CITY OF SAN DIEGO

GUIDELINES FOR CONDUCTING BIOLOGY SURVEYS

October, 1998
(Revised July, 2002)

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I. GOALS OF THE BIOLOGY SURVEY GUIDELINES

These guidelines are intended to prescribe the content of biology survey reports and will be used in the analysis and preparation of environmental documents. The Biological Survey Guidelines shall be used as part of the environmental review process to meet the requirements of the California Environmental Quality Act (CEQA), the Multiple Species Conservation Program (MSCP), and the City's Environmentally Sensitive Lands (ESL) Regulations.

The intent of the biology survey is to identify biological resources on the project site, determine impacts, and recommend suitable mitigation measures. Mitigation and monitoring requirements pursuant to the City's Biology Guidelines (May 2001) and CEQA shall ensure preservation of the native species and sensitive biological resources of San Diego.

II. PREPARER'S QUALIFICATIONS AND CERTIFICATIONS

Persons preparing or responsible for biological technical reports should have the following qualifications: formal educational background in appropriate areas of study to understand local floral and faunal relationships; sufficient local field experience in identification of flora or fauna, particularly rare, endangered, and threatened species with knowledge of their local and range-wide population status and trends, experience in habitat evaluation and in quantifying environmental impacts, and familiarity with suitable mitigation methods including revegetation design and implementation. With regards to focused surveys, the Principal or other member of the survey team must meet regulatory agency protocol qualifications and posses or obtain appropriate permits, prior to conducting the survey, where necessary.

III. TYPES OF SURVEY REPORTS

No two project sites are identical in terms of the biological resources present, the degree of disturbance, the proximity to developed areas, and the type of project proposed. For these reasons, three types of biological surveys are suggested. These types are the "General", the "Letter" and the "Focused" survey. All conditions of the City's Biology Guidelines (May 2001), (herein after called the Biology Guidelines) must be met. For example, Table 1 of the Biology Guidelines will aid in determining the need for focused surveys. In most cases a General Survey Report will be required or a previous basic report may need to be updated. Letter Survey Reports may (with complete flora and fauna lists) be acceptable for a small disturbed site or where previous reports are applicable. If sensitive species (e.g., listed threatened or endangered species, candidate species, etc.) are on the site or are likely to be present, Focused Survey Reports will be required. Focused Survey Reports shall follow any required state or federal agency protocols where appropriate. Biologists conducting surveys are responsible for contacting federal and state and local agencies, and acquiring

protocol survey guidelines.

NOTES:

1. Protocol surveys shall be performed by a biologist who possesses current survey permit(s) for certain species, as required by state or federal regulatory agencies, or by the City of San Diego.

2. Biology Survey Reports for emergency public works projects or code violation enforcement cases shall include relevant information as appropriate. In other words, "before-impact" surveys may not be possible, but prior conditions shall be reconstructed to the greatest extent feasible.

A. GENERAL SURVEY REPORT

Projects involving or permitting modification of land in a natural or near natural state, and all areas containing sensitive habitats or sensitive species shall be investigated as follows:

1. Time in the field shall be proportional to the size of the project site and biological heterogeneity and the significance of sensitive habitats present.

2. Completeness of the biological inventory will be based on a "diminishing returns" criterion. In other words, the level of effort should be based on significance of resources present.

3. Data collected should be quantified where appropriate to indicate the extent of resources on the project site.

4. It is highly recommended that field surveys be performed when the majority of critical resources can be best evaluated. Some survey times are mandated per protocol established by state and federal agencies for certain species (e.g. Quino checkerspot butterfly). See Attachment I.

5. The most recent generally accepted nomenclature shall be used to indicate plant and animal names to avoid confusion (see Attachment IV. or more recent literature).

6. Surveys shall include information on the presence or absence of Narrow Endemic Species (Page 3 of the Biology Guidelines) likely to be present. If not present, a statement explaining the theoretical physical/biological basis for the lack of expected species shall be included.

7. Conditions of MSCP coverage shall be addressed for covered species (listed in Appendix A "Species Evaluated for Coverage Under the MSCP" of the MSCP Subarea Plan) found on or adjacent to the site.

8. Vernal Pools: If this habitat is suspected, a focused survey shall be required to determine presence/absence of vernal pools. Focused surveys for vernal pools shall occur during the winter months when the pools are typically inundated. Historical photos and additional research may be necessary on a case-by-case basis. The entire vernal pool watershed shall be surveyed and mapped. (See Attachment II, B-3). Fairy shrimp surveys will be required per U.S. Fish & Wildlife Service Vernal Pool Guidelines.

9. Other procedures, as listed below in C., Focused Survey Report and in the Biology Guidelines.

B. LETTER SURVEY REPORT

A Letter Survey Report may be acceptable (at the discretion of the City Manager or his/her designee) for projects with:

1. Recent adequate General Survey Report.

2. Projects involving minimal habitat alteration.

3. Highly disturbed areas, including but not limited to, agricultural areas presently or recently under cultivation. Additional information may be required based upon the results of the Letter Survey Report.

4. Very small sites, especially when they are isolated by development or when there are only temporary impacts.

C. FOCUSED SURVEY REPORT

1. Focused surveys shall be performed in conformance with Table 1 of the Biology Guidelines (included herein). Surveys should be done at the appropriate time of year to determine presence/absence of sensitive species. If surveys are not done at the appropriate time of year, and the potential for occurrence is moderate to high (based on historical knowledge, site records, determination by the biologist, etc.), then it will be concluded that their presence exists on the property. The emphasis of the survey shall be directed at a search for rare, endangered, threatened, or otherwise sensitive resources. See Section H, page 10, for vernal

pool survey requirements.

2. When appropriate, the methodology for the focused survey(s) and report(s) shall be obtained from the appropriate regulating agencies (i.e. protocols for state listed species would be obtained from the California Department of Fish and Game and federal species would be obtained from U.S. Fish and Wildlife Service). Depending on the
species, one or more focused surveys may be required. In some instances, protocol survey guidelines may not be available. It is the responsibility of the consulting biologist to assure all required protocols are followed. See Attachment I for examples of typical protocol survey requirements.

3. A statement explaining the theoretical physical/biological basis for any lack of expected species shall be included.

IV. SUBMISSION REQUIREMENTS AND REPORTING FORM, AND CONTENT

The survey reports shall contain the elements listed below and be presented in the following format. For the Letter Survey Reports, the format can be presented in correspondence form, but pertinent items such as brief methodology, species list, vegetation map, impact analysis, and mitigation measures shall be addressed.

A minimum of three draft and final reports/letters shall be submitted to Development Services for distribution. The total number of final copies will vary depending on the extent of distribution associated with CEQA public review.

A. TITLE PAGE

1. Report title (type of study, project name, city, state)
2. LDR (Land Development Review Division) Project number(s).
3. Party for whom report prepared (e.g. , contracting or responsible party such as agency, developer or lead agency under CEQA)
4. Party preparing report (example: Biologist or consulting firm preparing report-name, address, telephone number)
5. Investigators (include titles)
6. Date (month, year)
7. Signature block of the principal investigators.

B. TABLE OF CONTENTS

1. Major report sections, subheadings, and appendices with page numbers.
2. Figures/graphics/maps with page numbers.
3. Tables with page numbers.

Table 1. Summary of Biological Survey Requirements. (Page 11 of Biology Guidelines)

RESOURCE	SURVEY REQUIREMENTS	
	Inside MHPA	Outside MHPA
Vegetation		
• Uplands	Confirm/Revise MSCP mapping.	Confirm/Revise MSCP mapping.
• Wetlands	Delineate wetlands per City definition.	Delineate wetlands per City definition.
Covered spp[1]		
• Listed spp (e.g. Ca. gnatcatcher)	Focused survey per protocol.	Per MSCP conditions of coverage[2].
• Narrow endemic (e.g. S.D. Thornmint)	Focused survey per protocol.	Focused survey per protocol.
• Other (e.g. S.D. horned lizard)	Survey as necessary to comply with sitting requirements as outlined in Section II.A.2 of these Guidelines.	Per MSCP conditions of coverage[2].
Non-Covered spp[1]		
• Listed spp (e.g. pacific pocket mouse)	Focused survey per protocol.	Focused survey per protocol.
• "Other Sensitive Species[3]" (e.g. little mouse tails)	Case-by-case determination depending on the spp.	Case-by-case determination depending on the spp.

1 Based upon the MSCP mapping, site specific surveys, the NDDB records, previous EIRs and biological surveys, and/or discussion with the wildlife agencies, the potential for listed species, narrow endemics and CEQA sensitive species will be determined. Where there is a reasonable likelihood that one of these species exists, surveys will follow the above requirements.

2 Survey as necessary to conform with Appendix A of the City of San Diego MSCP Subarea Plan (March 1997).

3 "Other Sensitive Species"Those other species that are not listed by federal and/or state agencies and/or not covered by the MSCP and to which any impacts may be considered significant under CEQA.

C. MANAGEMENT SUMMARY/ABSTRACT

Briefly state the purpose, results of the survey, sensitive species present, and the impacts anticipated with any feasible measures to reduce or eliminate likely impacts. State whether or not the project site is entirely within, partially within, adjacent to, or outside the Multi-Habitat Planning Area (MHPA) of the City's MSCP.

D. INTRODUCTION

1. Purpose of study (relevant federal, state, and local laws). If applicable, reference any previous studies.
2. Location map of the project shown on 800-foot scale City Engineering base map with survey boundaries.
3. Project description, all areas of impacts, and construction staging areas.
4. Project schedule, including phasing and duration.

E. METHODS AND SURVEY LIMITATIONS

Discuss survey methodology including rationale for the use of the given survey method. Include dates, times, personnel (with qualifications), weather conditions during the survey; limitations for the survey (e.g. portions of the property indirectly surveyed or seasonal variability); and a map showing the location of transects, sample points and the areas actually visited, as appropriate. If surveys for state or federally-listed, sensitive or MSCP-covered species are completed more than 24 months before the application is submitted, then the surveys should be updated, as appropriate, to accurately reflect resources on site. Surveys should be done at the appropriate time of year to detect presence/absence of sensitive species. If surveys are not done at the appropriate time of year, and the potential for occurrence is moderate to high (based on historical knowledge, site records, determination by the biologist, etc.), then it will be concluded that their presence exists on the property.

NOTE: Protocol Survey requirements/protocol guidelines are subject to change by the regulatory agencies and methods must be valid at the time of the survey.

V. SURVEY RESULTS

A. Physical Characteristics

Briefly describe the physical characteristics of the property from a biological perspective; include existing land use, slope/aspect (exposure), topographic characteristics, water resources, soil and rock types, rock out-

crops, and adjacent land uses.

Include a brief discussion of habitats present. Discuss any wetlands, water bodies, watersheds or stream beds on the project site which would be modified and subject to the California Fish and Game (CDFG) Code, section 1600-1603, the U.S. Army Corps of Engineers (ACOE) Section 404 of the Clean Water Act, or the City's Environmentally Sensitive Lands regulations. Describe existing conditions, sensitive lands per MSCP, and any critical habitats of endangered species as determined by the wildlife agencies. A discussion of wetland jurisdiction/definition for the ACOE, CDFG, and the City of San Diego shall be required, including a discussion of existing and proposed wetland buffers as accepted by the regulatory agencies.

B. Biological Resources

1. Botanical Resources-Flora

Describe the existing vegetation communities as well as disturbed areas, and list the dominant (indicator) species of each vegetation community type. Identify, if possible, the nature of any disturbance, e.g., grading, fire, etc. Each vegetation community should be categorized into either wetland(s) and/or type of upland(s) as shown on Tables 2 & 3, pages 14 and 16 of the Biology Guidelines). Include a vegetation map (at least one copy submitted must be on a project plan map) overlain by the development proposal. The amount of each vegetation community or habitat type present on the property should be indicated in acres, hectares, or square feet, as appropriate. Quantify transect data when appropriate. Indicate locations of sensitive plants as points or polygons as appropriate. Include a complete listing (in an appendix) of all plant species observed, including scientific and common names. Indicate in which community or habitat each species was found and which species are not native to the area.

2. Zoological Resources - Fauna

Provide a list of all vertebrate species observed or detected in an appendix. Both common and scientific names should be used. "Regional Lists" are not acceptable. Listing of particular expected species may be appropriate but should be justified (migratory, estivating, nocturnal species, etc.).

Include the method used to identify the species (e.g., direct sighting, scat, or calls) in the text or lists. Indicate the number

and location of individuals detected or estimated. Note indications of breeding activity (i.e., nests, dens) on the property. Occurrence of the species should be related to the vegetative community or wildlife habitat types on the property when possible. Relative amounts of each wildlife habitat type should be indicated (may be same as plant communities).

Discuss invertebrates in special situations (i.e., rare, threatened or endangered butterfly species, fairy shrimp, unusual species concentrations, or pest species).

If a species is reported which is considered rare or unusual in occurrence in the region, verify its identification with a photographed or a written species diagnostic description in the appendix or use the form provided as Attachment III.

Indicate locations of (on at least one copy of a project map) and discuss areas exhibiting concentrations or a higher diversity of wildlife or wildlife signs, and discuss possible reasons for these activities (e.g. amphibian breeding areas, deer feeding, raptor hunting areas, etc.). Such areas may reflect physical attributes of the property such as dunes, rock out-crops, streams, ponds, stands of trees, etc. which should be mapped.

C. Rare, Threatened, Endangered, Endemic and/or Sensitive Species or MSCP-Covered Species

The report shall contain a separate discussion of any sensitive species occurring on or using areas directly or indirectly affected by the project that are recognized by a governmental agency, conservation or scientific group, or the investigator(s) as being depleted, potentially depleted, declining, rare, critical, endemic, endangered, or threatened, and/or any species nominated or on a state or federal rare, endangered or threatened species list.

The survey report shall contain a theoretical discussion and/or list of rare, endangered, and threatened species and habitats likely to occur on site or nearby. Species discussed shall be based on sources listed in the paragraph above or more recent data. Discuss the suitability of the habitat on the property for each such species and the probability of the property being utilized by them, particularly if the survey was done when the species would not be identifiable. Discuss the known growth requirements of said species, including required soil types, exposure, elevation, availability of water, etc., as well as when the species is identifiable. Confirm the identification of rare, endemic, endangered, or threatened species, by a species-diagnostic photograph or by a written

description. A California Natural Diversity Data Base "California Native Species Field Survey Form" (Attachment V) should be completed where a species has not been reported before, or as deemed appropriate.

D. Maps

All maps submitted with the biology survey report must be of sufficient scale to show the location of the identified resources and their relationship to the project (See Attachment II). Elevations/topography, north direction, and scale must be indicated on all maps. The map should identify biological resources (plants and animals) present on site, including any portions of the site identified as part of or adjacent to the MSCP's MHPA and any other species not listed by federal and/or state agencies and/or not covered by the MSCP and to which any impacts may be considered significant under CEQA. In addition, at least one copy of a full scale project map (Tentative Map, Tentative Parcel map, Site Plan, etc.) must be submitted, showing the resources identified and project characteristics including lot lines, roads, grading, open space easements, off-site improvements etc. To summarize, the following maps are required:

1. A copy of the project map or site plan, etc. with sensitive species/habitats plotted thereon (see interactive mapping feature on the following web site: www.sangis.org.; page 12, MSCP.);

2. A copy of the project map or site plan with the MHPA boundaries shown thereon; and

3. A copy of the project map or site plan showing project impacts in relationship to biological resources.

NOTE: All information can be put on one map if it can be clearly depicted. If information is depicted on separate maps, all maps must be presented at the same scale.

VI. PROJECT IMPACT ANALYSIS

Identify all potential impacts of the project (both on-site and off-site impacts such as roads, staging areas, water, and sewer lines) to sensitive biological resources and to other significant biological resources as determined by the CEQA process (i.e. sensitive, non-covered species). The report should evaluate the significance, and quantify/qualify impacts. Impact assessments need to include analysis of direct impacts (e.g. grading, Zone I brush management), indirect (e.g. lighting, noise, edge effects, sediment loading, etc.) and cumulative impacts, if appropriate. The City of San Diego's, Significance Determination Guidelines (Biological Resources, page 11, July 2002 or as amended) under the California

Environmental Quality Act (City of San Diego, 1994), should be used as a reference. The proposed area of impact to each resource by the project must be presented in both a graphic and tabular form. In addition, this section shall contain a discussion of the following:

A. An evaluation of the physical or biological features used by flora and fauna on the property and their relative importance.

B. An evaluation of the physical and biological relationship of the property to surrounding or contiguous habitats and relationships to the MHPA. Discuss, if the proposed project will disrupt the integrity or continuity of an important habitat, (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland, etc.).

C. Indicate the percentage (or acreage) of plant communities and habitats to be removed or modified in tabular form by the proposed development or reasonably anticipated to be removed. Discuss likely subsequent impacts for phased and staged development, even if they are not a part of the project.

D. A determination of significance must be done per the City of San Diego's, Significance Determination Guidelines (Biological Resources, Page 11, July 2002 or as amended);

E. Quantify the anticipated loss of sensitive plant and animal habitat, populations, or individuals. Define where possible, the local and regional significance of this loss.

F. Discuss and evaluate indirect impacts anticipated on and off site from project implementation.

G. Discuss the following consistency issues with the MSCP (Discuss how the project will provide for the long-term viability of wildlife and sensitive habitats):

1. Whether or not the project lies within or adjacent to the MHPA (see interactive mapping feature on the following web site: www.sangis.org; Page 12, MSCP).

2. Describe any relevant MHPA Guidelines (map notes).

3. Assess compliance with the planning policies and guidelines (is the project an allowed use within the MHPA ?).

4. Address, if applicable, the land use adjacency guidelines (as shown on Page 48, the MSCP Subarea Plan).

5 . Identify any appropriate management issues per Section 1.5, MSCP Subarea Plan.

6. Assess whether any special conditions of coverage apply to the species affected by the project (per Covered Species list, Appendix A, MSCP Subarea Plan).

7. Discuss any boundary adjustments to the MHPA. If proposed, evaluate for functional equivalency per Sections 1.1.1 and 5.4.2 of the MSCP Subarea Plan.

8. Discuss whether or not the project is located on the least sensitive portion of the site (see Page 5, Biology Guidelines).

H. Vernal Pools (see also Attachment II)

A focused survey evaluating the quantity and quality of vernal pool(s) and watershed must be provided. Substantial evidence must be presented that demonstrates: 1) presence/absence of the pools; 2) what measures are being taken to avoid the pools and 3) if unavoidable, provide substantiation as to why the impacts can not be avoided and what measures are being used to minimize impacts (see Page 4 of the Biology Guidelines).

I. Cumulative Impacts

Projects that conform to the MSCP would not result in significant cumulative impacts. However, a rare circumstance could occur where impacts to a particular species not covered by the MSCP (e.g. little mousetails, salt marsh daisy) may still result in a cumulative/significant impact. In this case, the report would identify those species and describe why a cumulative impact still exists regardless of the habitat level protection provided by the MSCP.

VII. MITIGATION AND MONITORING REQUIREMENTS

This program will consist of three elements: 1) Mitigation Element, 2) Protection and Notice Element, and 3) Management Element. Refer to page 12 of the Biology Guidelines, May 2001. For instances where revegetation or restoration is proposed, a revegetation/restoration plan shall be prepared in accordance with Attachment III (See also Attachment B of the Biology Guidelines).

NOTE: 1. Creation of vernal pools in historically non-vernal pool areas is not acceptable.

2. All wetland impacts must have an identified wetlands mitigation site and an accompanying conceptual revegetation plan.

3. One component of the wetland mitigation effort (at a minimum 1:1 ratio) must consist of wetland creation or wetland restoration. The remaining balance of the mitigation may occur as wetland enhancement.

VIII. ACKNOWLEDGMENTS AND BIBLIOGRAPHY

A. Acknowledgments

The following persons assisted in the preparation of these survey guidelines:

Holly Cheong, Associate Planner
Cathy Cibit, Project Officer I
Keith Greer, Program Manager
Anne Jarque, Associate Planner
Matt Kreplin, Intern
Holly Smit, Associate Planner
Chris Teng, Assistant Planner
Jeff Winters-Thomas, Biologist III

B. Bibliographical References

The following documents were used in the preparation of these Survey Guidelines:

1. "Biology Guidelines" refers to the City of San Diego, "San Diego Municipal Code - Land Development Manual/Land Development Code Update - Biology Guidelines"; otherwise known as the "Land Development Code, May 19, 2001.

2. "MSCP Subarea Plan" refers to the "City of San Diego, Multiple Species Conservation Program (MSCP) Subarea Plan", March 1997.

3. Mitigation Monitoring and Reporting Program (MMRP) Guidelines, City of San Diego, as amended.

4. Significance Determination Guidelines - Biological Resources, Page 11, City of San Diego, November July 2002, as amended.

IX. DEFINITIONS - Alphabetical Order

ACOE- Army Corps Of Engineers
CDFG- California Department of Fish and Game
CEQA- California Environmental Quality Act
EIR- Environmental Impact Report
ESL- Environmentally Sensitive Lands Regulations, Land Development Code
GIS - Geographic Information System
LDR- Land Development Review
MMRP- Mitigation Monitoring Reporting Program
MHPA - Mulitiple Habitat Planning Area (90% Preserve Area of the MSCP)
MSCP- Multiple Species Conservation Program
NAD- North American Datum
Regulating Agencies: Those governmental agencies with discretionary power to issue permits. i.e., U.S. Army Corps of Engineers; California Department of Fish and Game; City of San Diego, Development Services Department).
RUIS- Regional Urban Information System - now known as SANGIS - San Diego GIS
SANDAG- San Diego Association of Governments
SANGIS- San Diego Geographic Information System
USFW- United States Fish & Wildlife Service
www.sangis.org. - City of San Diego's web site which includes the MHPA mapping.

ATTACHMENT I

SAMPLE PROTOCOL SURVEY REQUIREMENTS

The following sample protocol survey requirements are representative of the typical sensitive species found within the City of San Diego. These focused survey protocols are consistent with the current regulations of the U.S. Fish & Wildlife Service (USFWS) and the California Department of Fish & Game (CDFG). **Please note that these requirements are subject to change as the status of a given species changes, as new information is discovered for a given species, and as the jurisdictions of the USFWS and CDFG dictate through their individual regulations.** All surveys must be conducted by individuals possessing appropriate permits through the USFWS and CDFG.

NOTE: Extreme weather conditions can cause variations in the breeding season of individual species. In such instances, additional coordination with the USFWS and CDFG may be required.

1. Coastal California Gnatcatcher (*Polioptila californica californica*)
   - Breeding Season: March 1 to August 15
   - Minimum Number of Surveys Required: 3
   - Minimum Number of Days Between Surveys: 7

2. Least Bell's Vireo (*Vireo bellii pusillus*)
   - Breeding Season: March 15 to September 15
   - Minimum Number of Surveys Required: 8
   - Minimum Number of Days Between Surveys: 10

3. Southwestern Willow Flycatcher (*Empidonax traillii extimus*)
   - Breeding Season: May 1 to September 1
   - Minimum Number of Surveys Required: 5
   - Minimum Number of Days Between Surveys: 5

   One survey must occur between May 15 and May 31. One survey must occur between June 1 and June 21. Three surveys must occur between June 22 and July 17.

4. Southwestern Arroyo Toad (*Bufo microscaphus californicus*)
   - Breeding Season: March 15 to July 1
   - Minimum Number of Surveys Required: 6
   - Minimum Number of Days Between Surveys: 7

5. Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Breeding/Flight Season:	Generally late February to early March
Minimum Number of Surveys Required:	5
Minimum Number of Days Between Surveys:	7

See also Staff Memo dated 22 February 1999 regarding Quino survey areas.

6. Fairy Shrimp (Branchiopods)

Minimum Number of Surveys Required: 2 full wet season surveys within a five-year period; or two consecutive seasons of one full wet season survey and one dry season survey (or vice-versa). Wet Season Surveys - Once inundated, pools/swales shall be adequately sampled once every two weeks, beginning no later than two weeks after their initial inundation and continuing until they are no longer inundated, or until they have experienced 120 days of continuous inundation. In cases where the pools/swales dry and then refill in the same wet season, sampling shall be reinitiated within eight days of refilling every time they meet the 3 cm of standing water criteria and shall continue until they have experienced 120 days of continuous inundation, or until they are no longer inundated.

7. Burrowing Owl (*Speotyto cunicularia*)†

Breeding Season:	February 1 to August 31‡
Minimum Number of Surveys Required:	4
Minimum Number of Days Between Surveys:	1 (24 hours)

† Survey protocol for this species is recommended by the California Burrowing Owl Consortium (*Burrowing Owl Survey Protocol and Mitigation Guidelines*, 1993) and is being reviewed by CDFG for formal adoption.

‡ Surveys may also be conducted outside of the breeding season for winter residents (non-breeding owls). Positive results (i.e., sightings) outside of the breeding season would be adequate to determine presence, but may be inadequate for mitigation planning because the number of owls and their distribution pattern may change between winter and nesting seasons.

ATTACHMENT II

MAP SUBMISSIONS & METHODOLOGY

I. Vegetation Community Subassociations

The mapping of vegetation should be based on the R.F. Holland system of natural communities as described in Preliminary Descriptions of the Terrestrial Natural Communities of California, California Department of Fish and Game, Non-Game Heritage Program, Sacramento, 1986 [and as modified for San Diego County (SANDAG 1992).] This system will provide the names and descriptions of the basic plant community associations. These documents are available in the office of the Environmental Analysis Section, Land Development Review Division, Development Services, City of San Diego. If additional mapping categories are used, a cross-reference table should be provided to clearly show how these "new" categories fit into the Holland system. In most cases, an aerial photograph at 1"=200" scale should be used to aid in the delineation of vegetation boundaries.

Where applicable to enhance the clarity of field data, subassociations should be mapped. For example, where a coastal sage scrub community is dominated by *Adolphia californica* rather than the more typical coastal sagebrush, the community should be identified as *Adolphia californica*-dominated coastal sage scrub. The study report should describe the subassociations in terms of the dominant elements and distinguishing characteristics.

All vegetation should be considered potential habitat whether it is disturbed or not, and/or if it supports a cover of approximately 30% of non-ruderal vegetation. This is applicable to fallow agricultural fields too. (No time frame is necessary as long as at least 30% cover is demonstrated). However, other factors may be present to preclude viable habitat..see below.

The use of the modifier "disturbed" should be limited to human-induced disturbance such as agriculture, prior grading activities, or off-road vehicle use. The probable cause of the disturbance should be noted. The modifier is not applicable to burned areas. Canopy cover varies by vegetation type. Therefore the percent canopy cover which represents a disturbed condition will vary according to vegetation type. The use of the term "disturbed" is within the discretion of the principal investigator, biologist, and/or City staff, and should be applied to provide a true and accurate representation of field conditions.

A. Problem Mapping Areas:

The following descriptions are given as guidelines for distinguishing difficult habitats in the field. If a habitat fits one of the descriptions below, but there is scientific information to classify the habitat otherwise, please submit that information in the biology report.

1. Non-Native Annual Grasslands vs. Other Disturbed Areas (Ruderal, Agricultural/Fallow):

Non-native annual grasslands (NNGL) contain annual grass species (Poaceae family) including, but not limited to, bromes (*Bromus* spp.), wild oat (*Avena* spp.), ryegrass (*Lolium* spp.), and fescues (*Vulpia* spp.). Typically, NNGL includes at least 50% cover of the entire herbaceous layer attributable to annual non-native grass species, although other plant species (native or non-native) may be intermixed. Other common plant species found in NNGL include filaree (*Erodium* spp.), California poppy (*Eschscholzia californica*), tecolote (*Centaurea melitensis*), mustards (*Brassica* spp.), artichoke thistle (*Cynara cardunculus*), sweet fennel *(Foeniculum vulgare*) and others.

Other Disturbed Areas include lands commonly defined as Ruderal Habitat or Agricultural/ Fallow. Ruderal habitat typically develops on sites with heavily compacted soils following intense levels of disturbance such as grading. Agricultural/fallow lands include areas of active agricultural cultivation (e.g., nurseries, orchards, field crops) and fallow areas which have been disturbed in the recent past by cultivation or agricultural activity. These types of disturbed areas should not be confused with areas that are degraded, yet still retain sufficient vegetation composition and structure to be considered a native vegetation community (e.g., "disturbed" coastal sage scrub does not meet the definition of disturbed under this definition). Disturbed areas are usually associated with prior development (i.e., previous grading) or agricultural use. These areas can consist of bare ground, or when vegetated, are dominated by at least 50% cover of invasive broad-leaved non-native plant species including, but are not limited to, horseweed (*Conyza* spp.), garland chrysanthemum (*Chrysanthemum coronarium*), pineapple-weed (*Chamomilla suaveolens*), sow-thistle (*Sonchus* spp.), Russian thistle (*Salsola tragus*), mustards, knotweed (*Polygonum* spp.), burclover (*Medicago polymorpha*) fennel and others. Minor amounts of other species including non-native annual grasses can also be present.

To distinguish between NNGL and other disturbed areas, the relative percent cover of the herbaceous species should be used as a diagnostic tool. Within the area in question, the percent cover and relative percent cover of all herbaceous species should be assessed. The cumulative total of each species should be determined and ranked in descending order of abundance (see example below). The vegetation community should be determined based upon the total cumulative relative percent cover of non-native grasses (Poaceae family). If native habitats have been ruled out and if the majority (50% or greater) of the observed species are introduced members of the Poaceae family, then the area should be characterized as non-native annual grassland. Otherwise, consideration should be given to identified types of disturbed areas.

Vegetative cover is **usually** determined by visual estimate. For example, if three out of four dominant plant species observed are non-native annual grasses, the

area in question should be considered a non-native annual grassland.

In more controversial cases, vegetative cover should be determined by standard vegetative sampling protocol such as the line transect or point intercept transect methods, as shown by the following example:

Example 1: (Point Intercept Transect; Site determined to be NNGL)

Species	Absolute % Cover	Relative % Cover
Avena barbata (P)	30	19.4
Bromus hordeaceus (P)	30	19.4
Lolium perenne (P)	20	12.9
Brassica nigra	25	16.1
Chrysanthemum sp.	40	25.8
Salsola tragus	10	(6.4) ◊
Bare Ground	20	◆
Total	175%	100%

Total Relative % Cover of Dominant Poaceae Species (P): 51.7%

Total Relative % Cover of Other Dominant Herbaceous Spp.: 41.9%

(P) = Species within Poaceae (grass) family.

◊ For pragmatic purposes, dominant species (those that consist of greater than 20% herbaceous percent cover) should be used to determine the classification of an area. Therefore, in the above example *Salsola tragus* should not be considered when calculating the relative percent cover.

◆ Re-estimate of % cover on-site eliminating bare ground. Sites that contain more than 75% bare ground may be categorized as disturbed if there is evidence of historic soil disturbance (e.g., grading, agriculture, disking, compaction). This does not include naturally occurring open areas such as natural outcroppings, cryptogrammic crusts, vernal pools, ephemeral areas, etc.

2. Southern Maritime Chaparral vs. Southern Mixed Chaparral:

Distinguishing between Southern Maritime and Southern Mixed Chaparral can be difficult, especially in areas where the habitat may be transitional between the two. Please keep in mind when identifying these habitats, especially on smaller parcels, that it may be necessary to assess the adjacent, associated habitats, not just what occurs on site. If access to adjacent areas cannot be obtained, any data available such as historic records or aerial photos, should be used in making your determination.

Southern Maritime Chaparral is a rare vegetation community associated with the fog belt along the coastal areas and could extend inland to areas such as, but not limited to, Carlsbad, El Camino Real, and Palomar Road. The following characteristics and plant species are considered indicators of Southern Maritime Chaparral within the City of San Diego: occurrence on sandstone soils; occurrence within the coastal fog belt; Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), wart-stemmed ceanothus (*Ceanothus verrucosus*), Orcutt's spineflower (*Chorizanthe orcuttiana*), sea-dahlia (*Coreopsis maritima*), California aster (*Lessingia filaginifolia* var. *filaginifolia*), summer holly (*Comarostahylis diversifolia*), short-leaved dudleya (*Dudleya blochmaniae* ssp. *brevifolia)*, Torrey pine (*Pinus torreyana*), Nuttall's scrub oak (*Quercus dumosa*),

and Encinitas baccharis (*Baccharis vanessae*). The above plant species do not need to be dominant, only present, to be considered as an indicator of Southern Maritime Chaparral.

Southern Mixed Chaparral is a more common inland vegetation community, typically associated with drier, more drought-tolerant plant species. Typical plant species include chamise (*Adenostoma fasciculatum*), ceanothus (*Ceanothus* spp.), manzanita species excluding Del Mar manzanita (*Arctostaphylos* spp.or *Xylococcus bicolor*), and scrub oak (*Quercus berberififolia* or *Quercus dumosa*). If any single species dominates more than 50% of the cover, then the habitat is not a mixed habitat and should be designated according to that dominant species present (i.e. chamise chaparral).

3. Vernal Pools vs. Road Ruts:

Vernal Pools are seasonally flooded depressions that support a distinctive living community which is adapted to extreme variability in hydrologic conditions (seasonally very dry and very wet conditions). In the City of San Diego, vernal pools extend from Otay Mesa along the border, and in the Penasquitos and Rancho Bernardo areas. Other areas in the County of San Diego include Ramona, Proctor Valley, and Marron Valley. Vernal pools are usually associated with mima-mounds, occurring on mesas, especially where the hardpan or bedrock is underlain by clay soils (Zedler, 1987). Due to these soil conditions, vernal pools hold water after rain storms.

Under U.S. Army Corps regulations, for a seasonally flooded depression to be considered a vernal pool, it must have at least one vernal pool indicator species. The City of San Diego will consider similar factors. Depressions which are man-made, such as tire tracks or road ruts, may still be considered vernal pools if they contain at least one indicator plant species. A list of these indicator species has been compiled by the U.S. Army Corps of Engineers, (Special Public Notice, Regional General Conditions to the Nationwide Permits, Nov. 25, 1997), and this list should be used as a guideline to distinguish vernal pools from other seasonal depressions. Many of these species are endemic to vernal pools and are covered by the MSCP and/or are listed by federal and/or state agencies.

Road ruts and other seasonal depressions which are not vernal pools may contain wildlife associated with vernal pools, such as fairy shrimp, but will not contain vernal pool **plant** indicator species. Seasonal depressions not containing indicator plant species are usually not considered vernal pools by the City of San Diego. Careful consideration should be given to road ruts or other seasonal depressions adjacent to vernal pool complexes. These depressions are likely to contain vernal pool **plant** indicator species and should be examined throughly (i.e. multiple surveys) before they are dismissed as not being vernal pools.

II. Biological Resource Map Submittal Requirements

Biological resource maps must have the following format features, consistent with the following:

1. For projects with accompanying tentative subdivision maps or small projects (single-family dwellings, on lots less than 1.0 acre in size) :

   A. A 1" = 200' scale (minimum) of the overall project on a site plan.
   B. Topographic maps accurate at a 1"=200' scale (minimum), and/or use ortho-topographic photos as the base.

   C. One map on a non-distorting medium such as mylar should be used (but is not required) and submitted rolled, not folded.

   D. Four blueline copies should be submitted folded to 8 ½" X 11" size. A reduced version of c. to fit to 8 1/2" X 11" or 11 1/2" X 17 size " and incorporated into the Biology Report is required.

2. For projects without accompanying tentative subdivision maps:

   A. A 1" = 400' scale (minimum) map may be used with prior approval by Development Services.

   B. Same as c - d. above.

The minimum mapping unit should be based on the project scale and type of vegetation being mapped. However, splits of vegetation community subassociations, as described above, should be made if they are accurately labeled and described. The maps should contain all the necessary biological information on the same sheet, as long as it is clearly readable. If there is too much information to make a single legible map, mylar or acetate overlays may be used. Maps should be dated and at the original scale (not photo-reproduced).

III. Vernal Pool Requirements:

Show all vernal pools on the full scale biological resource map. In addition, provide another map of appropriate scale (such as a minimum of 1"=40 feet), that depicts the limits and/or boundaries of the basins and watersheds. This map must be delineated using standard survey techniques or GPS. Identification of the presence/ absence of vernal pool plant and animal species, shall be done, where appropriate, utilizing the U. S. Fish and Wildlife Service's Vernal Pool Guidelines. Techniques include, but are not limited to, cyst sampling in dry pools, presence/absence of mima-mound topography, and /or historical indicators.

IV. Optional Maps (SANGIS/digitally-compatible submittals):

If the digital information is available for the project, a 3 ½ " disk with the information in ARC/info-compatible format should be provided. Until SANGIS standards have been agreed upon for digital submittal of information, the hard copy mapping is requested in addition to the computerized data. When topography becomes available on the SANGIS system, standard base maps will be available, and required, for use in mapping areas within the City. The coordinate system used by the City is the California State Plane Coordinate System NAD 83; all information submitted must be consistent with this coordinate system. At least four registration points should be identified on each sheet or layer of information, compatible with NAD 83. Digital files provided should be clean, error-free and final versions.

ATTACHMENT III

GENERAL OUTLINE FOR
REVEGETATION/RESTORATION PLANS

The following outline represents an update to Attachment B of the City's Biology Guidelines and is intended to provide guidance in the preparation and review of conceptual revegetation/restoration plans. This outline is not intended as an exhaustive list of all design elements to consider when planning a revegetation effort. Consideration must also be given to the City's Land Development Code Landscape regulations (Chapter 14, Article 2, Division 4) and Landscape Standards when preparing conceptual revegetation plans and detailed revegetation construction drawings.

Introduction
Background - Purpose
Project location(s) with maps (regional, vicinity, site plan)
Restoration goals and objectives/Mitigation requirements

Existing Conditions
Environmental setting of impacted areas – vegetation & wildlife affected, functions and values, impact acreages, Reference sites for development of reveg specifications [can be in intro]
Environmental setting of revegetation areas - land ownership, existing land uses
Revegetation site characteristics: description/evaluation of topography, vegetation, soils, hydrology/drainage, access, site constraints (figures/maps)
Regulatory requirements

Mitigation Roles & Responsibilities
Financially responsible party – Performance bonds
Revegetation Team: Applicant, Landscape Architect, Revegetation Installation Contractor, Revegetation Maintenance Contractor (if different), Project Biologist, Nursery (Seed/plant procurement)

Site Preparation
Site and resource protection - staking/flagging/fencing of sensitive habitat areas/limits of work
Weed eradication
Topsoil/plant salvage (if needed)
Clearing/grubbing
Grading/recontouring

Irrigation
Water source and supply
Temporary or permanent installation
Manual or automatic

Plant Installation Specifications
Species composition lists– container plants/seed mixes/quantities and sizes
Planting arrangement/design (Include conceptual planting plan)
Planting procedure – interim storage methods, seed application methods, cuttings, special handling
Timing of plant installation
Irrigation requirements – frequency and duration

Maintenance Program
120-Day Plant Establishment Period
- Weed control
- Horticultural treatments (pruning, mulching, disease control)
- Erosion control
- Trash & debris removal
- Replacement planting and reseeding
- Site protection and signage
- Pest management
- Vandalism
- Irrigation maintenance

Five-Year Maintenance Period
See 120-day plant establishment items above

Biological Monitoring
Reference sites for development of performance criteria
Monitoring procedures – qualitative (photo documentation) and quantitative (vegetation sampling methods)
Monitoring frequency
- 120-Day Plant Establishment (Does revegetation meet intended design requirement?)
- 5 year monitoring requirement (or until 5th year performance/success criteria met)

Performance/success criteria
Reporting program

Schedule of Activities
Remediation Measures
Completion of Mitigation Notification
Literature/Reference Citations

ATTACHMENT IV

SUGGESTED REFERENCES AND NAMING AUTHORITIES

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ATTACHMENT V

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

California Native Species Field Survey Form

Mail to:
Natural Diversity Database
California Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No._____ Map Index No. _____

Date of Field Work: _____ - _____ - _____
month (mm) date (dd) year (yyyy)

Scientific Name:

Common Name:

Species Found? ☐ yes ☐ no _____ If not, why?
Total No. Individuals _____ Subsequent Visit? ☐ yes ☐ no
Is this an existing NDDB occurrence? _____ ☐ no ☐ unk.
Yes, Occ. #
Collection? If yes: _____ _____
Number Museum / Herbarium

Reporter: _____
Address: _____
_____
Email Address: _____
Phone: ( ) _____

Plant Information

Phenology: _____ _____ _____
% vegetative % flowering % fruiting

Animal Information

Age Structure: _____ _____ _____
adults # juveniles # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location ***(please also attach or draw map on back)***

County: _____ Landowner / Mgr.: _____
Quad Name: _____ Elevation: _____
T _____ R _____ _____ 1/4 of _____ 1/4 of Section _____ T _____ R _____ _____ 1/4 of _____ 1/4 of Section _____
UTM: Zone: _____(10, 11) Datum: _____(NAD83,NAD27,WGS84, other)
Source: _____(GPS, map & type, etc.) Point Accuracy: _____ Meters
UTM Coordinates_____

Habitat Description *(plant communities, dominants, associates, substrates/soils, aspects/slope)*

Other rare species?

Site Information Overall site quality: ☐ Excellent ☐ Good ☐ Fair ☐ Poor

Current / surrounding land use:

Visible disturbances / possible threats:

Comments:

Determination: *(check one or more, and fill in blanks)*
☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print
Plant / animal	☐	☐
Habitat	☐	☐
Diagnostic feature	☐	☐

May we obtain duplicates at our expense? ☐ yes ☐ no