

APPENDIX V COMPLIANCE WITH THE USFWS FIVE-POINT POLICY

I. SUMMARY OF THE FIVE-POINT POLICY

In June 2000, USFWS adopted what is termed the “Five-point policy” as an addendum to the HCP Handbook. As indicated in the Federal Register notice for the policy:

“The Services will adhere to the guidance provided in the addendum. Nothing in this guidance is intended to supersede or alter any aspect of Federal law or regulation pertaining to the conservation of threatened or endangered species.”
(65 Federal Register 35350)

The Five-point Policy addresses three interrelated elements of an HCP that should be formulated in the course of the preparation of an HCP and during the implementation phase:

- **HCP Biological Goals and Objectives** – As stated in the Addendum:

“Explicit biological goals and objectives clarify the purpose and direction of an HCP’s operating conservation program. They create parameters and benchmarks for developing conservation measures.”

- **HCP Adaptive Management Strategy** – Although HCPs are not required to employ an adaptive management program, the Southern NCCP/MSAA/HCP has determined that adaptive management will be carried out for those portions of the Habitat Reserve associated with regulatory coverage. Elements of adaptive management may also be carried out on other Habitat Reserve lands as reviewed in *Chapter 7*. The Addendum notes that adaptive management “is an integrated method for addressing uncertainty in natural resource management” and “also refers to a structured process for learning by doing.”

- **HCP Monitoring Program** – According to the Addendum, “the monitoring program of an HCP provides information to: (1) evaluate compliance; (2) determine if biological goals are being met; and (3) provide feedback information for an adaptive management strategy, if one is used. The Addendum defines two types of monitoring:

“*Compliance Monitoring* is verifying that the permittee is carrying out the terms of the HCP, permit and IA, if one is used.”

“*Effects and Effectiveness Monitoring* evaluates the effects of the permitted action and determines whether the effectiveness of the operating conservation program of the HCP is consistent with the assumptions and predictions made when the HCP was developed and approved; in other words, is the HCP achieving the biological goals and objectives?” (65 Federal Register 35250-35250)

The following sections will review the consistency of the NCCP/MSAA/HCP with the elements of the Five-point Policy.

II. BIOLOGICAL GOALS AND OBJECTIVES

A. Definition of “Goals” and “Objectives”

1. Goals

According to the Five-point Policy HCP Addendum:

“In the context of HCPs, biological *goals* are the broad, guiding principles for the operating conservation program of the HCP. They are the rationale behind the minimization and mitigation strategies.”

“Multiple species HCPs may categorize goals by species or by habitat It should be noted that the biological goals of an individual HCP are not necessarily equivalent to the range-wide recovery goals and conservation of the species.”

(65 Federal Register 35251)

“[biological goals must be] consistent with conservation actions needed to adequately minimize and mitigate impacts to the covered species to the maximum extent practicable.”

2. Objectives

The Five-point Policy Addendum defines “objectives” in relation to “goals” as follows:

“For more complex HCPs, biological *objectives* can be used to step down the biological goals into manageable, and therefore, more understandable units. Multiple species HCPs may categorize goals by species or by habitat, depending on the structure of the operating conservation program.”

“Biological objectives are the different components needed to achieve the biological goals such as preserving sufficient habitat, managing the habitat to meet certain criteria, or ensuring the persistence of a specific minimum number of individuals.”

(Ib.)

B. Substantive Criteria for Goals and Objectives

In addressing the substantive content of HCP goals and objectives, the Five-point Policy sets forth a number of criteria for the formulation and review of goals and objectives including the following:

“The biological goals and objectives may be either habitat or species based. Habitat-based goals are expressed in terms of amount and/or quality of habitat. Species-based goals are expressed in terms specific to individuals or populations of that species. Complex multi-species or regional HCPs may use a combination of habitat-and species-specific goals and objectives. However, according to 50 CFR 17.22, 17.32, 222.102, and 222.307, each covered species must be addressed as if it were listed and named on the permit. Although the goals and objectives may be stated in habitat terms, each covered species that falls under that goal or objective must be accounted for individually as it relates to that habitat.”

“Biological objectives should include the following: species or habitat indicator, location, action, quantity/state and timeframe needed to meet the objective. They can be described as a condition to be met or as a change to be achieved relative to the existing condition. Biological objectives may be addressed in parallel . . . [or] in sequence.”

“How the biological goals fit with the implementation of an HCP may be framed as a series of prescriptive measures to be carried out (a prescription-based HCP) or the ability to use any number of measures that achieve certain results (a results-based HCP). A prescription-based HCP outlines a series of tasks that are designed to meet the biological goals and objectives. This type of HCP may be most appropriate for smaller permits where the permittee would not have an ongoing management responsibility. A results-based HCP has flexibility in its management so that the permittee may institute the actions that are necessary as long as they achieve the intended result (*i.e.*, the biological goals and objectives), especially if they have a long-term commitment to the conservation program of the HCP. HCPs can also be a mix of the two strategies.”

(Ib.)

The Five-point Policy also recognizes the evolutionary nature of goals and policies in relation to long-term HCPs:

“The biological goals and objectives are refined as the operating conservation program takes shape. Initial biological goals and objectives of an HCP begin by articulating the rationale behind the operating conservation program.”

“Implementation may include provisions for ongoing changes in actions in order to achieve results or due to results from an adaptive management strategy.”

(65 Federal Register 35251-3252)

C. Consistency of the Draft NCCP/MSAA/HCP with the Provisions of the Five-point Policy Relating to Biological Goals and Objectives

1. Overview

Chapter 7 presents a comprehensive program for addressing biological goals and objectives for the long-term management of the Habitat Reserve. The following is an overview of the analytic framework presented in *Chapter 7* for each of the five major vegetation communities addressed by the HRMP:

- Summary of adaptive management issues
- Statement of management goals and objectives
- Summary of strategies for monitoring the vegetation Community and focal species
- Overall management prescriptions
- Specific restoration opportunities

Additionally, *Chapter 7* presents the following goals and objectives for the long-term management of Habitat Linkages and Wildlife Corridors:

- Summary of adaptive management issues
- Statement of management goals and objectives
- Summary of strategies for management and monitoring

2. Goals

The five major vegetation communities addressed by the HRMP set forth in *Chapter 7* encompass the ten proposed Conserved Vegetation Communities as reviewed in *Chapter 13*. *Chapter 7* sets forth goals for each of the five major vegetation communities. Given the natural communities focus of the NCCP/MSAA/HCP, goals for the individual proposed Covered

Species are subsumed within the broader vegetation community goals so that management goals remain focused on the larger scale of the Habitat Reserve.

3. Objectives

It is important to note that the “stressors” focus of the Adaptive Management Program (AMP) set forth in *Chapter 7* employs defined conceptual models that will be used as the basis for initial management and monitoring actions. However, inherent in the concept of adaptive management and the “stressors” focus of the AMP, is the use of feedback loops and continued adjustment and refinement of the stressors conceptual models over time. As a consequence, the use of stressor models does provide an objective, measurable framework for identifying and meeting goals and objectives for each major vegetation community, while, at the same time providing a systematic approach to continually refining goals and objectives.

Specific, measurable objectives that will further the attainment of defined goals are set forth in *Chapter 7* for each of the five major vegetation communities using information presently available. As noted in C.1 above, *Chapter 7* provides a detailed discussion of vegetation monitoring that will be undertaken to measure the attainment of the goals and objectives initially defined for the HRMP.

With regard to proposed Covered Species, the “Management” subsection of each Covered Species conservation and impact analysis in *Chapter 13* presents a list of specific stressors that may impact each species and a specific set of management actions, including potential enhancement and restoration measures, that would benefit each species. Given the fact that management priorities, including specific restoration and enhancement measures, will be adjusted both through ongoing adaptive management and through the preparation of five year Management Action Plans (MAPs) (all with continuing input from the Science Panel), specific timeframes are not defined for the species objectives/management actions. However, as indicated in *Chapter 13*, specific management, enhancement and restoration measures will be reviewed and monitored over time. One central element of the monitoring of the health of habitat communities supporting covered species is the use of “Focal Species” as reviewed in *Chapter 7* with respect to each of the five major vegetation communities. The focal species concept is reviewed extensively in *Chapter 7*, including a preliminary list of proposed focal species. *Table 7.5* in *Chapter 7* provides a summary the proposed Covered Species that were also identified as candidate focal species, proposed Covered Species that were not identified as candidate focal species and candidate non-covered focal species.

As reviewed in the Overview above, *Chapter 7* also provides a framework for management and monitoring of the goals and objectives set for geographically-identified Habitat Linkages and Wildlife Corridors. This management and monitoring system relates directly to species

objectives directed toward assuring wildlife movement, dispersal and attendant gene flow both within the subregion and to adjoining protected open space areas.

III. ADAPTIVE MANAGEMENT

A. Definition of Adaptive Management

The Addendum defines “adaptive management broadly as a method for examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future conservation management actions according to what is learned.” For HCPs which elect to employ an adaptive management program, the Addendum further states that: “An adaptive management strategy must define the feedback process that will be used to ensure that the new information gained from the monitoring program results in effective change in management of the resource.”

B. Substantive Criteria for an Adaptive Management Program

According to the Five-point Policy:

“Whenever an adaptive management strategy is used, the approved HCP must outline the agreed-upon future changes to the operating conservation program.

“An adaptive management strategy should: (1) identify the uncertainty; (2) develop alternative strategies and determine which experimental strategies to implement; (3) integrate a monitoring program that is able to detect the necessary information for strategy evaluation; and (4) incorporate feedback loops that link implementation and monitoring to a decision-making process (which may be similar to a dispute resolution process) that result in appropriate changes in management.”

The above four elements of an adaptive management strategy are further elaborated in the Five-point Policy as follows:

“Identifying the uncertainty to be addressed is the foundation of the adaptive management strategy. Other components include a description of the goal of the operating conservation program (*i.e.*, the biological goals and objectives of the HCP) and the identification of the parameters that potentially affect that goal. [The adaptive management program will identify] the range of possible ‘experimental’ strategies which may involve some type of modeling . . . of the resource in question”

“. . . a monitoring program needs to be designed that will adequately detect the results of the adaptive management strategy. Integration of the HCPs monitoring program into the adaptive management strategy is essential. The monitoring program plays an essential role of determining whether the chosen strategy(ies) is providing the desired outcome (*i.e.*, achieving the biological goals of the HCP).”

“Finally, an adaptive management strategy must define the feedback process that will be used to ensure that the new information gained from the monitoring program results in effective change in management of the resource.”

C. Consistency of the Draft NCCP/MSAA/HCP with the Provisions of the Five-point Policy Relating to Adaptive Management

As reviewed in *Chapter 7*, there will be three tiers of management applied to the Habitat Reserve:

1. Existing County parklands where management is funded through the County’s annual budget and planning process for the County Harbors, Beaches and Parks (HBP);
2. Existing County parklands within the Tier 1 parklands cited above where adaptive management activities would be implemented and funded by the optional Subarea 3 impact fees related to new development on remaining residential lots in Coto de Caza if the Opt-In Program reviewed in Section 13.5 is selected, or by the RMV Adaptive Management Program (AMP) for adaptive management measures related to stressors on parklands identified through the AMP monitoring program and that affect Covered Species and conserved Vegetation Communities within RMV Habitat Reserve Lands; and
3. Previously protected RMV conservation easement area lands and future RMV dedication lands in response to regulatory coverage and that are committed to adaptive management funded by Participating Landowners as mitigation for impacts on Covered Species.

Lands included in the first management tier will be managed and monitored according to the Ongoing Management Program (OMP) element of the HRMP described in *Section 7.1.1* in order to maintain net habitat value on County parklands. For example, the County would continue with its management relating to ongoing impacts caused by public recreational use. Under the second management tier, portions of County Parks Habitat Reserve lands will be managed and monitored according to the AMP element of the HRMP (as specified in *Chapter 7*) with the goal of both maintaining and enhancing net habitat value of lands addressed pursuant to the AMP. RMV Habitat Reserve Lands are the third management tier will be managed and monitored according to the AMP element of the HRMP (see *Figure 136-M*).

Criteria for assessing proposed management measures for species and vegetation communities focus on contributions to the value and function of specific habitats, vegetation communities and geomorphic/hydrologic processes. Adaptive management of proposed Covered Species and proposed Conserved Vegetation Communities involves adaptive management actions directed toward *maintaining* and *enhancing* habitat values within the Habitat Reserve lands by: (1) responding to “environmental stressors” that have the potential to diminish habitat values and functions, and (2) carrying out specific enhancement and restoration measures. These two aspects of “management” are summarized in the following subsections.

1. Adaptive Management Measures Relating to Environmental Stressors

Chapter 7 describes the Southern NCCP/MSAA/HCP AMP focus on “environmental factors known or thought to be directly or indirectly responsible for ecosystem changes.” *Chapter 7* goes on to indicate that “these factors, called ‘environmental stressors,’ may have both adverse and beneficial effects on ecosystem characteristics such as vegetation communities and species.” Stressors may adversely affect both proposed Covered Species and proposed Conserved Vegetation Communities.

By addressing “environmental stressors,” the Southern NCCP/MSAA/HCP AMP focuses on factors that influence the habitat value of the Habitat Reserve. For example, in the absence of an AMP, anthropogenic influences such as the presence and expansion of invasive plant and animal species could severely impact habitat values (as evidenced by presently existing giant reed habitat impacts within San Juan Creek); in many cases, such stressors pre-date future development proposed to be allowed as Covered Activities and would cause impacts to habitat values that otherwise could be addressed only with public funds. Stressors on County lands would also be addressed through proposed mitigation for impacts involving County projects and in certain circumstances outlined in *Chapter 7*. Thus, the AMP provides an institutional mechanism, funded by prior regulatory approvals and by proposed Covered Activities, for responding to such stressors (*e.g.*, through the Invasive Species Control Plan) thereby mitigating the impacts of Covered Activities (in combination with the creation of the Habitat Reserve).

The detailed species conservation analyses presented in *Section 13.2.5 of Chapter 13* include a list of known or potential environmental stressors for each species proposed for regulatory coverage. These lists of stressors are based on either (1) known stressors affecting species in Subarea 1 (*e.g.*, giant reed impacts on arroyo toad breeding habitat) where specific management/restoration measures are identified as priority management actions in the HRMP, or (2) “generic” stressors identified for a species in the scientific literature (*e.g.*, rodenticide impacts on prey for snakes), that, although not documented to be operating in Subarea 1, should be considered nonetheless as a potential management issue. Additionally, some stressors that have been identified as primary stressors on some species (*e.g.*, effects of water diversions on least

Bell's vireo, southwestern willow flycatcher, and arroyo toad), but are highly unlikely to be management issues in Subarea 1, are retained on the lists because they have been documented as important known stressors and they need to be acknowledged as potential stressors. Finally, "natural" stressors that have been identified for some species, such as predation by native species (e.g., native snakes preying on bird nests) or resource competition among native species (e.g., competition among raptor species for nest sites), are not included on the lists of stressors to be considered for management because under no management scenario would these types of stressors be directly addressed.

The "management" analyses presented in *Sections 13.2 and 13.3* set forth specific measures to adaptively manage the habitats of proposed Covered Species and proposed Conserved Vegetation Communities. Both *Chapter 7* and the below discussion of "Effects and Effectiveness Monitoring" contain extensive discussions of the "feedback loop" mechanisms that will be used to integrate the monitoring program into the AMP so that adjustments can be made to the management program over time.

2. Adaptive Management Measures Relating to Enhancement and Restoration of Habitat Values and Functions

Implementation of the HRMP and establishment of the funding and administrative mechanisms under the IA also serves to enhance the net habitat value provided within the Habitat Reserve through enhancement and restoration actions carried out pursuant to the AMP and specific measures identified for County projects (the Prima Deshecha Landfill GDP and Avenida La Pata Improvement Projects. *Section 13.2 of Chapter 13* reviews specific enhancement and restoration measures identified in *Chapter 7* that would benefit proposed Covered Species, including measures that would contribute to the recovery of listed species and help prevent the need for listing presently unlisted Covered Species.

Habitat restoration is broadly defined as the process of intentionally altering a degraded habitat area or creating new habitat to re-establish a defined pre-existing habitat or ecosystem or enhance the functioning of a degraded habitat or ecosystem. The goal of restoration is to emulate the structure, function, diversity and dynamics of the subject habitat or ecosystem. This goal generally will be achieved through implementation of several coordinated/integrated restoration plans and related management plans (the management plans listed below are also central elements or tools to be used by the AMP in response to future "stressors" of vegetation communities identified over time), including:

- A Habitat Restoration Plan addressing both uplands habitats and wetlands/riparian habitats
- A Wildland Fire Management Plan

- An Invasive Species Control Plan
- A Translocation, Propagation and Management Plan for Special-status Plants

Elements of the initial enhancement and restoration program are responses to past and present “stressors,” including prior conversion of coastal sage scrub and native grasslands to non-native annual grasslands, the conversion of riparian habitat due to the impacts of giant reed and erosion in portions of lower Gobernadora Creek resulting from excessive surface and subsurface water supplies from upstream areas. Enhancement and restoration measures are reviewed in Section 13.2 with respect to individual species and often include the integration of two or more management plan elements in relation to specific restoration actions (e.g., invasive species control in San Juan Creek in combination with measures to increase water supplies for arroyo toad and least Bell’s vireo habitat).

Restoration sites capable of contributing to the long-term enhancement of net habitat values of different vegetation communities within the Habitat Reserve are identified in the Habitat Restoration Plan. Although some elements of the Habitat Restoration Plan are specifically committed and timed to satisfy regulatory standards (i.e., mitigation for impacts to CDFG jurisdictional wetlands; see *Section 13.4*), in general, the timing, location and type of restoration actions will be established through the overall process for prioritizing AMP actions reflecting the technical and priority recommendations of the Science Panel and Reserve Manager (see discussion in *Chapter 7*). Given the long duration of the AMP and the funding program identified in *Chapter 12*, it is reasonable to assume that the enhancement/restoration measures identified in the Habitat Restoration Plan, or equivalent measures will be implemented over the life of the permit.

IV. MONITORING

A. Definition of Monitoring under the Five-point Policy

Monitoring is a mandatory element of all HCPs. The HCP Handbook provides guidance for developing monitoring measures and discusses reporting requirements. As reviewed previously, the Five-point Policy Addendum elaborates on the monitoring discussions in the HCP Handbook and identifies two types of monitoring:

“*Compliance Monitoring* is verifying that the permittee is carrying out the terms of the HCP, permit and IA, if one is used.”

“*Effects and Effectiveness Monitoring* evaluates the effects of the permitted action and determines whether the effectiveness of the operating conservation program of the HCP

are consistent with the assumptions and predictions made when the HCP was developed and approved; in other words, is the HCP achieving the biological goals and objectives?”

B. Compliance Monitoring

1. Matters to be Addressed under Compliance Monitoring

The Five-point Policy identifies the following substantive measures that appear to apply to compliance monitoring:

“(1) Assess the implementation and effectiveness of the HCP terms and conditions (*e.g.*, financial responsibilities and obligations, management responsibilities and other aspects of the incidental take permit, HCP and IA, if applicable; and (2) determine the level of incidental take of the covered species;”
(65 Federal Register 35254)

Thus compliance monitoring tracks the status of plan implementation, ensuring that planned actions are executed.

2. Consistency of the Draft NCCP/MSAA/HCP with the Provisions of the Five-point Policy Relating to Compliance Monitoring

The following subsections, as further amplified by the Implementation Agreement, list actions undertaken by the NCCP/MSAA/HCP that will ensure consistency with the Five-point policy relating to Compliance Monitoring.

(a) Assemblage of the Habitat Reserve

Assemblage of the Habitat Reserve has three components:

- Commitment of County Parks Lands
- Commitment of Prior RMV Conservancies
- RMV Phased Dedication Program

(b) Implementation of the Habitat Reserve Management Program (HRMP)

Implementation of the HRMP has three primary components:

(1) Funding:

Funding of the HRMP would come from three primary sources:

- Annual County OMP funding
- Establishment of RMV funding commitments
- Establishment of funding budget for initial HRMP implementation program from existing funding sources

(2) Implementation of the Initial Five-year Management Action Plan (MAP) and Subsequent 5 Year MAPs

Implementation of the MAPs is comprised of three main elements:

- Preparation of work tasks and budget
- Annual reports: OMP and AMP actions
- Identification of any Unforeseen Circumstances encountered

(3) Effectiveness Monitoring

Effectiveness monitoring is comprised of two main elements:

- Summary of effectiveness monitoring results per NCCP/MSAA/HCP *Chapter 7*
- Summary of funds expended on effectiveness monitoring

(c) Implementation of County and SMWD Mitigation Measures and RMV Avoidance/Minimization Measures

The Participating Landowners/Jurisdictions would implement the following avoidance/minimization measures.

(1) County of Orange – General

- Commitment of existing Wilderness and Regional Parks to the proposed Habitat Reserve

(2) County of Orange Prima Deshecha Landfill GDP

- County Parks lands commitments to control giant reed in San Juan Creek within regional parklands committed to the Habitat Reserve per above

- Funding and implementation of giant reed control in San Juan Creek
- Specific restoration actions in Landfill SOS

(3) County of Orange Avenida La Pata Improvement Project

- Funding and implementation of giant reed control in San Juan Creek

(4) SMWD

- Funding for the implementation of the HRMP

(5) RMV

- Avoidance through project modifications
- Avoidance/minimization through construction-related measures
- Minimization of indirect effects
- Implementation of the WQMP, including adaptive management measures
- Grazing Management Plan species avoidance measures after Habitat Reserve dedication
- MSAA avoidance/minimization measures

(d) Annual Impacts Summary

The annual impacts summary will report the following:

- Location of impacts authorized pursuant to the IA and MSAA
- Acreage of impacts, including vegetation community summaries

C. Effects and Effectiveness Monitoring

1. Matters to be Addressed under Effects and Effectiveness and Effectiveness Monitoring

Overall, the monitoring program should “determine the biological conditions resulting from the operating conservation program (*e.g.*, change in the species’ status or a change in the habitat conditions) and provide any information needed to implement an adaptive strategy. According to the Five-point Policy, effects and effectiveness monitoring includes but is not limited to the following:

- “1. Periodic accounting of incidental take that occurred in conjunction with the permitted activity;
2. Surveys to determine species status, appropriately measured for the particular operating conservation program (*e.g.*, presence, density, or reproductive rates);
3. Assessments of habitat condition;
4. Progress reports on fulfillment of the operating conservation program (*e.g.*, habitat acres acquired and/or restored); and
5. Evaluations of the operating conservation program and its progress toward its intended biological goals”
(65 Federal Register 35254)

The Five-point Policy provides further discussion of aspects of effects and effectiveness monitoring as follows:

“Each HCP’s monitoring program should be customized to reflect the biological goals, the scope and the particular implementation tasks of the HCP. . . . Although the specific methods used to gather necessary data may differ depending on the species and habitat types, monitoring programs should use a multispecies approach when appropriate.”
(65 Federal Register 35254)

2. Consistency of the Draft NCCP/MSAA/HCP with the Provisions of the Five-point Policy Relating to Effects and Effectiveness Monitoring.

(a) Overview

The AMP is comprised of four steps to ensure the persistence of a native-dominated vegetation mosaic in the planning area: **(1)** preparation of conceptual stressor models and conceptual management plans for vegetation communities; **(2)** periodic assessment of the status of the vegetation communities; **(3)** management of the vegetation communities; and **(4)** evaluation of the effect of the management actions. Completion of steps 2 through 4 rely on implementation of compliance and effectiveness monitoring as discussed in the monitoring strategies set forth in *Chapter 7* for each major vegetation community and related focal species. These monitoring measures are an important contributing element that supports regulatory coverage for proposed Covered Species and proposed Conserved Vegetation Communities that support Covered Species addressed by the proposed NCCP/MSAA/HCP.

(b) Three Scales of Effectiveness Monitoring

The stressor models discussed in *Chapter 7* address monitoring of biotic and abiotic resources at three fundamental scales: (1) natural community landscape mosaic; (2) specific vegetation communities and habitats; and (3) species and species assemblages. Although there is overlap, dependence and interaction among the different scales, clearly stated conceptual relationships and coordinated management objectives at all three scales will need to be articulated in order to help maintain and, where feasible, increase net habitat value. For example:

- *Landscape-level monitoring* will focus on the dynamic and interacting biotic natural communities and abiotic factors (*i.e.*, natural processes) within the subregion that maintain the condition and dynamics of the natural communities.
- *Monitoring of specific vegetation communities* refers to the site-specific dynamic interaction of biotic and abiotic processes. Vegetation communities would be monitored to assess changes in *net habitat value* (*i.e.*, defined as “no net reduction in the ability of the subregion to maintain populations of target species over the long term”), thus providing recognition of, and flexibility in, the management of natural stressor-induced changes (*i.e.*, intrinsic drivers) that occur in vegetation community associations that alter the relative amounts of the community at any give time (*e.g.*, natural succession, fire, flooding, *etc.*). This scale of monitoring is closely associated with maintaining species populations.
- *Monitoring of species and species assemblages* will focus on focal species populations, including Covered Species. Monitoring of these species and populations will be important for both permit compliance monitoring for Covered Species and effectiveness monitoring within the Habitat Reserve.

3. Summary of the Key Elements of Effectiveness Monitoring

On an overall basis, the effectiveness monitoring program is central to assuring the effective implementation of the HRMP. Since various elements of the HRMP that are directed toward assuring its effective implementation are reviewed in all of the above sections addressing consistency with the Five-point Policy and in other chapters of the NCCP/MSAA/HCP, the following is intended to provide a summary of the key elements for Effectiveness Monitoring of the Southern Subregion Habitat Reserve:

- Preparation and ongoing revision of goals and objectives for the five major vegetation communities and goals and objectives for each of the Covered Species;

- Management and monitoring of resources, including the extent to which goals and objectives, at three fundamental scales: (1) natural community landscape mosaic; (2) specific vegetation communities and habitats; and (3) species and species assemblages;
- Use of a “stressors” adaptive management concept, including the use of focal species and habitat conditions monitoring to identify stressors that must be addressed in order to maintain the effectiveness of the long-term management program;
- Preparation of implementation plans, including the 5-year MAP;
- Annual reports prepared by the Reserve Manager, with assistance by the Science Panel;
- Public review of the annual reports prepared by the Administrative Entity; and
- Comprehensive “State of the Habitat Reserve” reports coordinated by the Admin Entity, with input the RMV Reserve Manager, the Science Panel, and County HBP, every five years (described below).

4. Annual Reports

The annual reports will provide at minimum the following information:

- Preparation by the Administrative Entity, with the assistance of the RMVLC and Science Panel, of the annual report on species/vegetation community/stream impacts;
- Administrative Entity annual report on progress on phased dedication program to the Habitat Reserve
- Identification of management and monitoring priorities for that year;
- Updates to the conceptual models for the managed resources;
- The sampling sites and data collected in terms of by whom, frequency, timing and duration;
- A description of the data analysis and results;
- Synthesis/integration of the year’s management and monitoring results with previous years as applicable (*e.g.*, analyzing apparent trends, etc.);

- An evaluation of the year’s work plan in relation to achieving or progressing toward the management and monitoring goals established in the MAP;
- Identification of significant problems or successes with the program that may alter the management and monitoring program approach, such as:
 - Whether the field protocols or analytic methods are satisfactorily addressing the management/monitoring objectives (*e.g.*, are the measurement methods sensitive enough?) and whether sampling or analysis methods need revision,
 - Whether the data, based on the “working management thresholds,” indicate that a species or habitat is declining at a rate that an immediate, possibly unanticipated action is required, and
 - Whether the data indicate an earlier than expected positive response of a species or habitat to an active adaptive management action such that continued testing is unnecessary or becomes a lower priority;
- Suggested changes/revisions to the MAP based on the points listed above;
- Suggested management and monitoring priorities for the coming year; and
- Suggested revisions to coming year’s budget based on the above factors, if necessary.

5. Comprehensive Five-year Reports

The Administrative Entity, with input from the RMV Reserve Manager, the Science Panel, and the County HBP, will coordinate preparation a comprehensive “State of the Habitat Reserve” every five years. The five-year monitoring report will replace the annual monitoring report for that year, but will evaluate the effectiveness of the HRMP by drawing upon the full set of data collected to that point. The five-year report will examine the cumulative data collected for species or habitat trends, summarize the results of management actions to that point in time and integrate the results with other information collected outside the Habitat Reserve, such as from other conservation programs in southern California to the extent possible and from the general scientific literature. It is anticipated that preparation of the five-year reports will require substantial coordination with and input from the Science Panel and the Wildlife Agencies in order to take advantage of additional scientific and “gray” literature information that may not be readily available to the Reserve Manager. The five-year reports will provide the basis for updates to the MAP, including the conceptual models, management and monitoring technologies, prioritization of future management and monitoring actions and future funding needs.