species	Recommended	Major or Core Populations
_	GIS Tracking	Track Conservation and Loss
Coastal cactus wren	Yes	Lake Hodges-San Pasqual Valley, Lake
		Jennings, south Sweetwater Reservoir-San
		Miguel Ranch, Salt Creek-Otay Mesa, Black
		Mtn, Spring Cyn
California gnatcatcher	Yes	Otay Mesa, San Miguel, Mission Trails-East
		Elliot, Santee, Kearny Mesa, North Poway,
		South Poway, Lake Hodges-San Pasqual
		Valley
Western bluebird	No	Use HabiTrak vegetation gain/loss.
Least Bell's vireo	Yes	Sweetwater R, San Diego R, Tijuana R
California rufous-crowned sparrow	No	Use HabiTrak vegetation gain/loss.
Belding's Savannah sparrow	No	Use HabiTrak vegetation gain/loss.
Large-billed Savannah sparrow	No	Use HabiTrak vegetation gain/loss.
Tri-colored blackbird	No	Use HabiTrak vegetation gain/loss.
American badger	No	Use HabiTrak vegetation gain/loss.
Mountain lion	No	Use HabiTrak vegetation gain/loss.
Southern mule deer	No	Use HabiTrak vegetation gain/loss.

¹ County of San Diego Subarea Plan:

- Group A = Plants rare, threatened or endangered in California and elsewhere
- Group B = Plants rare, threatened or endangered in California but more common elsewhere
- Group C = Plants which may be quite rare, but need more informati0on to determine their true rarity status

Group D = Plants of limited distribution and are uncommon, but not presently rare or endangered

^{*}Narrow endemic species

^{**}Vernal pool species

MSCP COVERED SPECIES* COMPLIANCE ACTIONS

Year <u>2000</u>

Take Authorization Holder:_____

San Diego Thornmint

Acanthomintha ilicifolia
(narrow endemic, County Group A)

Major Populations: Sycamore Canyon, South Poway (P-13), 4S Ranch (P-2), El Capitan, Alpine, Otay Lakes, Sky Mesa Ranch, Asphalt Inc., McGinty Mtn (P-17), Jamul Mtns West (P-30)

Other Populations: (other populations not listed as major populations in the Standards and Guidelines or Table 3-5)

Avoidance Requirements: Subarea plans must specify measures to ensure that impacts to narrow endemic species are avoided to the maximum extent practicable.

Management Requirements: Baseline surveys. Area-specific management directives for preserve areas must include specific guidelines for managing edge effects. Edge effects may include (but are not limited to) trampling, dumping, vehicular traffic, competition with invasive species, parasitism by cowbirds, predation by domestic animals, noise, collecting, recreational activities, and other human intrusion. Refer to area-specific management directives.

Monitoring Requirements: Annual site-specific monitoring of health and condition at all preserve areas supporting the species. Quantitative population monitoring required at P-2, P-13, P-17, and P-30.

Take authorization holders to fill in information below and attach pertinent reports on management and monitoring:

1. Conserved Location: (preserve name or project site -- all locations, not just major populations)

Avoidance Actions Implemented: (e.g., no impact to population, or moved pipeline alignment to avoid populations, or in vicinity of recreational area, etc.)

Management Actions and Date Implemented: (list actions and date implemented)

Monitoring Actions and Date Implemented: (list actions and date implemented)

Condition/Health of Population: (describe level of disturbance, degree of recruitment, condition/health of population, abundance of exotics, etc.)

^{*} Only for covered species with site-specific permit conditions.

ATTACHMENT C MSCP MITIGATION AND IMPLEMENTATION AGREEMENT MONITORING PROGRAM FOR BIOLOGICAL RESOURCES

Mitigation Measures	Source of Requirement	Method of Verification	Timing of Verification	Responsible Entity
1.0 PROGRAM LEVEL IMPLEMENTATION				
1.1 General Plan and Community Plan Changes				
Local jurisdictions will amend general plans and other land use plans, as needed, to be consistent with the jurisdiction's MSCP subarea plan.	MSCP Plan 5.4.1; IA 10.0	CEQA document on General and/or Community Plan Update	Final CEQA review, and/or as specified in jurisdiction's IA	Local jurisdiction
1.2 Implementing Ordinances				
1.2.1 Zoning and/or Resource Protection Ordinances				
Local jurisdictions will adopt or amend zoning ordinances, codes, guidelines, and other development regulations, as needed, to ensure that approval of private and public development projects is consistent with MSCP subarea plan.	MSCP Plan 5.4.1; IA 10.0	Zoning and/or resource protection ordinance	As specified in jurisdiction's IA	Local jurisdiction
1.2.2 Development Guidelines				
Local jurisdictions and other take authorization holders will adopt or amend development regulations, permitting, and approval requirements, as needed, to ensure consistency with the MSCP subarea plan. The jurisdictions will ensure that direct and indirect impacts of new development on the preserve will be	MSCP Plan 5.4.1, 6.2.3; MSCP Plan Attachment B; IA 9.19, 10.0	Adoption of subarea plan and development guidelines; project CEQA document	Adoption of subarea plan; final CEQA review; and/or as specified in IA	Local jurisdiction or take authorization holder

Mitigation Measures	Source of Requirement	Method of Verification	Timing of Verification	Responsible Entity
minimized using good land planning and design principles.				
1.2.3 Mitigation Requirements				
Local jurisdictions and other take authorization holders will implement mitigation and/or encroachment standards consistent with achieving habitat conservation targets in the MSCP subarea plan.	MSCP Plan 5.4.1, Attachment B; IA 8.0, 9.12, 10.0, 12.2	Project CEQA document and annual report	Final project CEQA review and annual	Local jurisdiction or take authorization holder
1.2.4 Land Use Compatibility Guidelines				
Subarea plans address which uses are allowed within the MHPA, ensure that permitted uses are compatible with preserve objectives, and require that direct and indirect impacts to sensitive habitats and covered species be reduced or eliminated by activity restrictions, design, and/or management practices.	MSCP Plan 6.1, 6.2, Attachment B; IA 10.0	Project CEQA document and annual report	Final project CEQA review and annual	Local jurisdiction or take authorization holder
1.2.5 Species Coverage Conditions				
Take authorization holders will ensure that the covered species within the MHPA, as shown on the MSCP quad maps (1"=2000'), are protected and managed in accordance with conditions specified by the permit (see Section 7.5 below.).	MSCP Plan Table 3-5, 6.3.1; EIR/EIS Responses to Comments; IA 10.0	Area-specific management directives, biological monitoring report, and preserve manager's report	As parcels are dedicated to the preserve and every 3 years	Local jurisdiction or take authorization holder

Mitigation Mea	asures	Source of Requirement	Method of Verification	Timing of Verification	Responsible Entity
1.2.6	Survey Protocols for Covered Species				
USFWS and CI protocols for co	DFG will develop survey overed species.	MSCP Plan Table 3-5, USFWS and CDFG commitment	Survey protocols	Within 12 months of issuance of take authorizations	USFWS and CDFG
USFWS/CDFG covered species	tion holders will ensure that protocols for surveying for s will be utilized for CEQA ological monitoring.	MSCP Plan Table 3-5	Project CEQA document	Final project CEQA review	Local jurisdiction or take authorization holder
1.3 Interim	Protection				
consistent with between signing and permanent p	tion holders will protect habitats the MSCP in the interim g of an implementing agreement preservation actions. This may ment of grading and grubbing	MSCP Plan 5.4.1, Attachment B; IA 10.0	Annual report	Annual	Local jurisdiction or take authorization holder
1.4 Narrow	Endemics and Vernal Pools				
impacts to narro	tion holders will ensure that ow endemic species and vernal ed to the maximum extent	MSCP Plan 3.3.2, Table 3-5; IA 10.0	Project CEQA document and annual report	Final project CEQA review and annual	Local jurisdiction or take authorization holder
1.5 Critical	Populations				
	tion holders will ensure that cal populations are avoided to the nt practicable.	Subarea plans, MSCP quad maps (1"=2000"), MSCP Plan Table 3-5	Project CEQA document and annual report	Final project CEQA review and annual	Local jurisdiction or take authorization holder

Mitigation Measures	Source of Requirement	Method of Verification	Timing of Verification	Responsible Entity
1.6 Exemptions				
Take authorization holders will ensure that any exemptions to the above regulations are consistent with the subarea plan and implementing agreement.	Subarea plans, IA 10.0	Project CEQA document and annual report	Final project CEQA review and annual	Local jurisdiction or take authorization holder
2.0 PROJECT LEVEL REVIEW				
See individual mitigation monitoring programs for each subarea.				
3.0 INCIDENTAL TAKE FOR AGRICULTURE				
Take authorizations may apply to agricultural activities on lands specifically identified in the MSCP database and as shown on MSCP Plan Figure 2-1 as being actively used for agricultural purposes (agricultural activities include crop, animal, and forage production and grazing).	MSCP Plan 6.2.2, IA 9.21	Certificate of inclusion identifying the parcel number, acreage affected, current landowner, and map of the parcel location; annual report and implementation meeting	Annual	Local jurisdiction
4.0 PRESERVE ASSEMBLY				
4.1 Federal/State				
4.1.1 Contributions of Existing Federal/State Lands				
The federal and state governments will contribute 36,510 acres of existing federal and state lands, excluding military lands, to permanent habitat conservation, management, and monitoring.	MSCP Plan 4.2.1; IA 9.9, 15.1, 15.2, 15.3	Annual report; Habitat Conservation Accounting Model; 3-year status report	Annual, over a 30-year period	Federal and state governments

4.1.2 **Habitat Acquisition**

The federal government and State of California MSCP Plan 4.2.2: IA 9.9. Land dedicated to preserve have committed to contribute, in the aggregate, 15.1, 15.2, 15.3 and mapped/recorded in half of the lands to be acquired by public means, annual reports or 13.500 acres $\pm 10\%$. 4.2 **Local Conservation Targets**

Annual, over a 30-year period

Federal and state governments

4.2.1 **Conserved Habitat Acreage Targets**

The local jurisdictions and special districts will achieve their conservation acreage targets through public land dedication, acquisition, and regulation/mitigation.

MSCP Plan Tables 3-1 & 3-2: IA 10.1

Habitat Conservation Accounting Model

Annual

Take authorization holder

4.2.2 **Species Targets**

Take authorization holders will ensure that the covered species populations identified on the MSCP vegetation quad maps (1"=2000') within the MHPA will be protected, managed, and monitored.

MSCP Plan Table 3-5; IA 12.2, 12.3, 12.5, 12.7 Project CEQA document; biological monitoring; and preserve manager's report

Final CEOA review; annual; and every 3 years Take authorization holder

4.3 **Local Public Land Dedication**

The local jurisdictions and special districts will dedicate 45,240 acres of public lands for conservation in the preserve, as specified in subarea plans.

MSCP Plan Table 4-5

Habitat Conservation Accounting Model; annual report and implementation meeting with USFWS and CDFG; plan audit by USFWS and CDFG

Annual and with plan audit

Take authorization holder

Regulation/Avoidance

Subarea plans must demonstrate how take authorization holders will meet their conservation targets through regulation and MSCP Plan 3.5. Attachment B; IA 10.1

Project CEQA review; **Habitat Conservation** Accounting Model; annual Final project CEQA review, including projectspecific mitigation

Take authorization holder

avoidance of lands within the MHPA.		report and implementation meeting with USFWS and CDFG; plan audit by USFWS and CDFG	monitoring plan; annual and with plan audit	
4.5 Mitigation				
Each take authorization holder will implement the mitigation standards specified in its subarea plan and implementing agreement. This requires site-specific analysis of biological resources, for projects where agreements do not already exist, to determine appropriate mitigation measures and siting of the project.	MSCP Plan 3.5, Attachment B; IA 10.1	Project CEQA review; Habitat Conservation Accounting Model; annual report and implementation meeting with USFWS and CDFG; plan audit by USFWS and CDFG	Final project CEQA review, including project- specific mitigation monitoring plan; annual and with plan audit	Take authorization holder
4.6 Local Acquisition				
The local jurisdictions will be collectively responsible for acquiring one-half of the lands to be acquired by public means (13,500 acres \pm 10%).	MSCP Plan 4.3.2	Habitat Conservation Accounting Model; annual report and implementation meeting with USFWS and CDFG; public hearing; plan audit by USFWS and CDFG	Annual, every 3 years, and with plan audit	Take authorization holder
5.0 ACCOUNTING AND REPORTING				
5.1 Continual Habitat Acreage Accounting				
5.1.1 Habitat Conservation Accounting Model				
The local jurisdictions will continually account, by project and cumulatively, for the amount and	MSCP Plan 5.9.1; IA 14.1, 14.2, 14.3	Annual report and implementation meeting;	Annual	Take authorization holder and Implementation

location of habitat acreage (by habitat type) lost

committed to land development both within and

and preserved within the subarea, including acres conserved within the MHPA and acres

outside the MHPA. The results of such

project-level EIR

program

mitigation monitoring

Coordinating Committee

accounting will be applied to the Habitat Conservation Accounting Model to assure adequate progress toward implementation.

5.1.2 Map-measured Progress

Take authorization holders will account on a map(s) for habitat acres/locations preserved by:

- core areas
- linkages
- covered species populations

MSCP Plan Tables 3-1,
3-2, 3-5; IA 12.2, 12.3,
12.5, 12.7, 14.1

Annual report and implementation meeting with USFWS and CDFG

Annual

Take authorization holder and Implementation Coordinating Committee

5.2 Annual Reporting

The local jurisdictions shall prepare and submit to the USFWS and CDFG a public report containing an annual accounting, by project and cumulatively, of habitat acreage lost and conserved within the subarea during the previous calendar year. This accounting shall specify acres conserved within the MHPA by habitat type and location, as well as acres committed to land development both within and outside the MHPA, and compare these figures with results obtained utilizing the Habitat Conservation Accounting Model. The report will be used by the USFWS and CDFG to evaluate whether (1) adequate progress toward implementation is being achieved, and (2) if the take authorization holders are complying with the MSCP Plan, subarea plan, and implementing agreement (including: achieving conservation goals by vegetation community and species, preserve design and configuration goals, avoidance of narrow endemics, vernal pools, and critical populations, etc.).

MSCP Plan 5.9.1, 5.9.2; IA Annual report and implementation me

Annual report and implementation meeting with USFWS and CDFG

Annual - by February 15 of each year

Take authorization holder and Implementation Coordinating Committee

Annual Implementation Meeting 5.3

Take authorization holders shall meet with USFWS and CDFG to review and coordinate implementation of the subarea plan. The parties will review the annual report to evaluate implementation of the MSCP during the preceding year and the adequacy of the overall progress being made towards the conservation goals of the MSCP and subarea plan, utilizing the Habitat Conservation Accounting Model. Items to be considered include, but are not limited to, all contributions towards the preservation of habitat lands, such as public lands, private mitigation lands, land donations, land acquisitions, and management activities undertaken or proposed on habitat lands.

MSCP Plan 5.4.4, 5.9.1; IA Implementation meeting 14.3

Annual

Take authorization holder. USFWS, and CDFG

Public Report/Hearing and Agency Workshops

5.4.1 **Public Report/Hearing**

Local jurisdictions shall prepare a public report and hold a public hearing in conjunction with issuance of the report. The report shall incorporate information on the amount of land preserved within the MHPA and otherwise to date, the amount of land added to the MHPA or otherwise preserved within the previous 3 years, and the total expenditures made toward habitat acquisition to date and over the preceding 3 years. This report shall also include a subarea by subarea accounting of all funds received and expended during the previous calendar year to implement the MSCP, including the amounts received and expended on habitat acquisition, management, and monitoring.

MSCP Plan 5.9.2. IA 14.4

Public hearing and public report

Every 3 years

Take authorization holder

5.4.2 Agency Workshops

USFWS and CDFG will hold public workshops on MSCP implementation in conjunction with the distribution of annual reports. USFWS and CDFG commitment

Public workshop

Years 1 and 2 of implementation

USFWS and CDFG

5.5 Preserve Manager's Reports

The managers of each preserve area will submit a report to the USFWS and CDFG every 3 years that summarizes management activities, describes management priorities for the next 3-year period, reports on restoration activities, and evaluates funding and the ability to meet resource management goals.

MSCP Plan 5.9.2

Preserve manager's report

Every 3 years

Take authorization holder and preserve manager

5.6 Biological Monitoring Reports

A comprehensive monitoring report will be prepared every 3 years and will: summarize monitoring results, identify and prioritize management needs and provide specific management recommendations for the coming 3-year period, evaluate monitoring priorities for the coming 3-year period, and evaluate funding needs for the coming 3-year period.

MSCP Plan 6.4.1, Biological Monitoring Plan Biological monitoring report

Every 3 years

Take authorization holder and USFWS and CDFG

5.7 Plan Auditing

The USFWS and CDFG will conduct an audit of: (1) all development approvals and mitigation imposed through land use regulations or otherwise with approved subareas, (2) all lands acquired by each local jurisdiction toward meeting its habitat acquisition obligation under the MSCP, and (3) all moneys received, invested, and expended on acquisition, management, and monitoring activities within approved subareas.

IA 14.6

Framework management plan, area-specific management directives, species-specific management directives Every 3 or more years

USFWS and CDFG

THIRD-PARTY BENEFICIARY 6.0 STATUS

The creation of third-party beneficiary status shall occur during the local jurisdiction's permitting process when (1) review of the project's impact on biological resources and a determination of necessary mitigation has occurred in compliance with the implementing agreement, (2) the determined mitigation includes an immediately effective requirement to maintain the biological values of the land committed for mitigation, and (3) the mitigation has been imposed through a condition of development (such as a development agreement or a tentative map condition) that is recorded and runs with the land.

IA 17.1A

Project CEQA document or Final CEQA review other recorded documents specifying development agreement or tentative map and mitigation requirements (i.e., future commitments)

Local jurisdiction

7.0 PRESERVE MANAGEMENT

7.1 Federal/State

The federal and state agencies will manage and monitor their present land holdings, as well as those they acquire on behalf of the MSCP, consistent with the MSCP Plan.

MSCP Plan 6.3.2: IA 9.9, 15.3

USFWS Refuge Management Plan, CDFG Land Management Plan, and BLM Resource Management Plan

Over a 30-year period

Federal and state governments

Subregional Coordination 7.2

The local jurisdictions and other take authorization holders will create the Regional Habitat Management Technical Committee, comprised of representatives of preserve management entities and take authorization holders, to coordinate preserve management on a subregional basis. The USFWS and CDFG will work with the committee to furnish

MSCP Plan 5.8.3, IA 14.7, preserve management agreement Formation and meetings of Regional Habitat Management Technical Committee

Within 120 days of effective date of IA Take authorization holder, preserve management entities, and USFWS and **CDFG**

information and advice on habitat management.

Responsibilities of the Habitat Management Technical Committee are:

- coordinate ongoing preserve management responsibilities and public access control
- maintain a current library of management plans
- provide information on new management techniques
- coordinate computer databases for management issues
- coordinate distribution of preserve managers' reports

7.3 Framework Management Plans

7.3.1 Preparation

Take authorization holders will develop framework management plans which will provide general direction for preserve-wide management actions applicable to the subarea. Framework management plans will address the following management actions, as appropriate:

Preserve-level Actions

- fire management
- public access control
- fencing and gates
- ranger patrol
- trail maintenance
- visitor/interpretive services
- volunteer services
- hydrological management
- signage and lighting
- trash and litter removal

MSCP Plan 6.3.1; EIR/EIS Responses to Comments; IA 10.1; Resource Document Appendix A-11-1, A-11-2, and A-11-3; consider additional recommendations of Resource Document Public review of draft framework plan

Draft plan within 6 months of issuance of take authorizations; final plan approved by USFWS and CDFG within 9 months of take authorizations

Take authorization holder with review and approval by USFWS and CDFG

- · access road maintenance
- enforcement of property and/or homeowner requirements

Species-level Actions

- removal of invasive species
- nonnative predator control
- species monitoring (to provide data needed to manage species and their habitats on the area subject to the areaspecific management directives)
- habitat restoration
- management for diverse age classes
- use of herbicides and rodenticides
- biological surveys of preserve lands (to identify resources for preparing areaspecific management directives)
- species management conditions (see MSCP Plan Table 3-5)

Framework management plans also will include a timetable and work programs for preparation of area-specific management directives.

The USFWS and CDFG will hold public workshops on the draft framework management plans.

USFWS and CDFG commitment

Public workshop

Upon receipt of draft framework management plan and prior to USFWS and CDFG approval USFWS and CDFG

7.3.2 Implementation

Take authorization holders will coordinate with other subareas in implementing management plans to ensure that the overall needs of species and habitats are met on a regional basis. Preserve managers will review and update management plans as necessary, implement an adaptive management program based on preserve management and biological monitoring

MSCP Plan 6.3.1, IA 10.1

Preserve manager's report, biological monitoring

Every 3 years

Take authorization holder and/or preserve management entities

results, and prepare a status report every 3 years.

7.4 Area-Specific Management Directives

7.4.1 Preparation

Area-specific management directives will address the following management actions, as appropriate:

Preserve-level Actions

- fire management
- public access control
- fencing and gates
- ranger patrol
- trail maintenance
- visitor/interpretive services
- · volunteer services
- hydrological management
- signage and lighting
- trash and litter removal
- · access road maintenance
- enforcement of property and/or homeowner requirements

In addition, area-specific management directives will address the following species-level actions:

Species-level Actions

- removal of invasive species
- nonnative predator control
- species monitoring (to provide data needed to manage species and their habitats on the area subject to the areaspecific management directives)
- habitat restoration
- management for diverse age classes
- use of herbicides and rodenticides

MSCP Plan 6.3.1, Table 3-5; IA 10.0; EIR/EIS Responses to Comments; consider additional recommendations of Resource Document Project CEQA document; submittal of area-specific management directives to USFWS and CDFG; and annual implementation meeting Final project CEQA review; once parcels are conserved as part of the preserve; and annual; for public lands, within a timeframe specified by the framework management plan Take authorization holder with review and approval by USFWS and CDFG

- biological surveys of preserve lands (to identify resources for preparing areaspecific management directives)
- species management conditions (see MSCP Plan Table 3-5)

Area-specific management directives will be prepared for current public lands dedicated to the preserve and for future private lands added to the preserve.

7.4.2 Implementation

Take authorization holders will coordinate with other subareas in implementing management plans to ensure that the overall needs of species and habitats are met on a regional basis. Preserve managers will review and update management plans as necessary, implement an adaptive management program based on preserve management and biological monitoring results, and prepare a status report every 3 yrs.

MSCP Plan 6.3.1, IA 10.1

Preserve manager's report, biological monitoring

Every 3 years

Take authorization holder and preserve management

entities

7.4.3 Biological Surveys

The take authorization holder will ensure that a biological survey will be conducted of lands to be dedicated to the preserve so that resources may be managed appropriately. MSCP Plan 6.3.1

Project CEQA document and area-specific management directives Once parcels are conserved as part of the preserve

Take authorization holder

7.4.4 Biological Monitoring

Biological monitoring of all habitats and covered species within the preserve should be incorporated as a routine part of the preserve management program.

MSCP Plan 6.4.1, Biological Monitoring Plan, IA 14.5 Biological monitoring status report

Every 3 years

Take authorization holder and USFWS and CDFG

7.5 Species Coverage Conditions

MSCP Plan Table 3-5, EIR/EIS Responses to Comments, Resource Document recommendations to be considered Biological monitoring report and preserve manager's report Annual monitoring, and status report every 3 years

Take authorization holder and USFWS and CDFG

7.5.1 Plants

Area-specific management directives must include specific measures to address the following issues for each of the species indicated. Narrow endemics will require additional protection and management measures.

MSCP Plan Table 3-5, EIR/EIS Responses to Comments, Resource Document recommendations Biological monitoring report and preserve manager's report Annual monitoring, and status report every 3 years

Take authorization holder and USFWS and CDFG

Edge Effects

San Diego thorn-mint Shaw's agave San Diego ambrosia Orcutt's brodiaea Dense reed grass Salt marsh bird's-beak Del Mar Mesa sand aster Short-leaved dudleya Variegated dudleya Sticky dudleya San Diego button-celery San Diego barrel cactus Otay tarplant Heart-leaved pitcher sage Gander's pitcher sage Nuttall's lotus Felt-leaved monardella Willowy monardella San Diego goldenstar Prostrate navarretia

Dehesa bear-grass

Snake cholla California Orcutt grass San Diego mesa mint Otay Mesa mint Gander's butterweed Parry's tetracoccus

Fire Management

Del Mar manzanita
Otay manzanita
Encinitas baccharis
Dense reed grass
Slender-pod jewelflower
Lakeside ceanothus
Wart-stemmed ceanothus
Del Mar Mesa sand aster
Tecate cypress
San Diego barrel cactus
Heart-leaved pitcher sage
Gander's pitcher sage
San Miguel savory

Reintroduction or Enhancement and Restoration of Populations

Coastal dunes milk vetch Wart-stemmed ceanothus Salt marsh bird's-beak Tecate cypress Heart-leaved pitcher sage Gander's pitcher sage San Diego goldenstar Snake cholla Small-leaved rose

Maintenance of Surrounding Habitats for Pollinators and Watershed Protection

Short-leaved dudleya Prostrate navarretia Dehesa bear-grass California Orcutt grass San Diego mesa mint Otay Mesa mint

7.5.2 **Animals**

Area-specific management directives must include specific measures to address the following issues for each of the species indicated. Individual species may also require additional management measures.

MSCP Plan Table 3-5, EIR/EIS Responses to Comments, Resource Document recommendations to be considered

Biological monitoring report and preserve manager's report

Annual monitoring, and status report every 3 years Take authorization holder and USFWS and CDFG

Edge Effects

San Diego fairy shrimp Riverside fairy shrimp Arroyo southwestern toad Orange-throated whiptail San Diego horned lizard White-faced ibis Light-footed clapper rail Western snowy plover Elegant tern California least tern Southwestern willow flycatcher California gnatcatcher Least Bell's vireo California rufous-crowned sparrow Belding's Savannah sparrow Large-billed Savannah sparrow Tricolored blackbird

American badger

Fire Management

Thorne's hairstreak butterfly California gnatcatcher

Control of Exotic Species and Nonnative

Predators

Salt marsh skipper Arroyo southwestern toad Southwestern pond turtle San Diego horned lizard California least tern

Maintenance of Impact Avoidance Areas and

Foraging/Breeding Habitat

Arroyo southwestern toad
Southwestern pond turtle
Northern harrier
Cooper's hawk
Golden eagle
Western snowy plover
Elegant tern
California least tern
Burrowing owl
Southwestern willow flycatcher
Least Bell's vireo

Restoration/Enhancement of Habitat

Southwestern pond turtle Burrowing owl Coastal cactus wren Monitoring and Control of Cowbirds and Maintenance of Successional Habitat

Southwestern willow flycatcher Least Bell's vireo

<u>Protection of Occupied Habitat During the</u> <u>Breeding Season</u>

Southwestern willow flycatcher Coastal cactus wren California gnatcatcher Least Bell's vireo Tricolored blackbird

7.6 Third-party Beneficiaries who have not dedicated land

Private landowners who are third-party beneficiaries will be responsible for habitat management of preserve lands they choose to retain in private ownership to the extent required by the jurisdiction's subarea plan and implementing regulations and as specified as conditions of development permits. MSCP Plan 6.3.3, IA 17.1B

Project CEQA document management requirements

Final project CEQA review

Local jurisdiction and property owner

7.7 Adaptive Management Programs

Preserve managers will implement management practices to reverse declining trends in habitat or species' populations, identified through the preserve management and biological monitoring programs. The framework management plan and area-specific management directives will include adaptive management strategies, which will be implemented through revision of area-specific management directives as prescribed in management priorities in the preserve manager's reports.

MSCP Plan Table 3-5, Biological Monitoring Plan, EIR/EIS Responses to Comments, area-specific management directives Preserve manager's report; biological monitoring; area-specific management directives As necessary

Take authorization holder, preserve managers, and USFWS and CDFG

8.0 **BIOLOGICAL MONITORING**

The biological monitoring program is designed to evaluate if the MSCP's biological goals are being achieved and to provide data for triggering adaptive management strategies.

Coordination 8.1

Take authorization holders and the federal and state governments will be responsible for the biological monitoring of their respective, specified public lands, as well as mitigation lands obtained in fee title or easement, and lands acquired for the MSCP. To ensure uniformity in data gathering and analysis, the USFWS and CDFG will assume primary responsibility for coordinating the monitoring program, analyzing data, and providing information and technical assistance to the take authorization holders.

MSCP Plan 6.4.1, IA 14.5, Biological Monitoring Plan

Comprehensive monitoring report and preserve manager's report

reports

Resource-specific status Annual, or as necessary

Every 3 years

Every 3 years

Every 5 years

USFWS and CDFG, take authorization holders, and preserve managers

USFWS and CDFG, take authorization holders, and preserve managers

Covered Species Locations 8.2

Each take authorization holder is responsible for protection and monitoring of the covered species identified on the MSCP vegetation maps (1"=2000') within its respective portions of the MHPA.

IA 10.0, MSCP vegetation quad maps (1"=2000')

- Comprehensive monitoring report and preserve manager's report
 - Resource-specific status Annual, or as reports necessary

USFWS and CDFG, take authorization holders, and preserve managers

USFWS and CDFG, take authorization holders, and preserve managers

Habitat Monitoring

This effort will focus on three areas:

- (1) permanent habitat loss as a result of development;
- (2) temporary habitat changes as a result of natural events (e.g., fires and flooding); and

Bio. Monitoring Plan 3.0

- (1) satellite imagery
- (2) CDF digital files and aerial photography

SANDAG, USFWS, and **CDFG**

(3) field sampling and (3) <u>loss of habitat value</u> as a result of edge effects or other human-related impacts. orthophotography Management programs will be adapted to Comprehensive monitoring respond to these issues. reports **Corridor Monitoring** This monitoring effort will focus on collecting Bio. Monitoring Plan 4.0 Corridor monitoring report Every 3 years during July, USFWS and CDFG, take new biological data on corridor use, evaluating August, and September authorization holders, and the impacts of land uses and construction preserve managers activities in and adjacent to the corridors, and evaluating management and enforcement difficulties with respect to corridors. Management programs will be adapted to respond to these issues. 8.5 **Covered Species Monitoring** This monitoring effort will identify short-term threats to species persistence and longer-term trends that may suggest declining populations. Management programs will be adapted to respond to these issues. Climatic data Bio. Monitoring Plan 5.1 Species monitoring reports Annual USFWS and CDFG (1) Plant species field monitoring USFWS and CDFG, take Bio. Monitoring Plan 5.2 Species monitoring reports (2) • 1st priority - annuals or herbaceous Annual authorization holders, and perennials preserve managers • 1st priority - shrubs • Every 5 years • 2nd priority - annuals or herbaceous Every other year perennials • 3rd priority - shrubs • Every 5 years Plant species photo plot monitoring (all • Every 5 years

species)

 (3) Animal species field monitoring • Gnatcatchers • Cactus wrens • Reptiles • Arroyo southwestern toad • Raptors 	Bio. Monitoring Plan 5.3	Species monitoring reports	Every 3 yearsEvery 3 yearsAnnualEvery 3 yearsEvery 3 years	USFWS and CDFG, take authorization holders, and preserve managers
8.6 Reporting				
The reporting program will provide monitoring results and notify preserve managers of habitats or species that require specific management activities.				
 (1) Comprehensive monitoring reports • Summarize monitoring results. • Identify and prioritize management needs. • Provide specific management recommendations for the next 3-year period. • Evaluate monitoring priorities for the next 3-year period. • Evaluate funding needs for the next 3-year period. 	Bio. Monitoring Plan 6.0	Comprehensive monitoring report	Every 3 years	USFWS and CDFG
 (2) Resource-specific status reports • Summarize monitoring results. • Identify problem areas or threats. • Provide mgmt recommendations. • Recommend a schedule for implementing management activities. 	Bio. Monitoring Plan 6.0	Resource-specific status reports	Annual, except every 3rd year	USFWS and CDFG, take authorization holders, and preserve managers
8.7 Remediation and Adaptive Management				
Preserve managers will implement specific management practices to reverse declining trends in habitat or species' populations,	MSCP Plan Table 3-5, Biological Monitoring Plan 7.0, EIR/EIS Responses to	Preserve manager's report, biological monitoring report, area-specific	As necessary	USFWS and CDFG, take authorization holders, and preserve managers

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identified through the preserve management and biological monitoring programs.	Comments, Area-Specific Management Directives	management directives		
8.8 Research Recommendations				
Recommend future studies that would advance our knowledge and improve our ability to manage for the covered species and their habitats.	Bio. Monitoring Plan 8.0	Preserve manager's reports, biological monitoring report, area-specific management directives	As necessary	USFWS and CDFG, take authorization holders, and preserve managers
9.0 FUNDING RESPONSIBILITIES OF LOCAL JURISDICTIONS				
9.1 New or Existing Policy Body				
The participating jurisdictions will identify a new or existing structure or policy body for establishing a regional funding source. This body would be responsible for design and implementation of the regional or subregional funding ballot measure (see MSCP Plan Table 7-7), including: • determining the amount, timing, and formula for sharing proceeds from the measure • developing the specific ballot language for what would be funded • sponsoring the ballot measure	MSCP Plan 5.8.1, Table 7-7; IA 11.0	Establishment of policy body	Within 18 months of signing initial implementing agreement	Local jurisdictions and other take authorization holders
9.2 Structure to Allocate Funds				
The participating jurisdictions will identify or create a structure through which regionally generated funds will be allocated. This structure will allocate funds for acquisition, management, monitoring, and administration of the preserve on a subregion or regionwide basis.	MSCP Plan 5.8.2, Table 7-7; IA 11.0	Establishment of structure	Within 3 years of signing initial implementing agreement	Local jurisdictions and other take authorization holders

9.3 **Ballot Measure**

The participating jurisdictions and other take authorization holders will place and promote a ballot measure to finance the regional share of the MSCP and potentially other habitat conservation plans in San Diego County.

MSCP Plan 5.8.1, Table 7-7; IA 11.0 Ballot measure

Within 3 years of signing initial IA

Local jurisdictions and other take authorization holders

10.0 CONVERTING COVERED SPECIES TO COVERED SPECIES SUBJECT TO INCIDENTAL TAKE

The list of Covered Species Subject to Incidental Take will be augmented to include additional covered species as additional participating local jurisdictions and participating special entities enter into separate but coordinated agreements and/or if additional information becomes available concerning the population and distribution of such additional covered species and the protection afforded such species by the MSCP.

MSCP Plan Table 3-4b: IA 4.0, 23.2

Written notification from USFWS and CDFG

Approval of additional subarea plans

USFWS and CDFG

11.0 AMENDMENTS AND PRESERVE **BOUNDARY ADJUSTMENTS**

Amendments to subarea plans may occur according to the amendment process specified in IA 9.19, 23.1 subarea plans and/or their implementing agreements.

Adjustments to the MHPA and/or preserve boundaries can be made without the need to amend the MSCP Plan or subarea plan if the adjustment will result in the same or higher biological value of the preserve. Any modification should be reported to the entity responsible for the regional preserve system accounting and to adjacent jurisdictions. The MSCP Plan 5.4.2;

Project CEQA document; annual report; and MSCP status report

Upon proposal to amend subarea plan and/or adjust preserve boundaries; annual and every 3 years

Take authorization holder, with approval by USFWS and CDFG

take authorization holder is responsible for determining if any environmental documentation will be required as a result of the boundary adjustment.

12.0 ANNEXATIONS

Local jurisdictions shall amend their subarea plans to insure that any development of the annexed lands proceeds in accordance with the conservation goals of the MSCP and subarea plan. Amendment of the local jurisdiction's take authorization may also be required in certain instances involving an annexation of lands.

MSCP Plan 5.4.3, IA 9.20

Amendment to subarea plan and/or CEQA/NEPA document

Upon annexation of lands

Local jurisdiction

13.0 CONSERVATION BANKS

13.1 City Cornerstone Lands

The City of San Diego will contribute to the MHPA and manage approximately 10,400 acres of land owned by the City of San Diego Water Utilities Department, minus the exclusions identified for specific development and watershed management activities. The City of San Diego will grant conservation easements in phases.

City of San Diego IA 10.8E Cornerstone Lands Agreement Approval of Cornerstone Lands Agreement City of San Diego and USFWS and CDFG

13.2 Other

Proposed conservation banks should follow the official policy established by the California Resources Agency and the California Environmental Protection Agency and the supplemental policy issued by the USFWS and CDFG for banks in the NCCP area.

MSCP Plan 4.5; IA 9.13, 9.14 Conservation bank agreement

Signing of conservation bank agreement

USFWS and CDFG

14.0 OTHER PERMITTING PROCESSES

14.1 Section 7 Consultations

Any biological measures included under the terms and conditions of the Section 7 biological opinion shall, to the maximum extent appropriate, be consistent with the mitigation required by the local jurisdiction for the particular project or activity under the MSCP and subarea plan.

IA 9.8A, 13.1 Permit application

Permit application

Project applicant, USFWS, and CDFG

14.2 Wetlands Permits/SAMP Process

The federal policy of "no net loss" of wetland functions and values and the EPA Section 404(b)(1) guidelines shall constitute the full extent of mitigation measures directed specifically at the Covered Species Subject to Incidental Take required or recommended by the wildlife agencies.

IA 9.8A, 13.1, 13.2

Permit application

Permit application

Project applicant, USFWS,

and CDFG

14.3 Projects Not Subject to MSCP

Project applicants, including private property owners, regional public facility providers, and local special districts may apply for take authorizations from the USFWS and CDFG separate and apart from the MSCP. IA 9.10

Permit application

Permit application

Project applicant, USFWS, and CDFG

ATTACHMENT D AGENCY SUMMARY SCORECARD FOR TRACKING MSCP COVERED SPECIES COMPLIANCE

Covered Species	Location	Major Population	Jurisdiction (take authorizn holder)	Area-Specific Management Plans Prepared (date)	Population Monitored (date)	
San Diego thorn-mint*	Sycamore Canyon	yes	County	no	no	
San Diego thorn-mint*	Crestridge	no	County	in prep.(2000)	spg 1999	
San Diego thorn-mint*	Wolf Canyon	no	Chula Vista	no		
San Diego thorn-mint*	Poway	yes	Poway	no		
San Diego thorn-mint*	Lake Hodges	yes	County	no		
San Diego thorn-mint*	El Capitan	yes	County	no		
San Diego thorn-mint*	McGinty-Sequan	yes	County	no		
San Diego thorn-mint*	Asphalt Inc.	700				
San Diego thorn-mint*	Sky Mesa					
=	·	_	Comme			
San Diego thorn-mint*	Otay Lakes resort site		County	no		
Shaw's agave*	Torrey Pines SR	yes	City of SD	no		
Shaw's agave*	Border Field SP	yes	Imperial Beach	no		
San Diego ambrosia*	Mission Trails	ves	City of SD	no		
San Diego ambrosia*	Spring Canyon	yes	City of SD	no		
Aphanisma						
Del Mar manzanita						
Otay manzanita						
Coastal dunes milk vetch						
Encinitas baccharis*						
Nevin's barberry*						
Thread-leaved brodiaea*						
Orcutt's brodiaea						
Dense reed grass						
Dunn's mariposa lily*					ļ	
Slender-pod jewelflower						
Lakeside ceanothus*						
Wart-stemmed ceanothus						
Salt marsh bird's-beak						
Orcutt's bird's-beak						
Del Mar Mesa sand aster						
Tecate cypress						
Short-leaved dudleya*						
Variegated dudleya*						
Sticky dudleya						
Palmer's ericameria*						

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ATTACHMENT D AGENCY SUMMARY SCORECARD FOR TRACKING MSCP COVERED SPECIES COMPLIANCE

Covered Species	Location	Major Population	Jurisdiction (take authorizn holder)	Area-Specific Management Plans Prepared (date)	Population Monitored (date)
San Diego button-			,	. ,	
celery**					
Coast wallflower					
San Diego barrel cactus					
Otay tarplant*					
Heart-leaved pitcher sage					
Gander's pitcher sage*					
Nuttall's lotus					
Felt-leaved monardella					
Willowy monardella*					
San Diego goldenstar					
Prostrate navarretia**					
Dehesa bear-grass*					
Snake cholla*					
California Orcutt grass**					
Torrey pine					
San Diego mesa mint**					
Otay Mesa mint**					
Small-leaved rose					
San Miguel savory					
Gander's butterweed					
Narrow-leaved					
nightshade					
Parry's tetracoccus					
Thorne's hairstreak					+
butterfly					
Salt marsh skipper					
San Diego fairy					
shrimp**					
Riverside fairy shrimp**					
Arroyo southwestern					
toad		-			ļ
Red-legged frog					ļ — —
Southwestern pond turtle					
Orange-throated whiptail					
San Diego horned lizard					
California brown pelican					
Reddish egret					+

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ATTACHMENT D AGENCY SUMMARY SCORECARD FOR TRACKING MSCP COVERED SPECIES COMPLIANCE

Covered Species	Location	Major Population	Jurisdiction (take authorizn holder)	Area-Specific Management Plans Prepared (date)	Population Monitored (date)
White-faced ibis		<u> </u>	noidei)	Trepareu (uate)	(uate)
Canada goose					+
Bald eagle					+
Northern harrier					1
Cooper's hawk					
Swainson's hawk					
Ferruginous hawk					
Golden eagle					+
American peregrine					1
falcon Light-footed clapper rail					
Eight 100ted chapper rain					
Western snowy plover					
Mountain plover					
Long-billed curlew					
Elegant tern					
California least tern					
Burrowing owl					
Southwestern willow					
flycatcher					
Coastal cactus wren					
California gnatcatcher					
Western bluebird					
Least Bell's vireo					
Rufous-crowned sparrow					
Belding's Savannah					
sparrow					
Large-billed Savannah					
sparrow					
Tri-colored blackbird					
American badger					
Mountain lion					
Southern mule deer					

^{*} Narrow endemic

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^{**} Vernal pool species

	Veg Map	Baseline Species	MSCP		Biological				
Preserve Unit	(date,	Surveys	Mgmt	Maintenance	Management	Staffing	Enforcmt.	Funding	Biological
(Jurisdiction)	scale)	(date, type)	Plan	(type)	(type)	Onsite (#)		(amt/yr)	Monitoring (type)
(Carroarerry)	- CGuic)	(uuto, typo)		(iypo)	(iypo)	Unione (iii)	() ()	(411141)	memicining (1) po)
4S Ranch (County)									
BLM@San Vicente									
(BLM)									
Blue Sky Reserve									
(CDFG)									
(05:0)									
Boden Canyon (JPA)									
Border Field SP									
(State Parks)									
Boys and Girls Club									
(County)									
Carmel Mtn (City)									
Crest Canyon (Del									
Mar)									
Crestridge (CDFG)									
Del Mar Mesa (City)									
East of Marron									
Valley (CDF)									
Gooden Ranch									
(County)									
Hollenbeck Cyn									
(County)									
Lake Hodges									
cornerstone (City)									
Lakeside									
Archipelago (Cnty)									

	Veg Map	Baseline Species	MSCP		Biological				
Preserve Unit	(date,	Surveys	Mgmt	Maintenance	Management	Staffing	Enforcmt.	Funding	Biological
(Jurisdiction)	scale)	(date, type)	Plan	(type)	(type)	Onsite (#)		(amt/yr)	Monitoring (type)
(controlled)		(diate, type)	1 10111	(3)50)	(-) (-)		(300,110)	(
Marion Bear (City)									
, , ,									
Marron Valley (City)									
Misc. Canyons (City)									
Mission Bay/Famosa									
Slough (City)									
Mission Trails RP									
(City/County)									
Montana Mirador									
(City)									
North City West									
(City)									
O'Neal Canyon									
(County)									
Otay Lakes									
cornerstone (City)									
Otay Mountain &									
vicinity (BLM)									
Otay River Valley									
(City)									
Otay/Sweetwater									
NWR (USFWS)									
Otay/Sweetwater									
NWR (USFWS)									
Pacific Highlands									
Ranch (City)									
Penasquitos Cyn									
(City/County)									

	Veg Map	Baseline Species	MSCP		Biological				
Preserve Unit	(date,	Surveys	Mgmt	Maintenance	Management	Staffing	Enforcmt.	Funding	Biological
(Jurisdiction)	scale)	(date, type)	Plan	(type)	(type)	Onsite (#)	(yes/no)	(amt/yr)	Monitoring (type)
Poway Business Pk									
(Poway)									
Rancho Encantada									
(City)									
Rancho Jamul									
(CDFG)									
San Diego River									
(City)									
San Dieguito Lagoon									
(JPA, City))									
San Pasqual Valley									
(City)									
San Vicente									
cornerstone (City)									
Santa Fe Valley									
(County)									
Sloan Cyn (CDFG)									
South Bay NWR									
(USFWS)									
Spooner's Mesa									
(City)									
Spring Canyon (City)									
Sweetwater Marsh									
NWR (USFWS)									
Sycamore Cyn Pk									
(County)									
(County)									
Tecalote Cyn (City)									
roducto Oyri (Oity)	1								

	Man Man	Danalina Omasiaa	MCCD		Dielegiaal				
	Veg Map	Baseline Species	MSCP		Biological	0			5
Preserve Unit	(date,	Surveys	Mgmt	Maintenance	Management		Enforcmt.	Funding	Biological
(Jurisdiction)	scale)	(date, type)	Plan	(type)	(type)	Onsite (#)	(yes/no)	(amt/yr)	Monitoring (type)
Tijuana Estuary									
NWR (USFWS)									
Tijuana River Valley									
(County)									
Torrey Pines SR									
(State Parks)									
West Poway									
(Poway)									
Veg Map Indicate d	late the veg	etation communities	were ma	apped in the fiel	d and scale of n	napping.			
Baseline Species Su	irveys Inc	licate date and type	of speci	es surveys for th	ne site, e.g., cov	ered plants	and animals	s, gnatcatche	rs only, etc.
Management Plan	If a habitat	management plan h	as been	prepared pursu	ant to MSCP gu	iidelines, ind	dicate date.		
Maintenance If the	re is mainte	nance on the site, in	dicate ty	pe. Maintenan	ce includes: fen	cing, gates	public acce	ss control, tra	ail
maintenance, trash re	moval, acce	ess road maintenand	e.						
Biological Managem	ent If the	re is habitat or speci	es mana	agement onsite,	indicate type. E	Biological m	anagement i	ncludes: ren	noval of
invasive species, non	native preda	ntor control, species	manage	ment, habitat re	storation, fire m	anagement	, use of herb	icides and	
rodenticides, hydrolog	jical manage	ement, etc.							
Staffing Indicate nu	ımber of pe	rmanent staffing ons	ite. If st	affing is not per	manent onsite, i	indicate if th	ere are occa	asional or par	t-time staff
at the site and frequer	ncy of visits.								
Enforcement Indicate		•							
Funding If there are									
Biological Monitorin	g If there	is monitoring onsite	, indicate	e what species of	or habitats, and	type or met	nod of surve	ys (e.g., pres	sence/absence,
quantitative, pitfall arra	ays, etc.)								