

8.0 Amending the Plan and Addressing Changed and Unforeseen Circumstances

Changes to this Plan are expected to be required during the 55-year permit period. The Plan addresses potential impacts to Covered Species and their habitat that are associated with Covered Activities, including but not limited to facility construction, O&M Activities, expansion and acquisition of new rights-of-way, and management of Preserve Areas. The Master Plan identifies Existing and Planned Projects necessary to meet projected water demands through the year 2030. It is anticipated that modifications to Existing Projects and/or Planned Projects (including expansion of the Water Authority's CIP) will occur that require amending the Plan. Changed Circumstances (Section 8.5.1) are changes affecting the species or geographic area covered in a HCP that can be reasonably anticipated by plan proponents and the federal wildlife agencies. The Plan's adaptive management programs will be prepared by the Preserve Area management entities to address changed circumstances and identify remedial measures for which they are responsible. Unforeseen Circumstances (see Section 8.5.2) may occur that would require the Wildlife Agencies and Water Authority to confer and determine what Plan changes or additional actions may be necessary to address those unanticipated conditions. To accommodate these potential changes, the following sections outline and provide details for amending this Plan and addressing Changed and Unforeseen Circumstances.

Expected modifications to the Plan range from clerical (non-substantive) changes with no effect on the Plan commitments (conditions of coverage) to amendments that constitute minor or major changes to the Plan's commitments/conditions of coverage. Clerical changes may address corrections to the text and maps, updates to species' and vegetation communities' information, or revisions to adaptive management procedures. More substantive changes that could initiate amendments include, but are not limited to, adding Water Authority activities not currently covered by this Plan, increasing the level of authorized take of Covered Species, extending Plan coverage to newly listed species or designated critical habitat, expanding the geographic region of Plan coverage, moving species currently not proposed for coverage to the Covered Species list, and approving Future Projects/O&M within the Major Amendment Area portion of Riverside County.

Changes and amendments would be documented in addenda to this Plan. Any accompanying documents necessary to satisfy requirements under ESA and the NCCPA, also will be prepared. Plan amendments may require additional environmental analysis under CEQA, NEPA, or both. All Minor and Major Amendments require consultation with and concurrence by the Wildlife Agencies. In addition, Major Amendments will require amendments to the Plan's Permits.

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The Water Authority and the Wildlife Agencies agree that the adoption, modification, and amendment of Water Authority Planning Documents identified in Section 1.1.2, consisting of a Master Plan, CIP, or Financing Plan, are matters within the sole discretion of the Water Authority and shall not require the approval of the Wildlife Agencies. However, the Parties acknowledge that changes to those documents, if they affect this Plan's commitments/obligations, may require amendments to this Plan, the IA or Permits to maintain the Permits' Covered Activities and Covered Species.

8.1 Processing Plan Changes

The information necessary to document proposed changes to the Plan will be presented to the Wildlife Agencies in the form of an addendum to the Plan. The addendum will state the need for the change, the proposed change, and based on the type of change, specific information and findings to justify the change(s). While the addendum will be prepared as a separate document, the addendum may also be incorporated as an element of any required CEQA or NEPA document circulated for public review and comment for the proposed action. Three types of changes to the plan may occur: clerical or administrative changes; minor plan amendments; or major plan amendments as described below in Sections 8.2, 8.3, and 8.4.

An annual report on the Plan's implementation will document all plan changes and amendments for the previous calendar year, and include the supporting addenda.

Most changes to the Plan are expected to be Minor Amendments, although some Major Amendments may be required.

8.2 Clerical and Administrative Changes to the Plan

Clerical and administrative edits and updates to the Plan, such as clerical changes (typographical corrections and minor editing that do not affect conservation commitments), vegetation mapping and species occurrence updates, and adaptive management changes made pursuant to monitoring results and discussions with the Wildlife Agencies, are not amendments.

These non-substantive changes to the NCCP/HCP may be made by the Water Authority on its own initiative or in response to a written request submitted by a Wildlife Agency and will not require any amendment to the NCCP/HCP, Permits, or Implementing Agreement. All proposed clerical or administrative changes shall be circulated in writing among the parties by the party proposing the change. If no party objects to the proposed clerical or administrative change within 30 days of receipt, the change shall be deemed accepted. If a party objects to a proposed clerical or administrative change, the

proposing party may elect to propose the change as a minor or major amendment to the Plan. Each annual Report shall include a summary of all clerical and administrative changes made to the NCCP/HCP during the preceding calendar year.

8.3 Minor Amendments

The Plan may, under certain circumstances, be modified without amending its associated IA or Permits, provided such amendments are minor in nature, the effects on the Covered Species involved and the levels of take resulting from the amendment are not greater than those described in this Plan and provided for by the Permits, and the action is otherwise consistent with the Plan, IA, and associated Permits. Minor Amendments shall not alter the terms of the section 10(a)(1)(B) permit and/or NCCPA permit.

Examples of actions that may require Minor Amendments to the Plan include, but are not limited to: acquisition of additional habitat mitigation credits or preserve lands within the Plan Area; and Future Projects or activities not currently identified in this document that are consistent with the criteria identified in Table 8-1, fall within the definition of Covered Activities, and would not increase the level of take allowed under the Permits. If either Wildlife Agency objects to use of the minor amendment process to incorporate a change to the Plan, the proposed change shall be processed as a Major Amendment. However, even if Future Projects or activities are consistent with Table 8-1, the Water Authority must receive concurrence from the Wildlife Agencies that the proposed Plan amendment will be minor in nature and not trigger a major amendment.

General criteria for determining the applicability of the Minor Amendment process are shown below. Activities that meet the criteria will be processed as a Minor Amendment and be reported in the Water Authority's annual report. These criteria are designed to ensure that the proposed change will not result in new or different impacts to the environment that are in excess of those analyzed in connection with the original Plan, or levels of take or impacts to the Covered Species that are different from or greater than those analyzed in connection with the original Plan and Permits. These criteria are not exclusive.

**TABLE 8-1
MINOR AMENDMENT DETERMINATION CRITERIA**

1. The activity requiring coverage must be partially or completely funded, implemented, or managed by the Water Authority as demonstrated through approvals by the Board of Directors.
2. The activity requiring coverage must fall within the definition of Covered Activities outlined in Section 5.0, and the cumulative effects of such activity when added to the effects of other Covered Activities may not exceed those analyzed in the original Plan.
3. The activity requiring coverage involves impacts to species that are covered under this Plan; take of listed species not covered by this Plan will not be addressed with a Minor Amendment.
4. The activity will occur in the Plan Area.
5. The activity requiring coverage will meet conditions presented in Section 6.0 to assure that the activity and will not require a jeopardy analysis because it: <ul style="list-style-type: none">a. Would not appreciably reduce the likelihood of a species' survival and recovery in the wild;b. Would not jeopardize the continued existence of a species or appreciably diminish the value of critical habitat for both the survival and recovery of a listed species; and,c. Measures taken to avoid, minimize, and mitigate impacts shall not provide reduced levels of benefit to the conservation of species from that proposed in this Plan.
6. The Plan provides adequate mitigation credits to offset impacts. Alternatively, suitable additional habitat will be contributed to the Preserve Area or other approved reserve lands or appropriate credits from other mitigation banks within the Plan Area will be purchased.
7. The activity requiring coverage, including design and mitigation measures, do not permanently hinder other conservation programs, preserves, or corridors, and general species' distribution.

The Water Authority will submit in writing to the Wildlife Agencies a description of the proposed Minor Amendment in the form of an addendum with the following subject items addressed:

- (a) An explanation why the Minor Amendment is necessary or desirable;
- (b) An explanation of why the Water Authority believes the effects of the proposal are not significantly different from those described in the original Plan and would not result in greater impacts to the environment, including the Covered

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Species and their habitats, or levels of take beyond those analyzed in connection with the Plan and the Permits;

- (c) A description of how the proposed change will be consistent with the goals, policies, and guidelines of this Plan, the IA, and the Permits;
- (d) An explanation of how approval of the proposed Minor Amendment:
 - 1. Maintains or improves the amount, configuration, and/or quality of conserved habitats;
 - 2. Maintains or increases the conservation of Covered Species;
 - 3. Maintains or improves habitat connectivity, wildlife movement corridor function, management efficiency, and/or protection of biological resources; and
- (e) An analysis of the environmental impacts of the proposed change.

Either the Water Authority or either of the Wildlife Agencies may propose a Minor Amendment to the NCCP/HCP Plan by providing a written submission to the other Parties in accordance with Section 8.3 of the Plan. The other Parties will use their reasonable efforts to respond to proposed Minor Amendments within sixty (60) days of receipt of such submission by either approving or denying the Minor Amendment or by notifying the proposing party that the proposed Minor Amendment must be processed as a Permit Amendment in accordance with Section 8.4 of this NCCP/HCP. Proposed Minor Amendments will become effective upon the other Parties' written approval. The Wildlife Agencies will not approve Minor Amendments to the Plan if they determine that such Minor Amendments would result in operations under the Plan that are different from those analyzed in connection with the original Plan, or may result in adverse effects on the environment that are new or significantly different from those analyzed in connection with the original Plan or may result in additional take that was not analyzed in connection with the original Plan.

In order to maximize cost effectiveness and minimize potential environmental impacts of water distribution, treatment, and storage projects throughout the region, the Water Authority may enter into legally binding agreements with one or more Member Water Agencies to: (1) build, on a reimbursement basis, a facility for shared use, or (2) allow the Water Authority to contribute funds to expand a Member Water Agency's facility so that the Water Authority can use the expanded capacity. The Water Authority may propose a minor plan amendment to cover either circumstance and expedite the project's completion to directly benefit the Water Authority's mission. Water Authority participation in these types of cooperative projects will require a written agreement between the Water Authority and the Member Water Agency that identifies the roles and

obligations of each party. The agreement would require Board approval to add the project to the CIP. For the purposes of this Plan, all such cooperative projects will be considered Water Authority projects. Implementation of the project will require compliance with the Plan's conservation commitments. The Wildlife Agencies will approve or disapprove use of the Minor Amendment process for the purposes identified in this paragraph in accordance with the requirements outlined in Section 8.3 of this NCCP/HCP.

8.3.1 Acquisition of Habitat Mitigation Credits or Additional Preserve Area

The addition of mitigation credits to the Plan's wetland and upland HMAs and acquisition of an additional Preserve Area within the Plan Area that may be used to mitigate impacts from Covered Activities are anticipated to be processed as a Minor Amendment. The actions could involve augmenting available mitigation habitat credits, adding to the Preserve Area or other approved preserve lands, or providing funds for additional preserve/reserve area acquisitions and/or management that supplement existing conservation requirements. Additional mitigation land acquisitions shall take into consideration the following factors:

- The distribution of Water Authority Covered Species on the lands proposed to be added to the Preserve Area;
- The level of conservation efforts for and threats to the habitats proposed to be added;
- The regional conservation benefits which may be accomplished through specific land acquisitions or strategic preservation efforts; and
- The anticipated mitigation needs for foreseeable future projects.

The Wildlife Agencies will use their reasonable efforts to approve or disapprove any addition to the Preserve Area or acquisition of credits needed by the Water Authority beyond the credits existing at the time of Permit issuance concurrent with the Water Authority's approval of the project requiring those acres or credits; this presumes the Water Authority has provided timely submittal of an adequate proposed Minor Amendment request covering the Preserve Area addition or acquisition of credits to the Wildlife Agencies. Prior to initiating any impacts to species or habitats that are proposed to be impacted through a Minor Amendment approved under this paragraph, the Water Authority will secure the mitigation by obtaining fee title to the property (executing a sales agreement and depositing funds into an escrow account), providing a letter of security in a mutually agreed-to amount to the CDFG or USFWS, or acquiring appropriate credits (and providing a sales receipt) from an approved conservation or mitigation bank within the Plan Area. When additional Preserve Area lands are to be

acquired, an agreement with a qualified land management entity that specifies management obligations and funding consistent with this Plan's commitments will be included as part of the property acquisition agreement and submitted to the Wildlife Agencies as part of the proposed Minor Amendment.

The Water Authority anticipates that the addition of mitigation credits and acquisition of additional Preserve Area within the Plan Area will not result in additional take and trigger a need to amend the permits. The Water Authority and Wildlife Agencies acknowledge that time is of the essence when negotiating real property acquisitions, and will use reasonable efforts to process their reviews of such acquisitions to provide their approval or rejection as quickly as practicable based on their respective staffing and work priorities.

8.3.2 Future Projects and Conditionally Covered Activities

The Water Authority anticipates that Future Projects proposed for locations outside the Survey Area/PIZ that fall within the definition of Covered Activities may be processed as Minor Amendments. Potential impacts from these Future Projects are anticipated to be within the Plan's authorized take (e.g., Table 6-8) and meet the criteria in Table 8-1. Such projects are referred to as "conditionally covered activities" and will require Wildlife Agency approval pursuant to the Minor Amendment process to proceed. If the project activity does not meet the criteria in Table 8-1 and/or either Wildlife Agency determines that the project does not qualify for approval pursuant to the Minor Amendment process, it will be processed as a Major Amendment. Documentation of Plan compliance will be provided in a written addendum and in the CEQA/NEPA documents, if required, prepared for the proposed project. Wildlife Agency review and approval will follow the process outlined in Section 8.3.

Pipeline 6 is an Existing Project with a certified EIR that has fulfilled its mitigation requirements and obtained its endangered species permits. However, the Water Authority has analyzed and may approve an alternative alignment with impacts different from those of the approved project. This Plan includes those alternative alignments in its analysis of potential impacts, and approval of one of the alternative alignments, including potentially the Pipeline 6 alignment within Riverside County, is anticipated to be processed as a conditionally covered activity under the Minor Amendment process. All other activities proposed by the Water Authority within Riverside County will be processed as Major Amendments to the Plan (see Section 8.4).

The Water Authority will provide the Wildlife Agencies a copy of the addendum supporting the appropriateness of a Minor Amendment, either incorporated as a discussion topic into a CEQA or CEQA/NEPA document, or a stand-alone addendum for review. The Wildlife Agencies acknowledge that time is of the essence and will use their

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reasonable efforts to provide their concurrence or non-concurrence within 60 days. If a CEQA document also is required, then the Wildlife Agencies will coordinate both CEQA comments and minor amendment concurrence within the CEQA response period. The Water Authority will be provided with specific, detailed written reasons for a finding of non-concurrence, including specific recommendations on how concurrence can be achieved.

8.3.3 Minor Changes to Covered Activities

The Water Authority's standard procedures for conducting construction and O&M Activities (Covered Activities) are detailed in Appendix D (General Conditions and Standard Specifications, 2005 edition). Changes to those conditions and specifications may be made in response to new equipment, materials, and procedures that improve the efficiency and effectiveness of the Water Authority's activities. Pre-activity surveys for Covered Activities within rights-of-way and other Water Authority-controlled lands may identify new methods or practices that could further minimize impacts to habitat and/or Covered Species status. Minor changes will result in the same or higher conservation level for the Covered Species and will not increase the incidental take. If changes to the conditions and specifications are proposed that potentially have an effect on the conservation commitments for the Covered Species, the changes will be processed as a Minor or Major Amendment, depending on the extent of the changes.

8.3.4 Adaptive Management Changes

Management and monitoring within the Preserve Areas may identify new practices that can improve habitat conditions and/or Covered Species' status. Changes to management (and monitoring) practices will be proposed and discussed in the annual report. Because these changes would be expected to enhance habitat conditions and/or Covered Species' status, the Water Authority anticipates that they will be processed as administrative changes to Plan in accordance with Section 8.2. Changes to the list of invasive plant species maintained by the Cal-IPC, or an equivalent organization or agency, are expected to occur over time. Changes to the list will be reported in the annual report. The addition or deletion of species on that list are not anticipated to result in a significant change to this Plan and are expected to be processed as administrative changes under Section 8.2. If changes to that list are expected to affect management/monitoring activities on the Preserve Area that would decrease the conservation commitments for Covered Species, those changes will be processed as a Minor or Major Amendment, depending on the extent of the changes.

8.4 Major Amendments

Major Amendments to the Plan will be required if a proposed action would include but not be limited to:

- increase take of a Covered Species;
- add a Covered Species;
- modify/expand the Plan Area to include vegetation communities and listed species not already included in the Plan;
- add or substantially modify a Covered Activity that could reduce conservation commitments in the Plan; and/or
- add a Future Project or O&M as a Covered Activity within the Major Amendment Area portion of Riverside County.

Major Amendments to the Plan will require detailed analyses of the anticipated effects of the proposed action on conserved habitats and Covered Species, on sensitive habitats and species not addressed in the Plan, and on the additional conservation to be provided through the Major Amendment process. Major Amendments will be processed as Permit Amendments in accordance with all applicable federal and state statutory and regulatory requirements, including NEPA and CEQA. The Wildlife Agencies will provide technical assistance to the Water Authority during the amendment process.

Upon receipt of a complete application from the Water Authority for a permit amendment, the proposed permit amendment would be processed in accordance with all applicable federal and state statutory and regulatory requirements. All Major Amendments to the Plan will be memorialized through an addendum to the plan and a Permit Amendment and will be documented in the annual report.

From time to time, additional lands may be annexed by the Water Authority to the Plan Area to incorporate lands which will receive imported water service (Water Authority's Service Area). Annexation, in and of itself, does not necessarily require the Water Authority to undertake any activities that may result in take, since it only serves to rectify the Water Authority Service Area boundary with that of its Member Water Agencies. Any changes to the Plan Area to include additional lands, for purposes of extending incidental take to Covered Activities on those lands or for purposes of adding lands to the Preserve Area, would require Plan and Permit amendment and NEPA/CEQA compliance. In addition, the Water Authority shall provide the Wildlife Agencies with a Boundary Modification Report (BMR) that includes the following:

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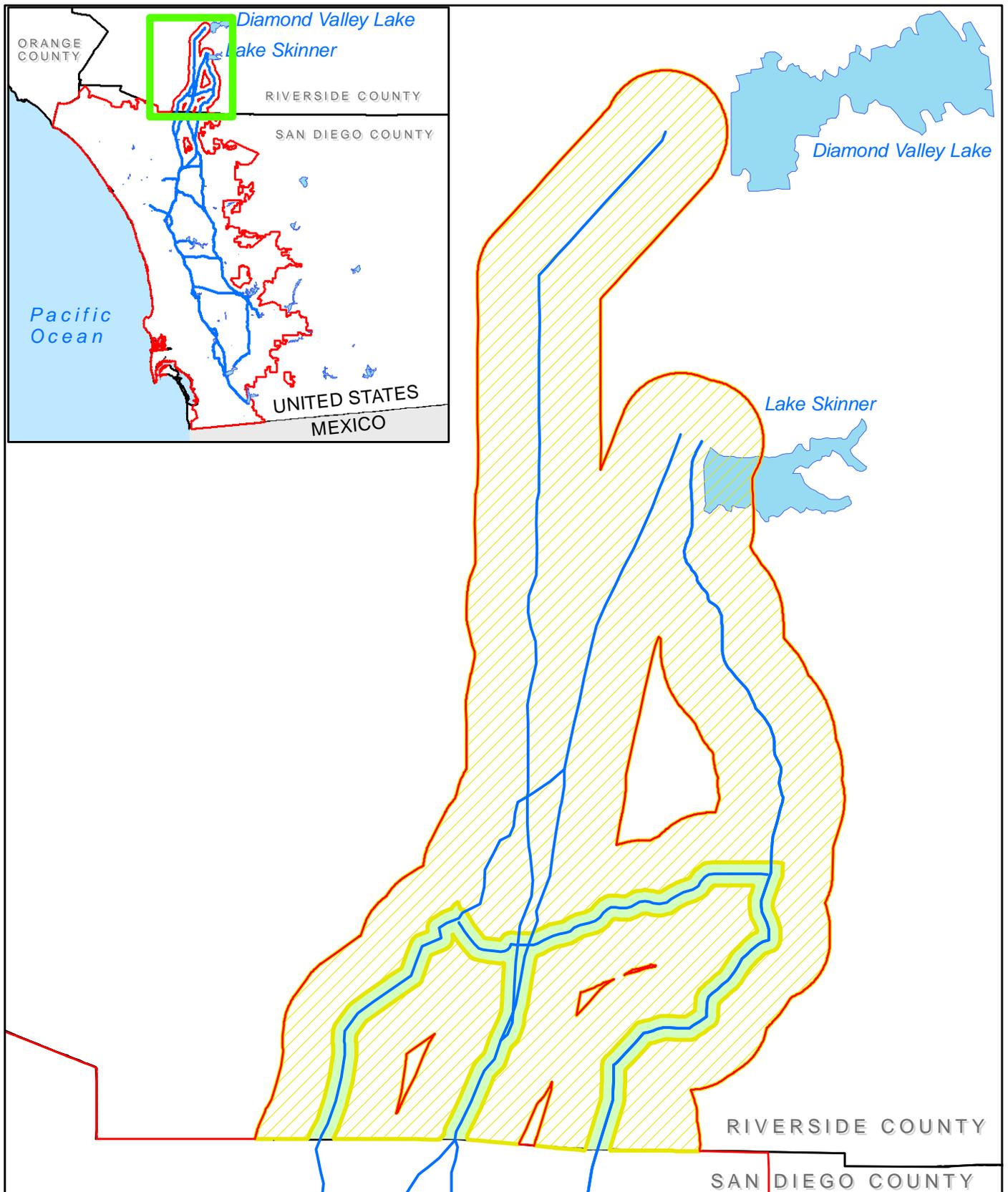
- A general biological survey of the land to be added, a vegetation map of the region, and an assessment of the potential for Covered Species to occur in the region;
- An analysis of sensitive species not covered by the Plan and known or with the potential to occur in the land (impacts to any listed, non-Covered Species would require a separate permit or Major Amendment for take);
- A description of the anticipated Water Authority activities, and a determination of potential effects of the activities on Covered Species and their habitats; and
- An analysis of compatibility with any existing local conservation plans that already cover the region.

The Water Authority would provide the BMR, in the form of a Major Amendment/Plan Amendment request, to the Wildlife Agencies for their review and concurrence. If the Major Amendment/Plan Amendment satisfies the conditions of the Plan, the Wildlife Agencies will make their reasonable efforts to process the permit amendments within 60 days or as soon as possible based on their respective staffing and work priorities. The Water Authority will be provided with specific, detailed written reasons for a finding of non-concurrence, including specific recommendations on how concurrence can be achieved.

Future Projects and O&M Activities in Riverside County could not be analyzed and permitted at the time of the implementation of the NCCP/HCP; therefore, Riverside County has been designated as “Major Amendment Area.” This area is displayed on Figure 8-1. Coverage for activities that result in take of a Covered Species within the Major Amendment Area, apart from the Pipeline 6 alignment impacts within the associated PIZ, which have been included as Covered Activities in the Plan, will be processed as Major Amendments.

8.5 Changed and Unforeseen Circumstances

Natural habitats are inherently subject to fluctuations, and many vegetation communities in southern California are adapted to cyclical events such as wildfires, floods, droughts and species’ population eruptions. Many of these fluctuations will be monitored and addressed through the adaptive management plans developed for the Preserve Area. However, some events or the scale of events may exceed the level of change that can be expected to be addressed through adaptive management responses. Changes greater than those which will be addressed through adaptive management are defined as “Changed Circumstances” and “Unforeseen Circumstances.”



- NCCP/HCP Plan Area
- ~ Existing/Planned Aqueducts and Pipelines
- Major Amendment Area
- Pipeline 6 Excluded Alignments



FIGURE 8-1

Location of Major Amendment Area

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Changed Circumstances refer to changes in circumstances affecting a species or geographic area that can reasonably be anticipated by the Water Authority and the Wildlife Agencies, and that can be planned for in the Plan (e.g., fires or other habitat-altering events that can reasonably be expected to occur and for which contingency actions can be planned to address adverse effects on Covered Species). Unforeseen Circumstances means changes in circumstances affecting a species or geographic area that could not reasonably have been anticipated by the Water Authority and the Wildlife Agencies at the time of the Plan's negotiation and development, and that result in a substantial and adverse change in the status of the Covered Species. Changed and Unforeseen Circumstances are further defined and discussed below in Sections 8.5.1 and 8.5.2 as they specifically apply to this Plan.

8.5.1 Changed Circumstances

Changed Circumstances are defined (50 CFR Section 17.3) as those events that may affect a species or geographic area covered by this Plan that can reasonably be foreseen by the Water Authority and the Wildlife Agencies during planning and development of the Plan. Changed Circumstances for this Plan include the following reasonably foreseeable events: flood; fire; extended period of reduced precipitation; invasion by exotic species or disease; toxic spills, vandalism, and other illegal human activity; and listing of non-Covered Species. The effects of climate change as they relate to Changed Circumstances are discussed under each applicable category below. Natural events, such as flood, fire, drought, invasive species, and disease that could initiate Changed Circumstance under this Plan would most likely be of regional concern for some or all of the other conservation plans within this Plan Area, and responses would likely be implemented in coordination with other HCP permittees. The Water Authority's responses would be implemented to complement responses by other permittees.

The following outline describes how the Water Authority will generally address Changed Circumstances should they occur:

- Notification of the Wildlife Agencies by the Water Authority in writing and within 30 days that a Changed Circumstance has occurred.
- Preparation of an appropriate assessment to determine severity of an event and its impacts. Water Authority staffs (Operations and Maintenance, Right-of-way (property) Management, and Water Resources) will work together to determine the extent of impacts on Water Authority-controlled properties. If a Preserve Area is reported by the land manager to have sustained a Changed Circumstance, the Water Resources staff will work with the land manager to verify and determine the extent of impacts.

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- The appropriate land managing entity (Water Authority, Preserve Area land manager, etc.) will prepare a draft remediation plan, timeline, and cost estimate and determine if environmental compliance (CEQA/NEPA) is required. The preparers will make reasonable efforts to provide the draft remediation plan to the Wildlife Agencies and may initiate responses within 60 days of the determination of Changed Circumstance. The Wildlife Agencies will use their reasonable efforts to provide their concurrence or non-concurrence within 60 days from receipt of the draft plan, including any specific recommendations to modify the plan.
- The approved (concurrence by the Wildlife Agencies) remediation plan will be used by the management entity to implement the identified adaptive management activities, and if necessary to re-allocate funds. All required environmental compliance will be completed before actions are implemented; if an emergency response is required then the management entity will follow-up with all required post-action documentation. A summary report will be prepared by the management entity on the Changed Circumstance event/condition, actions implemented, results of the actions, and any recommendations for future activities. The management entity will make a reasonable effort to submit a post-response summary to the Wildlife Agencies within 60 days of completion of the response.
- The Water Authority and Preserve Area land managers will plan and implement the responses to Changed Circumstances in coordination with the Wildlife Agencies.
- Identify administrative, management, and monitoring actions that the Water Authority and Preserve Area land manager could implement to reduce future recurrences of the Changed Circumstance.

Events that meet the Changed Circumstance threshold will be addressed through monitoring and the steps identified below in Sections 8.5.1.1 through 8.5.1.6. This will ensure that the Water Authority has guidelines for responding to and reporting on Changed Circumstances.

8.5.1.1 Flooding

Definition. A Changed Circumstance flood event will be defined for a particular flood plain or river valley as a flood greater than the 50-year flood level and less than the 100-year flood level, as defined by the Federal Emergency Management Agency (FEMA) and causing permanent impacts to one or more conserved vegetation communities within the Preserve Area. The determination of permanent loss will be made by the management entity and based on whether the manager concludes that the area cannot be restored within five years of the event. FEMA has developed flood zone

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maps that designate flood hazard areas. A 100-year flood area identifies the elevations that have a one percent chance of being inundated by flood in a given year (FEMA 2006). These designations may not be applicable to or present within all Preserve Areas or any right-of-way/facility habitat areas for which the Water Authority and Preserve Area managers have made a commitment to manage for the benefit of Covered Species. Flood events that exceed the local area's flood protection level will require the Water Authority or Preserve Area land manager to determine if a response to the Changed Circumstance is required and within the capability to accomplish, and if so, to address the situation.

Risk Assessment. The Water Authority expects streams, rivers, and floodplains within the Plan Area to flood periodically and to recover naturally from a flood event. Climate change may affect the periodicity and severity of flooding in the future. Predicting the potential for future flooding events, particularly in southern California, is difficult because of its inherent highly variable and localized weather (particularly rainfall). Due to the difficulty in making predictions, the effects of climate change on flooding events cannot be reasonably predicted with the best available scientific information currently available. The severity of a flood event above the design flood stage will increase the likelihood of impacts to conserved habitat.

Flooding within the wetlands HMAs is generally considered a periodic and desirable event. Flooding can result in establishment of new primary and secondary channels and abandonment of other channels. It may also result in redistribution of wetland and riparian communities within the floodplain and multiple age classes of vegetation patches within the flood plain. The primary stressor associated with flooding is the potential for substantial and adverse colonization by non-native invasive plant species after a significant flood event which is addressed in Section 8.5.1.4.

Preventive Measures and Responses. The Preserve Area manager will use reasonable efforts to prepare and submit to the Water Authority and Wildlife Agencies a flood response plan and may initiate responses within 60 days of determining that a flooding Changed Circumstance has occurred. Based on that report and discussions with the Water Authority and Wildlife Agencies, the manager will implement and maintain responses in addition to standard practices for flood protection as required to meet FEMA or local zoning requirements. The possible responses to Changed Circumstances for flooding include but are not limited to:

- Recontour the area to minimize future erosion risks;
- Install erosion control structures;
- If determined appropriate by the land manager, allow the site to restore passively (primarily wetlands); and

- Actively revegetate the site with appropriate plant species.

8.5.1.2 Fire

Definition. A Changed Circumstance fire event will be defined as one that exceeds the ability of the land management entity's standard staff/equipment to control and occurs over the same area(s) more frequently than the expected recovery interval for the affected vegetation communities. Exceeding the ability of the land management entity means that the available fire management resources (as described/listed in the land management plan) cannot contain/control the fire and additional fire fighting resources are required to control and contain the fire. The effects of fire frequency on vegetation types may vary by proximity to the coast, elevation and aspect, time of year, and other factors. For this Plan, repeated frequencies triggering Changed Circumstances for fire in the major upland vegetation types are defined as: occurring more frequently than a 50-year interval for chaparral, more frequently than a 20-year interval for coastal sage, and more frequently than a five-year interval for grasslands.

Risk Assessment. Fires can result from natural sources such as lightning strikes, as well from human activities (e.g., campfires, trash/brush burning, vandalism, arson). Many vegetation communities in southern California have evolved with, or even depend on, natural fire events to maintain conditions favorable to their persistence. Montane (coniferous) and chaparral communities generally have evolved and adapted to longer intervals between natural fires than sage scrub and grassland communities. Too frequent fire intervals can lead to disruption of natural regeneration cycles, including loss of mature (reproducing age) native plants and seed beds, which cause shifts to more fire-tolerant native vegetation communities or the expansion of non-native, invasive species that can greatly disrupt the natural habitats. Preserve lands (and any rights-of-way/facilities managed for Covered Species) that are part of larger natural landscapes/reserve systems may be less likely to experience human-caused fire events. Areas that are adjacent to the urban fringe are potentially more likely to experience human-caused fire events.

Recent reviews of literature on wildfire effects on southern California shrublands suggest that there are no definitive fire frequency intervals that characterize the "natural" fire frequency interval (Diffendorfer, et al, 2008; Farm and Home Advisor's Office, UC Cooperative Extension, San Diego County 2007; Keeley 1995; San Diego Wildfire Education Project 2009; The Chaparral Institute 2009). These reviews strongly suggest that the frequency/interval of fires are more important than the severity and size of fires in determining long-term community health and resilience. There appears to be a general acknowledgement that fires in sage scrub and chaparral that are more frequent than 30 to 50 years are likely to cause a loss of typical dominant species and conversion to mixed vegetation communities with higher components of non-native species. Sage scrub vegetation appears to tolerance more frequent fires than chaparral vegetation, but

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fires that are more frequent than two-10 years in sage scrub and 10-30 years in chaparral have shown extirpation of many native species and conversion to non-native dominated communities.

Climate change may exacerbate the size and intensity of fires in the future. Climate change models indicate that southern California may show appreciable warming, which combined with little change in precipitation (as noted above), could increase fire events above the historical condition. However, as with the risk assessment for flooding, it is difficult to predict the specific effects from climate change. Recent (2003 and 2007) wildfire events in San Diego affected the three main upland Preserve Area properties (San Miguel HMA, Crestridge HMA, and Rancho Cañada HMA).

After many natural fire events, vegetation communities would be expected to recover naturally. However, dry conditions and excessive fuel build-up may result in fire damage that requires remedial actions, particularly to minimize erosion and non-native invasive species. The potential increase of non-native, invasive species that may replace/displace native vegetation is discussed below (see Section 8.5.1.4).

Preventive Measures and Responses. The Preserve Area manager will use reasonable efforts to prepare and submit to the Water Authority and Wildlife Agencies a fire response plan and may initiate responses within 60 days of determining that a wildfire Changed Circumstance has occurred. Based on that report and discussions with the Water Authority and Wildlife Agencies, the manager will implement and maintain responses in addition to standard preserve fire protection practices. The Water Authority's standard operating practices and procedures would help avoid/minimize fire starts by Water Authority Covered Activities. Also, the Water Authority regularly maintains fire clearance around its facilities and does not encourage public access on its right-of-way roads. Preserve Areas managed by other entities have or will develop fire management elements in their Preserve Management Plans. If a Changed Circumstance fire event occurs within a Preserve Area or right-of-way/facility area that is managed for Covered Species, a qualified individual (e.g., Environmental Surveyor) will assess the area to determine specific actions to be implemented. Possible responses to a Changed Circumstance fire may involve:

- Revisions to standard fire prevention procedures by the land management entities on Preserve Areas and the Water Authority on its rights-of-way and easements;
- Collaboration with local fire agencies to assess and revise specific fire-related practices within Preserve Areas (fire breaks, vegetation management, etc.);
- Revisions to Preserve Area management plans regarding public access, use, and fire information;

- Installation of temporary erosion control features;
- Increased invasive (particularly fire-facilitating) species control and native plant reseeding or planting;
- Revisions to vegetation monitoring in potential fire-prone areas and post-fire areas.

8.5.1.3 Extended Periods of Reduced Precipitation

Definition. A Changed Circumstance due to reduced precipitation is an event that involves two consecutive years of annual precipitation that is less than 5.73 inches (one standard deviation below the average annual precipitation for the Lindberg Field historical record data, 1801-2008).

Risk Assessment. Annual rainfall is variable and not controlled by human activity. Drought cycles are cyclical and a natural event in southern California to which the vegetation communities and species have adapted. Extended periods of reduced precipitation (more than two consecutive years) may cause natural communities to sustain significant decreases in plant cover and diversity and subsequently to losses of animal species. Covered Species may be at greater risk than other species if their habitat needs or population numbers are already compromised.

Climate change will affect precipitation, but the changes to southern California may not be as substantial as other areas. As described in the previous sections, climate models are not accurate for localized areas. The effects of climate change on reduced precipitation in the Plan Area cannot be definitively predicted based on current best available scientific information.

Preventive Measures and Responses. The Water Authority and Preserve Area managers have no control over the duration or severity of reduced precipitation. The Preserve Area manager will use reasonable efforts to prepare and submit to the Water Authority and Wildlife Agencies a drought response plan and may initiate responses within 60 days of determining that an extended period of reduced precipitation Changed Circumstance has occurred. Based on that report and discussions with the Water Authority and Wildlife Agencies, the manager will implement and maintain responses in addition to standard preserve management practices. Possible actions that may be taken in response to reduced precipitation include:

- Revisions to standards and practices for establishing revegetation sites to maximize planting survival during periods of reduced water availability;
- Collaboration with other conservation area managers to assess regional habitat and Covered Species conditions;

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- Implement vegetation reduction (e.g., biomass thinning of non-sensitive/non-covered species, particularly non-native species) to conserve available water;
- Provide limited, temporary irrigation to highly vulnerable areas in the Preserve, subject to water availability;
- Revisions to the methods for monitoring of vegetation conditions and Covered Species' status to identify areas/species that may require additional management.

8.5.1.4 Invasive Non-native (Exotic) Species or Diseases

Definition. A Changed Circumstance event due to the presence of an invasive, non-native species is the introduction of an invasive species within a preserve that has either: (a) not previously been known in the Plan Area and has been noxious elsewhere; or (b) is a particularly noxious variety of a non-native species that is resistant to typical control measures. The Plan does not monitor for diseases, but a disease Changed Circumstance event is when a federal, state, or local agency declares a disease condition that could threaten the status of a Covered Species.

Risk Assessment. Invasive non-native species are those that are not indigenous to the Plan Area and have the potential to increase in numbers and/or coverage such that they threaten the continued viability of conserved habitats and/or Covered Species. Many invasive, non-native species presently occur within Preserve Areas and on rights-of-way/facilities in the Plan Area and pose little threat to Covered Species. Often, these species reach temporary, but problematic, levels after some disturbance such as drought, excessive precipitation or fire; or, as a result of importation by humans.

Climate change could alter habitat conditions and favor some invasive, non-native species and diseases over native species. As noted previously, the effects of climate change on habitat conditions in the Plan Area cannot be definitively predicted based on current best available scientific information. However, based on monitoring data and information from other conservation managers and specialists, the Water Authority or Preserve Area manager will determine if a response is required.

Preventive Measures and Responses. The land management entity's Preserve Area management plans will address invasive species monitoring and control. The Preserve Area manager will use reasonable efforts to prepare and submit to the Water Authority and Wildlife Agencies an invasive species/disease response plan and may initiate responses within 60 days of determining that Changed Circumstance has occurred. Based on that report and discussions with the Water Authority and Wildlife Agencies, the manager will implement and maintain responses in addition to standard preserve invasive species/disease control practices. If a Changed Circumstance event for invasive species or disease is determined by the land manager to have occurred in a

Preserve Area, the land manager will have a qualified individual (e.g. biologist or pest control specialist) assess the condition to determine specific actions that are appropriate to be implemented. Possible responses to a Changed Circumstance invasive species or disease may involve:

- Increased removal and monitoring of the problem species or location;
- Revision to specific elements of the management plan to better address overall non-native species monitoring and management;
- Collaboration with other conservation area managers to assess and implement new control techniques.

8.5.1.5 Toxic Spills, Dumping, Vandalism, and Other Illegal Human Activity

Definition. Preserve managers and Water Authority staff may transport, store, and use legal but potentially dangerous materials as part of routine operations, and are prepared to address minor spills. Most containers for pesticides, cleaners, and spare gas cans are 10 gallons or less, and an accidental spill of a container generally would involve less than 10 gallons. This Plan defines a Changed Circumstance for a toxic material (as defined by local, state, or federal regulations) spill as an incident that involves any potentially toxic material that is over 10 gallons or 200 square feet and up to 25 gallons or 500 square feet. Unauthorized dumping is often associated with isolated, individual actions (throwing out trash, trash bags, pieces of furniture, etc.) that affect small areas, from five to 50 square feet. This Plan defines a Changed Circumstance for unauthorized dumping as an incident that exceeds 50 square feet and up to 500 square feet.

Risk Assessment. Preserve Area properties managed by this Plan are mostly not close to urban areas or roads that could be used to transport hazardous materials or that increase the potential for unauthorized dumping and vandalism could sustain damage that potentially affects Covered Species. Unlike the preserve lands in other plans, many of which are adjacent to developed areas and/or major roads and potentially subject to spills by municipal/industrial activities and transport vehicles, those risks are less likely for these HMAs. These HMAs will have limited amounts of toxic chemicals (pesticides) stored per local agricultural commissioner's regulations and use will be limited to small containers (gallon containers, etc.) when herbicides or other chemicals are to be used.

Preserve Area staff may store and use materials (i.e., pesticides, cleaners, and fuel for maintenance equipment) in small containers (less than 10 gallons) that could accidentally be spilled. Most spills that could affect Preserve Area activities would be expected to result from Preserve staff activities, be small, and contained/cleaned-up by staff. For example, the Water Authority's standard emergency spill procedures identify spills of less than 10 gallons to be "small events" that can be handled by staff with

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standard spill response kits. Some spills from Preserve Area accidents could exceed 10 gallons (and up to 200 square feet) that could be handled by re-prioritizing Preserve Area staff and resources. Spills greater than 25 gallons or 500 square feet would be unexpected/unlikely and not within the Preserve Area staff's abilities safely/successfully contain and clean-up.

Climate change is not expected to have a predictable effect on toxic spills or unauthorized dumping or vandalism.

Preventive Measures and Responses. The Water Authority's standard operating practices and procedures, and the commitments in Preserve Area management plans would help avoid/minimize illegal human activities. The Preserve Area manager will use reasonable efforts to prepare and submit to the Water Authority and Wildlife Agencies an illegal dumping response plan and may initiate responses within 60 days of determining that Changed Circumstance has occurred. Based on that report and discussions with the Water Authority and Wildlife Agencies, the manager will implement and maintain responses in addition to standard preserve spill control practices. Toxic spills will be responded to immediately. If a Changed Circumstance event occurs within a Preserve Area or right-of-way/facility area that is managed for Covered Species, a qualified individual (e.g., Environmental Surveyor or Hazardous Material Spill Specialist) will assess the area to determine specific actions to be implemented. Dumped material will be assessed for hazardous materials before clean-up. Possible responses to a Changed Circumstance related to illegal human activities may involve:

- Immediately, upon notification of a spill, employ all required hazardous spill precautions, particularly to contain the materials;
- Notify appropriate authorities per hazardous spill reporting requirements and request assistance if the response exceeds Water Authority or Preserve Area manager capabilities (contact lists to be maintained by Water Authority Operations and Maintenance/Dispatcher and Preserve Area managers);
- Determine if continued unauthorized access is allowing illegal activities to occur on Preserve Areas and rights-of-way/facilities managed for Covered Species and, where determined by the Water Authority or land manager, install appropriate barriers or increased monitoring;
- Review and revise storage and use of toxic/hazardous materials at the Preserve Areas;
- Notify regulatory agencies if spills, dumping, or vandalism may violate federal, state or local regulations;
- Notify local enforcement agencies of repeated illegal activities;

- Remove all unauthorized dumped materials;
- If determined appropriate, prosecute and seek remediation from responsible parties.

8.5.1.6 Future Listings of Non-Covered Species and Designation of Proposed or Revised Critical Habitat

Definition. The future listings of non-Covered Species and designation of proposed or revised critical habitat for a Covered or non-Covered Species are reasonably foreseeable during the term of the Permit and are a Changed Circumstance. In the event that a species, which is not a Covered Species pursuant to this Plan and associated take permit, is listed by either the USFWS or CDFG or critical habitat is designated or revised for a listed species within the Plan Area subsequent to the issuance of a take permit pursuant to the Plan, such listing will be considered a Changed Circumstance.

In the event a non-Covered Species is newly listed or critical habitat is designated or revised for a listed species within the Plan Area, the Water Authority will consult with the Wildlife Agencies, and following such consultation will initiate those responsive measures, if any, identified by the Wildlife Agencies as necessary to avoid take of or jeopardy to the newly listed species, and/or adverse modification of any newly designated or revised Critical Habitat within the Plan Area. Those measures will be followed until and unless the Water Authority's permit is amended to include coverage for the newly listed species or the Wildlife Agencies notify the Water Authority that such measures are no longer required to avoid take of or jeopardy to the species or adverse modification of designated Critical Habitat. The Water Authority will obtain appropriate federal and/or state permits to allow take of newly listed animal species prior to impacts occurring. The Major Amendment process for adding a new species to the Covered Species list for this Plan is discussed in Section 8.4 of this Plan.

8.5.2 Unforeseen Circumstances

Unforeseen Circumstances (defined in 50 CFR Section 17.3) refers to changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the USFWS (or CDFG) at the time of the conservation plan's negotiation and development and that result in a substantial and adverse change in the status of the Covered Species.

Unforeseen Circumstances include future unanticipated conditions, which are either not defined as Changed Circumstances or which exceed the definitions developed for Changed Circumstances particularly in terms or severity or extent (e.g., flood or fire affecting species continued existence).

8.5.2.1 Planned Response in the Event of Unforeseen Circumstances

Unforeseen Circumstances will require immediate consultation and discussion between the Wildlife Agencies and the Water Authority. The Wildlife Agencies bear the burden of demonstrating that Unforeseen Circumstances exist, using the best available scientific and commercial data available and considering certain specific factors. In its evaluation the Wildlife Agencies will consider, but not be limited to, the following factors, which will then be the basis for evaluating what could be affected:

- The size of the current range of the affected Covered Species.
- The percentage of the range of the affected Covered Species that has been adversely affected by Covered Activities under the Plan.
- The percentage of the range of the affected Covered Species that has been conserved by the Plan.
- The ecological significance of that portion of the range of the affected Covered Species affected by the Plan.
- The level of knowledge about the affected Covered Species and the degree of specificity of the Covered Species conservation program under the Plan.
- Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected Covered Species in the wild.

Any findings of Unforeseen Circumstances must be clearly documented and based upon reliable technical information regarding the biological status and habitat requirements of the affected species. Except where there is substantial threat of imminent, significant adverse impacts to a Covered Species, the Wildlife Agencies shall provide the Water Authority at least 60 calendar days written notice of a proposed finding of Unforeseen Circumstances, during which time Wildlife Agencies shall meet with the Water Authority to discuss the proposed finding, to provide the Water Authority with an opportunity to submit information to rebut the proposed finding, and to consider any proposed changes to the conservation land management plans.

If the Wildlife Agencies make a finding of Unforeseen Circumstances in accordance with the procedures described above and determine that additional conservation measures are warranted, such additional conservation measures shall conform to the maximum extent possible to the original terms of this Plan. Additional conservation measures shall be limited to those that would not require additional financial compensation, land or land restrictions, or water or water restrictions beyond those required by the Plan at the time of issuance of the section 10(a)(1)(B) Permit without the consent of the Water Authority.

A finding of Unforeseen Circumstances does not allow Covered Activities undertaken pursuant to the Plan to cause jeopardy to a species, unauthorized take of a species, or adverse modification of the designated critical habitat of a species.

The Water Authority shall cooperate with the Wildlife Agencies in identifying and implementing fair, reasonable, and necessary modifications to the preserve management and habitat acquisition elements of this Plan.

8.5.3 Costs and Timing for Addressing Changed Circumstances

As described previously, the Water Authority will assess the conditions for which Changed Circumstances is being invoked. Funding for addressing Changed Circumstances will be re-allocated from the existing funds appropriated by the Water Authority and Preserve Area managers for this Plan. The Water Authority or Preserve Area managers will estimate the time and costs to address the event within its preserve lands and any right-of-way/facility that is managed for Covered Species. Costs to restore or repair, monitor the involved area(s) are discussed below:

Minor Damages. Minor damages are those costing less than \$25,000. It is anticipated that repairs/restoration will be initiated and the primary work completed within six months of the incident. Examples of minor damage are:

- Damage to fencing, barriers and other facilities that may protect Covered Species, or
- Damage/impacts to small patches (less than five acres) of conserved vegetation communities.

Moderate Damages. Moderate damages are those costing \$25,000-49,999. It is anticipated that repairs/restoration will be initiated and the primary work completed within nine months of the incident. Examples of moderate damage are:

- Damage to roads, flood control facilities, and other facilities that may protect Covered Species, or
- Damage to small patches (less than five acres) of conserved vegetation communities supporting Covered Species and requiring special studies or species collections for on-site re-establishment.

Major Damages. Major damages are those costing \$50,000 or more. The Water Authority will implement plan responses to these events as soon as possible, but note that such responses may require study and trigger the need for regulatory permits before repairs and/or restoration can be initiated

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