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MEMORANDUM

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T O : MSHCP FUNDING & IMPLEMENTATION SUBCOMMITTEE

F R O M : DUDEK & ASSOCIATES

R E : ***MSHCP ALTERNATIVES DEVELOPMENT PROCESS***

At the November 9, 2000 MSHCP Funding & Implementation Subcommittee meeting, a variety of questions were raised regarding the process for development of MSHCP alternatives and the degree to which "efficiencies" have been incorporated in the various alternatives. This Memorandum is intended to provide more information regarding the alternatives development process, recognizing that it is the MSHCP Plan to be prepared for the selected alternative that will incorporate more specific criteria.

As is stated in the MSHCP Alternatives Development Document, the range of alternatives was defined by the MSHCP Advisory Committee. A summary of the approach used to identify potential conservation areas for the alternatives defined by the committee, as well as to develop the acreage estimates, is provided below.

REGULATORY GUIDANCE

Under all alternatives, it was assumed that an objective would be to satisfy the Issuance Criteria included in Section 10(a)(2)(B) of the Federal Endangered Species Act (FESA) and the guidance included in the state NCCP Act and NCCP General Process Guidelines (CDFG, January 1998). As discussed in the Alternatives Development Document, it is expected that varying levels of adaptive management or oversight would be needed to meet this objective under the various alternatives. It is also recognized that regulatory decisions regarding coverage of species will ultimately be the responsibility of the Wildlife Agencies. The direction provided in the existing regulations and summarized below does, however, provide important guidance in the development of alternatives.

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FESA Issuance Criteria

1. The taking will be incidental to otherwise lawful activities.
2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.
3. The applicant will ensure that adequate funding for the HCP and procedures to deal with unforeseen circumstances will be provided.
4. The taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild.
5. The applicant will ensure that other measures that the Service may require as necessary or appropriate will be provided.
6. The Service has received such other assurances as may be required that the HCP will be implemented.

NCCP Guidance

According to the NCCP General Process Guidelines, a Natural Community Conservation Plan (NCCP) is a plan for the conservation of natural communities that takes an ecosystem approach and encourages cooperation between private and government interests. The plan identifies and provides for the regional or areawide protection and perpetuation of plants, animals, and their habitats, while allowing compatible land use and economic activity. A characteristic of an NCCP is to promote wildlife diversity through conservation of habitat on an ecosystem level. Wildlife is defined to include all wild animals, birds, plants, fish, amphibians, and related ecological communities, including the habitat upon which wildlife depend for their continued viability. The following generalized reserve design tenets are incorporated in the NCCP approach:

1. Conserve focus species and their habitats throughout the planning area.
2. Conserve large habitat blocks.
3. Conserve habitat diversity.
4. Keep reserves contiguous and connected.
5. Protect reserves from encroachment and invasion by non-native species.

BIOLOGICAL DATA/SCIENTIFIC INFORMATION

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Existing available biological data and other scientific information are also essential components of the alternatives development process. The range and extent of existing available biological information have been previously documented in materials distributed to the MSHCP Advisory Committee. For purposes of the alternatives development process, the biological information has been considered on a species by species basis primarily in context of the known range, extent and habitat needs and requirements of the individual species considered for conservation under the various alternatives defined by the MSHCP Advisory Committee.

As noted in the MSHCP Species Accounts, this individual species information is generally presented in terms of the following:

- a) Characterization of existing available occurrence data;
- b) Habitat and habitat associations important to the particular species;
- c) Range and known populations in the MSHCP study area;
- d) Life history and biology of the particular species;
- e) Threats; and
- f) Special biological considerations for conservation of the species.

Varying levels of information are available in these general categories for each individual species considered for conservation in the MSHCP, ranging from almost no information to substantial information.

Using this information, generalized areas for potential conservation were roughly defined for each individual species to the extent possible based on the existing information, while also considering efficiencies such as making maximum use of existing reserves and overlapping conservation needs of the various species. This process involved use of the existing available information, input from local biologists and the professional judgement of the MSHCP consultant. For example, for plants all data points were considered, botanists with local expertise were consulted about the known populations, and other important areas were identified based on features such as soils, hydrology, vegetation communities. The factors involved in this approach for each individual species are briefly summarized in the species rationale statements included in Section 5.0 of the MSHCP Alternatives Development Document. A quantitative, model-based approach was not used. GIS analysis was used to organize and portray data in a variety of ways.

Once generalized potential conservation areas were roughly defined for the individual species, including overlapping areas among species, the overall conservation configuration was reviewed in the context of the

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ecosystem factors incorporated in the NCCP guidance. In many cases, ecosystem factors had been considered as part of the individual species evaluations. In other cases, the reserve configuration scenario was augmented to respond to ecosystem configuration and factors such as contiguity and connectivity of the reserve. In general, it was concluded that more opportunities are present in the eastern portion of the MSHCP study area for consideration of broad ecosystem factors than in the western portion of the study area.

It is recognized that the rough definition of generalized potential conservation areas resulting from this process does not represent the ultimate configuration of a potential MSHCP reserve system. It results in a “fuzzy” map that circumscribes the broad areas of potential conservation. The biological and land use considerations that form the basis for the boundaries of the broad areas are briefly summarized in Section 4.6 of the MSHCP Alternatives Development Document. It is recognized that more detailed criteria will be incorporated in the actual MSHCP Plan. Once the “fuzzy” maps were created, generalized acreage estimates were developed using the process described below.

ACREAGE ESTIMATES

Several steps were involved in the development of acreage estimates. These steps are summarized below.

- Step 1:** The broad outlines presented on the “fuzzy” maps were digitized and categorized as core area/substantial habitat block, linkage, constrained linkage, other, and public/quasi-public. The digitized “fuzzy” maps were intersected with the MSHCP Vegetation Map and vegetation acreages within each category were calculated using GIS.
- Step 2:** Consistent with the approach described in the August 9, 1999 “MSHCP Draft Proposal,” 100% of the areas characterized as developed on the Vegetation Map and 75% of the areas characterized as agriculture on the Vegetation Map were deleted from the acreage totals. Particular locations where areas characterized as agriculture would be conserved were not considered in the development of the acreage estimates.
- Step 3:** Areas developed since the MSHCP Vegetation Map was prepared were defined using the Existing Land Use coverage developed in 1999 for the RCIP. The Existing Land Use coverage is based on 1998 aerial photography and 1997 SCAG base data. A coverage

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was created depicting areas characterized as other than developed on the MSHCP Vegetation Map and characterized as developed on the Existing Land Use Map. (It should be noted that this coverage is still in the process of being rectified.) Acreage estimates were developed for areas that appear to have been developed since the MSHCP Vegetation Map was prepared and these acreages were deleted from the overall acreage totals.

Step 4: Further reductions to the overall acreage estimates were applied based on past experience and our understanding that ultimate MSHCP implementation may involve applying percent conservation goals to certain areas. One scenario regarding the ways in which percent conservation goals may be applied was depicted on the Preliminary HTHM Zones Display previously distributed to the MSHCP Advisory Committee. As an example, that display portrayed an assumption that high percentages of existing patches of coastal sage scrub would be conserved in the upland linkage between Lake Skinner and Lake Mathews while lesser percentages of other habitat types would be conserved. Likewise, in the Lakeview Mountains, Double Butte, La Sierra Hills and Norco hills areas, as shown on the HTHM display, lesser percent conservation areas were anticipated.

JSC/tsf