

# **San Diego National Wildlife Refuge Draft Comprehensive Conservation Plan/Environmental Assessment**

## **Executive Summary**

### **INTRODUCTION**

This draft Comprehensive Conservation Plan and Environmental Assessment (CCP/EA) for the San Diego National Wildlife Refuge (NWR or Refuge) fulfills the U.S. Fish and Wildlife Service's legislative obligations pursuant to the National Wildlife Refuge System (NWRS) Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (the Improvement Act) (Public Law 105-57), as well as the requirements of the National Environmental Policy Act (NEPA). When final, the CCP will provide long-range guidance for Refuge management through its vision, goals, objectives, and strategies.

The CCP is intended to:

- Ensure that Refuge management is consistent with the NWRS mission and Refuge purposes and that the needs of wildlife come first, before other uses;
- Provide a scientific foundation for Refuge management;
- Establish a clear vision statement of the desired future conditions for Refuge habitat, wildlife, visitor services, staffing, and facilities;
- Communicate the Service's management priorities for the Refuge to its neighbors, visitors, partners, State, local, and other Federal agencies, and to the general public;
- Ensure that current and future Refuge uses are compatible with Refuge purposes;
- Provide long-term continuity in Refuge management; and
- Provide a basis for budget requests to support the Refuge's needs for staffing, operations, maintenance, and capital improvements.

As required by NEPA, the potential direct, indirect, and cumulative effects of implementing the various management alternatives presented for the Refuge are evaluated in Chapter 5 of the draft CCP/EA. This analysis has been conducted for each aspect of the environment described in Chapter 3, Affected Environment (i.e., physical environment, biological resources, cultural resources, socio-economic environment). Chapter 4 describes the management alternatives considered for the San Diego NWR. The alternatives, which include the no action alternative and three action alternatives, each address a different approach to achieving Refuge goals and objectives. Alternative A (no action) describes the current management practices on the Refuge. The extent of analysis provided for the actions proposed within each alternative reflects the level of detail currently available for the specific proposal. The environmental effects of implementing the various strategies are evaluated at the project-specific level whenever sufficient detail about the project and its implementation has been presented in Chapter 4.

Following the completion of public review and evaluation of the comments received, the Service will identify the preferred alternative for managing the San Diego NWR. Assuming no significant adverse effects are identified, the Service will also issue a Finding of No Significant Impact (FONSI). Once the FONSI is signed, the Final CCP will be prepared.

## REFUGE ESTABLISHMENT/PURPOSES

The San Diego NWR was established in 1996 to protect, manage, and restore habitats for federally listed endangered and threatened species and migratory birds and to maintain and enhance the biological diversity of native plants and animals. The lands within the Refuge represent the Federal government's contribution to the San Diego Multiple Species Conservation Program.

**Refuge Size** - 11,537 acres (as of August 2013); 11,477 acres on the Otay-Sweetwater Unit and 60 acres on the Del Mar Mesa Vernal Pool Unit (Figure 1).

**Listed and Sensitive Species** - 16 species currently listed as threatened or endangered under the Federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA) are known to occur on the Refuge or have occurred here within the last 20 years; at least 35 species covered by the San Diego MSCP have been documented on the Refuge; and critical habitat for 11 listed species as been designated within the Refuge boundaries.

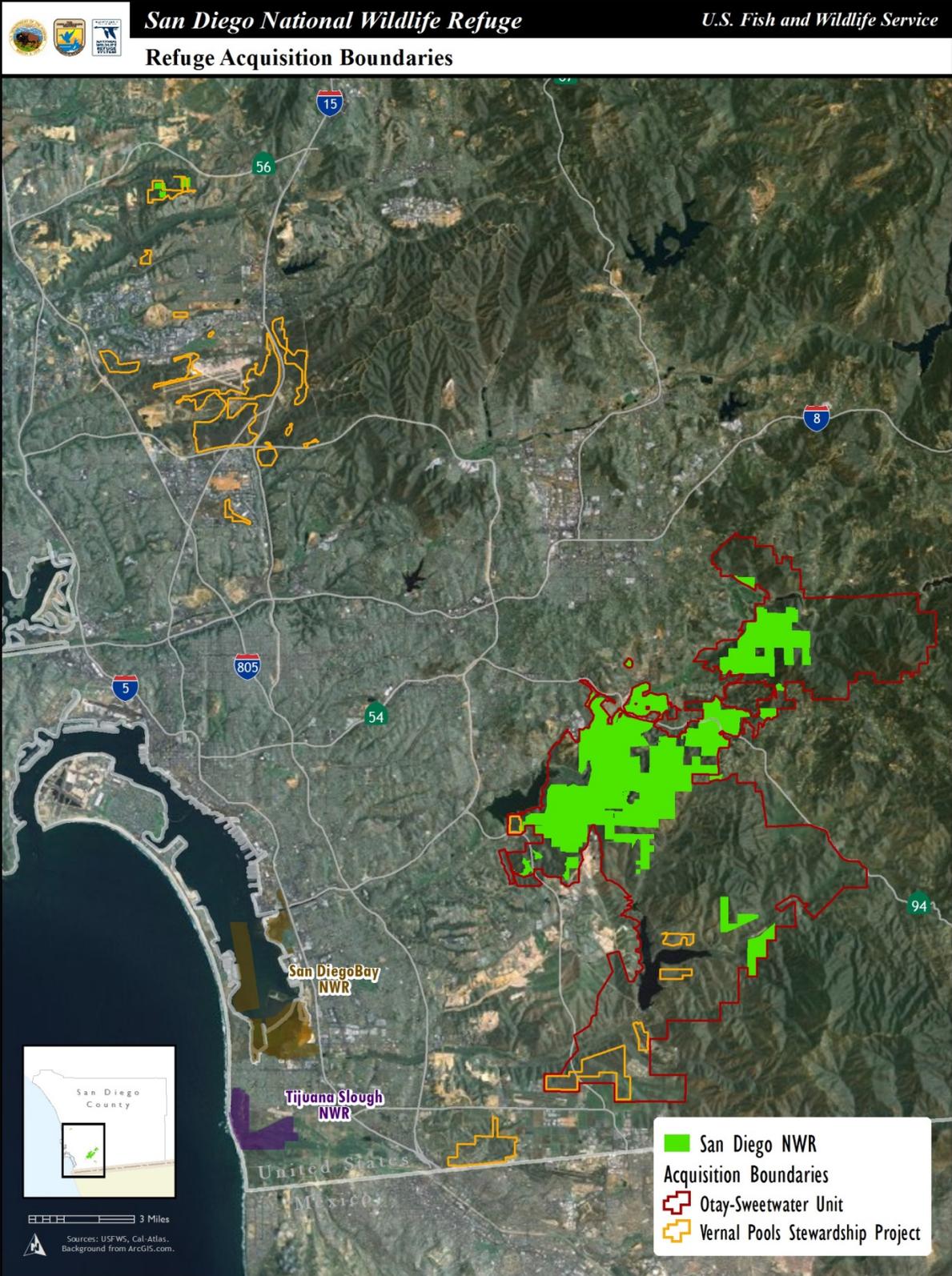
## MANAGEMENT ALTERNATIVES

**Alternative A (No Action)**: Continue current management, including monitoring and recovery actions for listed and sensitive species, fire management, and minimizing disturbance associated with public use. Current uses include wildlife observation, photography, interpretation, environmental education, trail use, and research (Figure 2). Unsustainable trails have and will continue to be rerouted, repaired, or closed to minimize impacts to sensitive resources.

**Alternative B**: Alternative B (Figure 3) focuses on maximizing habitat values and species protection. Uses already occurring on the Refuge would be managed to minimize disturbance to plants and wildlife. Public access would be restricted to a designated trail system consisting of both non-motorized multiple use (i.e., equestrian, mountain biking, hiking) trails and hiking only trails. Existing trails that contribute to erosion, habitat loss, habitat fragmentation, and species disturbance would be closed and restored to native habitat. No dogs would be permitted on the Otay-Sweetwater Unit under the alternative. Habitat management and public use on the 60-acre Del Mar Mesa Vernal Pool Unit would occur in accordance with the City of San Diego's Carmel Mountain and Del Mar Mesa Preserves Management Plan under all of the action alternatives.

**Alternative C**: Alternative C (Figure 4) proposes to expand public use opportunities on the Otay-Sweetwater Unit, including providing hunting opportunities in designated locations, while implementing the same wildlife and habitat management activities proposed under Alternative B. A few more trails are included within the designated trail system and all would be open to non-motorized multiple use. Trails not included in the proposed trail system would be subject to closure. Leashed dogs would be permitted on the trails. In addition, hunting, conducted in accordance with Refuge-specific regulations, would be permitted on portions of the McGinty Mountain, Las Montañas, and Otay Mesa and Lakes management areas of the Refuge.

**Alternative D (Preferred Alternative)**: Alternative D (Figure 5) proposes to optimize species and habitat protection, while expanding opportunities for compatible public use. Hunting for big game (i.e., deer, feral pig), resident small game (i.e., rabbits), and resident and migratory upland game bird (e.g., dove, quail, wild turkey) is proposed on a portion of the Otay Mesa and Lakes management area. The designated trail system on the Otay-Sweetwater Unit would include non-motorized multiple use trails, with some hiking only trails. Leashed dogs would be permitted on trails designated for multiple use.



**Figure 1. Location Map**



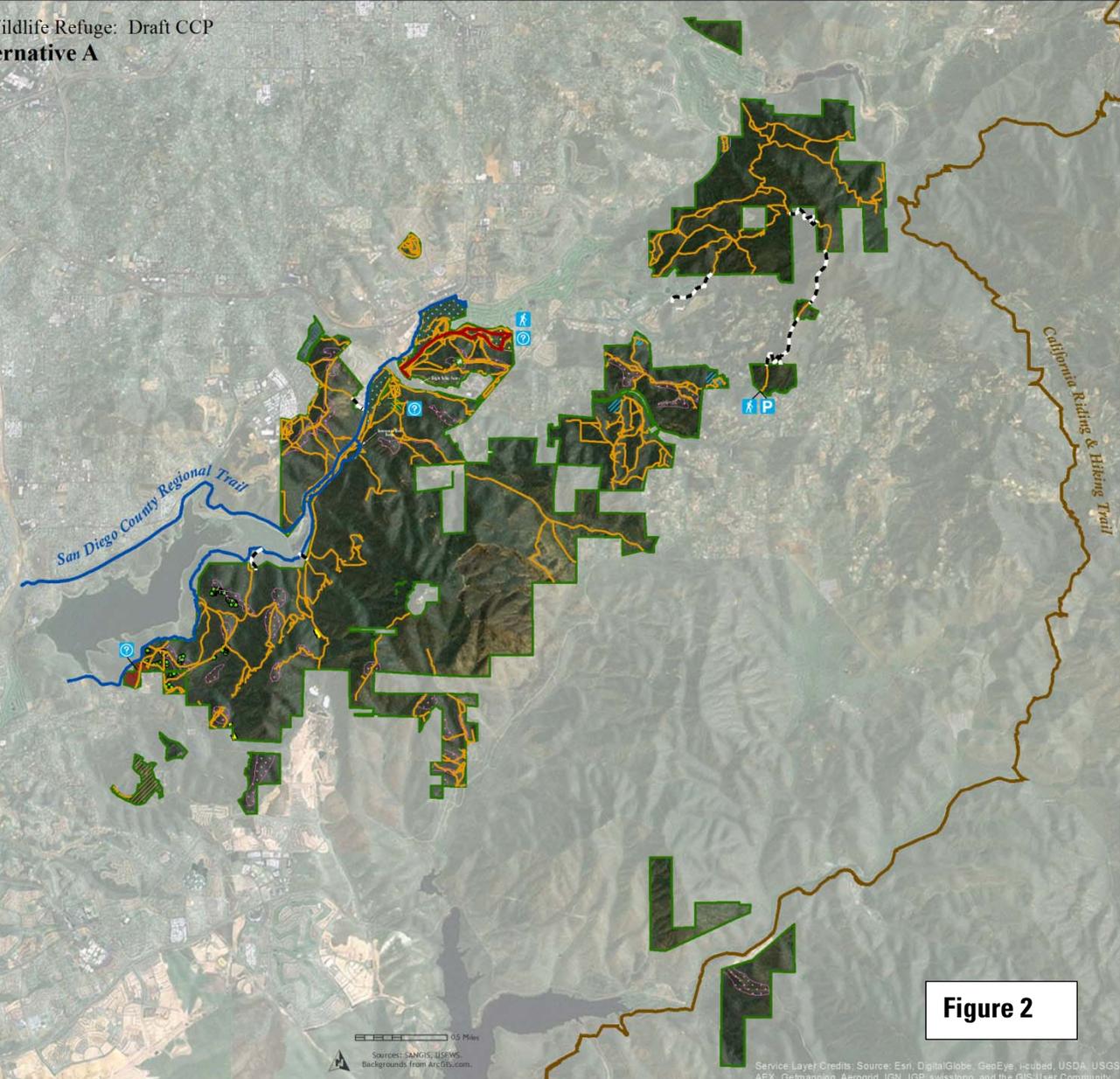
San Diego National Wildlife Refuge: Draft CCP  
**Management Alternative A**

**PUBLIC USE**

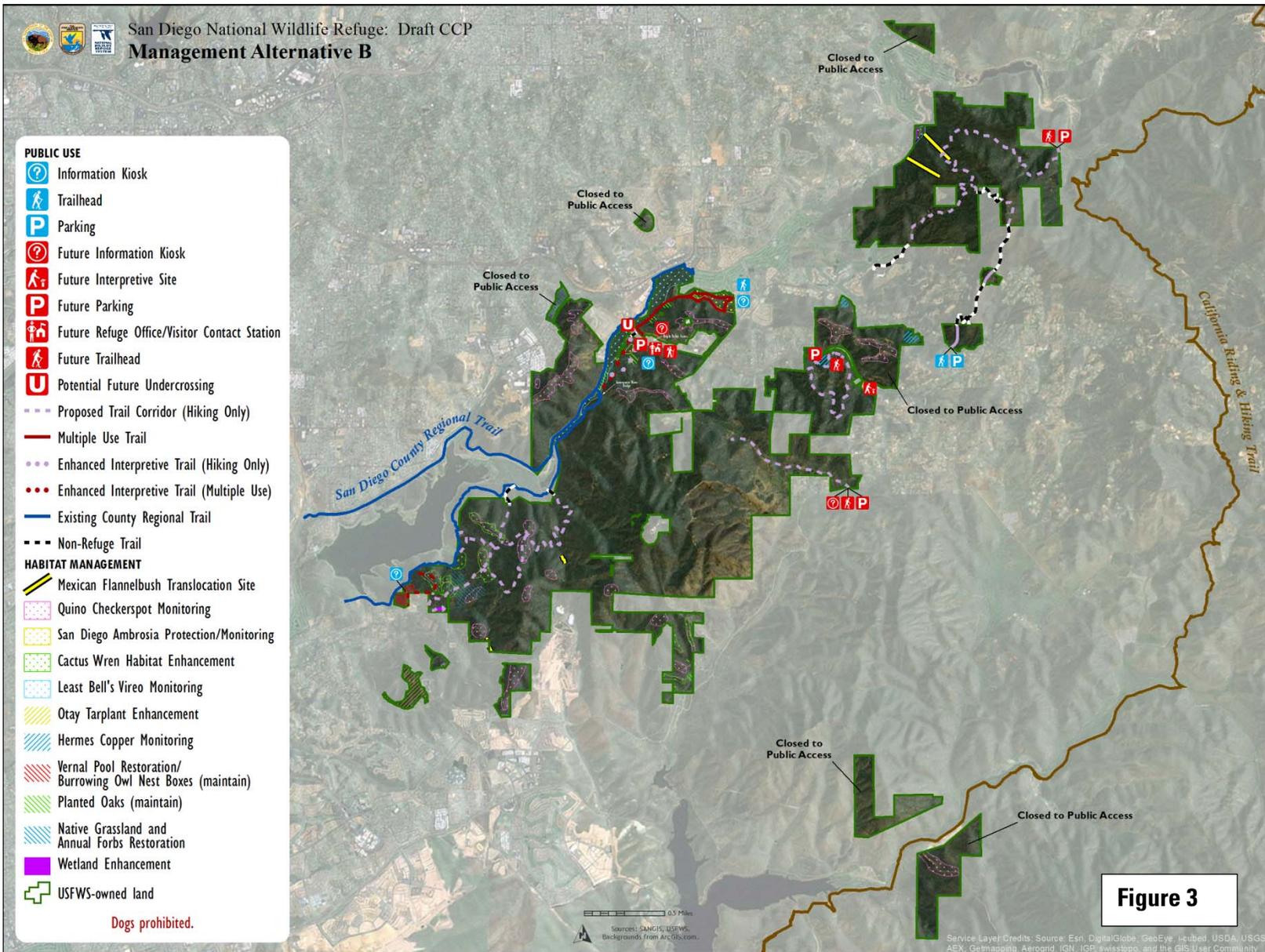
- Information Kiosk
- Trailhead
- Parking
- Multiple Use Trail
- Non-Refuge Trail
- Sample of Existing Unofficial Routes  
*Subject to closure*
- Existing County Regional Trail

**HABITAT MANAGEMENT**

- Cactus Wren Habitat
- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/  
Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and  
Annual Forbs Restoration
- USFWS-owned land



**Figure 2**



**Figure 3**



# San Diego National Wildlife Refuge: Draft CCP Management Alternative C

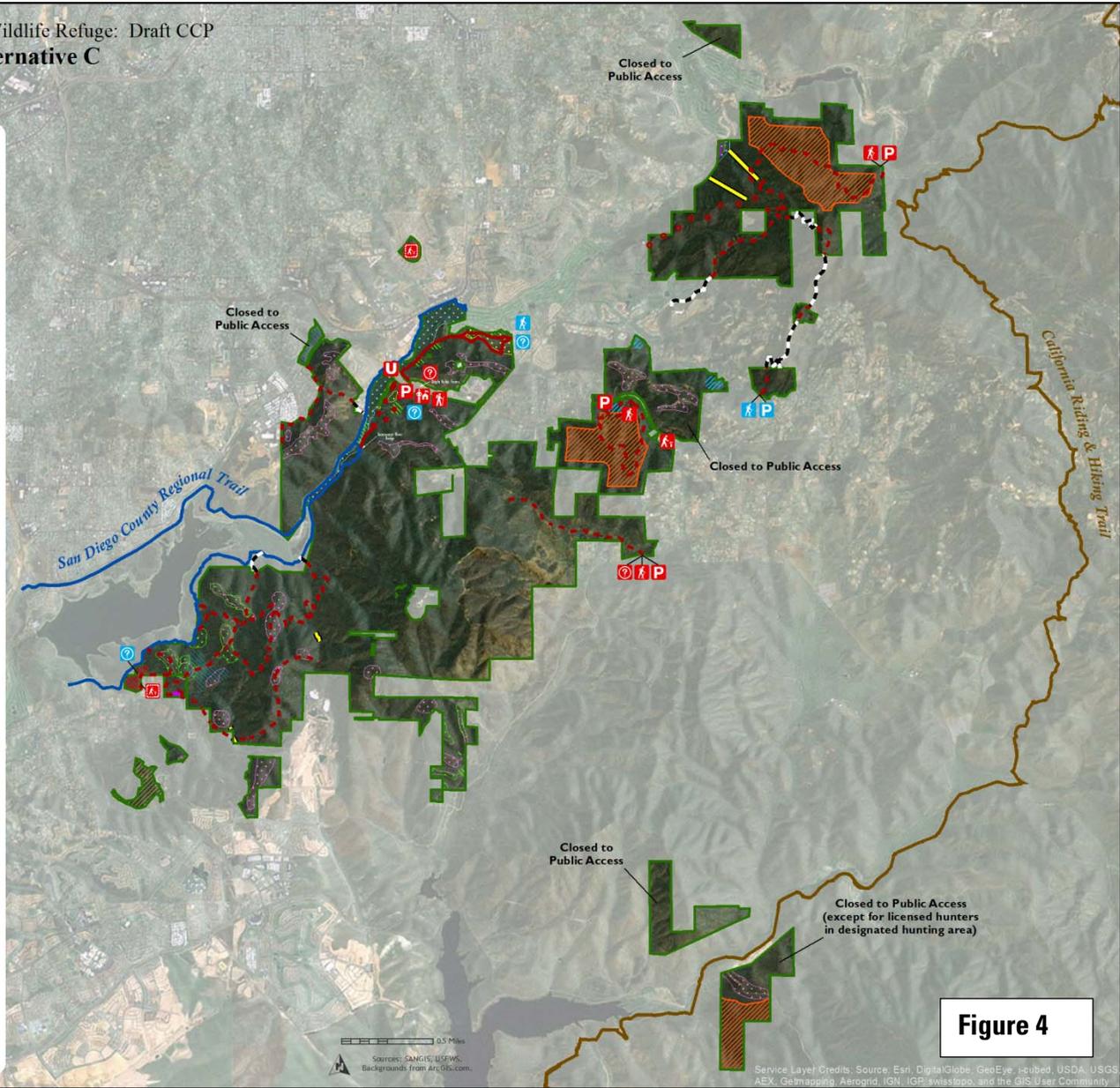
## PUBLIC USE

- Information Kiosk
- Trailhead
- Parking
- Future Information Kiosk
- Future Interpretive Boardwalk Trail
- Future Interpretive Site
- Future Parking
- Future Refuge Office/Visitor Contact Station
- Future Trailhead
- Potential Future Undercrossing
- Future Hunting Area
- Multiple Use Trail
- Enhanced Interpretive Trail (Multiple Use)
- Proposed Trail Corridor (Multiple Use)
- Existing County Regional Trail
- Non-Refuge Trail

## HABITAT MANAGEMENT

- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Cactus Wren Habitat Enhancement
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and Annual Forbs Restoration
- Wetland Enhancement
- USFWS-owned land

Dogs permitted with restrictions.



**Figure 4**

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, iSatellite, USDA, USGS, AEX, Geomatics, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



San Diego National Wildlife Refuge: Draft CCP  
**Management Alternative D**

**PUBLIC USE**

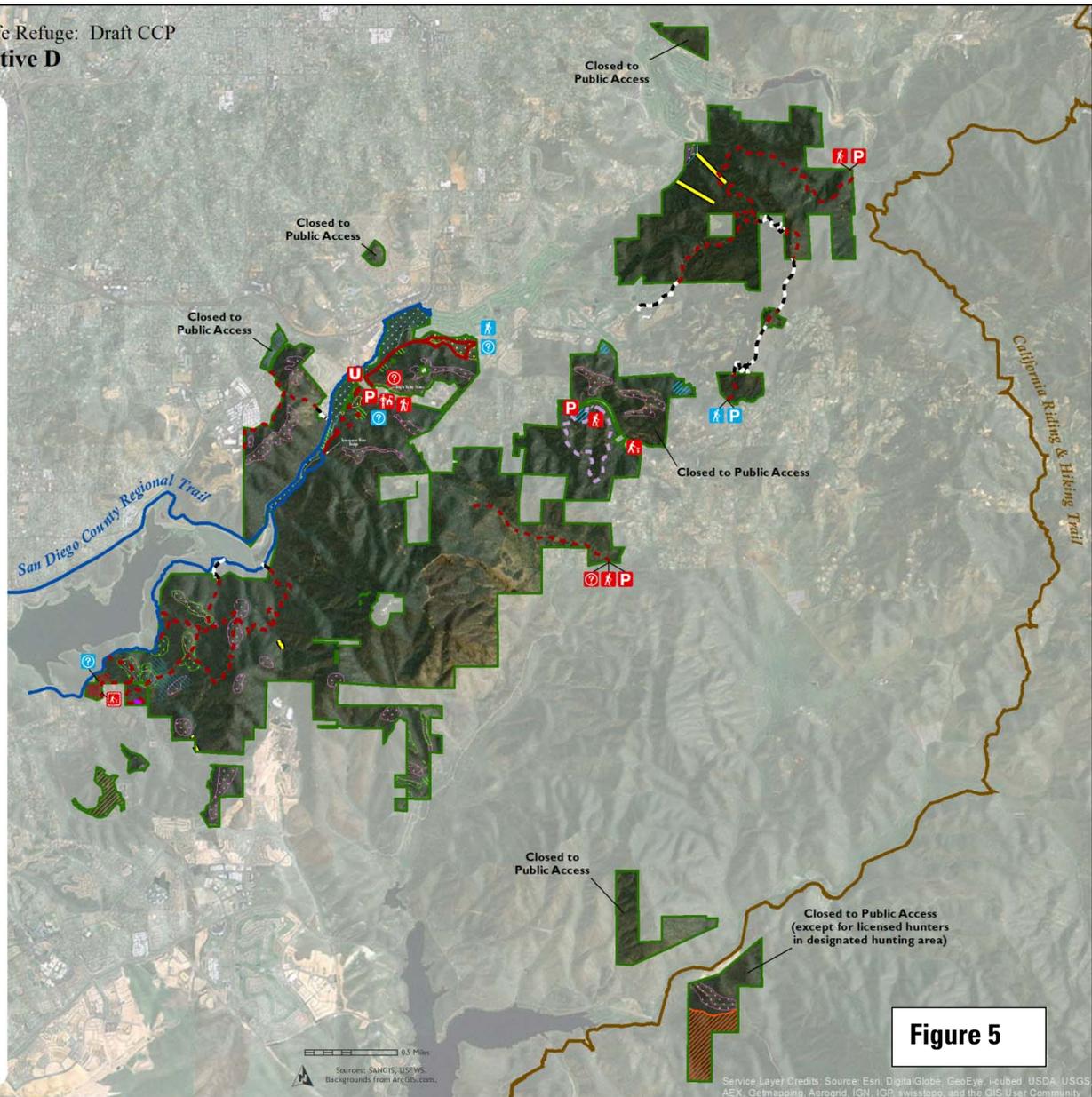
- Information Kiosk
- Trailhead
- Parking
- Future Information Kiosk
- Future Interpretive Boardwalk Trail
- Future Interpretive Site
- Future Parking
- Future Refuge Office/Visitor Contact Station
- Future Trailhead
- Potential Future Undercrossing

- Future Hunting Area
- Proposed Trail Corridor (Hiking Only)
- Multiple Use Trail
- Enhanced Interpretive Trail (Multiple Use)
- Proposed Trail Corridor (Multiple Use)
- Existing County Regional Trail
- Non-Refuge Trail

**HABITAT MANAGEMENT**

- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Cactus Wren Habitat Enhancement
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and Annual Forbs Restoration
- Wetland Enhancement
- USFWS-owned land

Leashed dogs permitted on designated multiple use trails.



**Figure 5**

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

## STEP-DOWN PLANNING

Step-down plans that accompanying the draft CCP/EA include an Integrated Pest Management Plan (Appendix D), and a Feral Pig Monitoring and Eradication Plan (Appendix E).

Upon completion of the Final CCP, a trail plan, which will include public involvement, and a hunt plan (assuming either Alt. C or D is selected for implementation) will be prepared.

## READER'S GUIDE

The following chapter and appendix descriptions are provided to assist readers in locating and understanding the various components of the draft CCP and EA.

**Chapter 1, *Introduction***, includes the purpose of and need for the CCP and EA; an overview of the National Wildlife Refuge System; legal and policy guidance for planning for and managing the resources on national wildlife refuges; setting, regional context, and history of the San Diego NWR; and the purposes for which the Refuge was established.

**Chapter 2, *The Planning Process***, describes the CCP planning process, including the public involvement aspects of the process. This chapter also provides background on major planning issues identified by Refuge staff, Federal, State, tribal, and local agencies, and/or the public, as well as a variety of management concerns and opportunities.

**Chapter 3, *Affected Environment***, describes the existing physical and biological environment, public uses, cultural resources, and socioeconomic conditions. They represent baseline conditions for the comparisons made in Chapter 5.

**Chapter 4, *Alternatives***, describes the management alternatives.

**Chapter 5, *Environmental Consequences***, describes the potential impacts of implementing the various alternatives on the resources, programs, and conditions outlined in Chapter 3.

**Chapter 6, *Implementation***, presents the details of how the proposed action for the San Diego NWR would be implemented if it were selected as the preferred alternative. This chapter also provides details regarding the objectives and strategies necessary to achieve Refuge goals, and addresses step-down planning, adaptive management, compliance requirements, and Refuge operations, including funding and staffing proposals.

**Chapter 7, *References Cited***, provides bibliographic references for the citations in this document.

**Appendix A, *Compatibility Determinations (draft)***, describe uses, anticipated impacts, stipulations, and a determination of compatibility for the uses proposed on each Refuge. Uses proposed on the San Diego NWR under the various alternatives include hunting, wildlife observation, photography, environmental education, interpretation, research, non-motorized recreational trails, and dog walking.

**Appendix B, *List of Preparers, Planning Team Members, and Persons/Agencies Consulted***, lists those individuals involved in the preparation of the draft CCP and EA, as well as those agencies and individuals consulted during the preparation of this planning document.

**Appendix C, *Scoping Comments***, summarizes the range of comments provided during the planning process by agencies, tribes, organizations, members of the public, and other entities.

**Appendix D, *Integrated Pest Management Plan (draft)***, is a step-down management plan that provides guidance for managing pests on the Refuge, including invasive plant species control.

**Appendix E, *Feral Pig Monitoring and Eradication Plan (draft)***, is a step-down plan that addresses the need to monitor for the presence of feral pigs on the Refuge. Although not currently present on the Refuge, feral pigs may extend their current range onto the Refuge, at which time actions to eradicate the pigs from the Refuge would be implemented.

**Appendix F, *Geology and Soils of the San Diego NWR***, provides expanded information about the geology and soil types present within each management area of the Refuge.

**Appendix G, *Federal and State Ambient Air Quality Standards***, presents the current Federal and State of California ambient air quality standards (AAQS), which define the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health.

**Appendix H, *Species Lists***, contains lists of those species observed and or expected to occur on the San Diego NWR.

**Appendix I, *Table of Acquisition History for the San Diego NWR***, lists the acquisition date, method of acquisition, and acreage acquired for the various acquisitions that have occurred between April 1996 and August 2013.

**Appendix J, *Request for Cultural Resource Compliance Form***, is the form used to initiate cultural resource review prior to implementing ground-disturbing activities.

**Appendix K, *Federal Laws and Executive Orders Relevant to the San Diego National Wildlife***, describes the Federal laws and Executive orders relevant to the management of the San Diego NWR, along with an overview of Service policies relevant refuge management.

**Appendix L, *Wilderness Inventory***, outlines the process used to determine that the San Diego NWR does not meet the criteria for a wilderness review or designation.

**Appendix M, *Glossary of Terms and Acronyms***, contains acronyms, abbreviations, and definitions of terms used in this document.

**Appendix N, *Distribution List***, contains the list of Federal, State, tribal, and local agencies, nongovernmental organizations, libraries, and individuals and other entities who received notification of the availability of the draft CCP/EA, as well as other notices and planning updates associated with this planning effort.

## PROVIDING COMMENTS

To enable us to analyze and respond to the comments at one time and to use this input in the preparation of the Final CCP, your comments should be provided no later than Monday, August 18, 2014. Comments should be specific and should address the document's adequacy and the merits of the alternatives described.

Comments may be mailed, faxed, or emailed to:

Victoria Touchstone

U.S. Fish and Wildlife Service, San Diego NWR Complex

P.O. Box 2358, Chula Vista, CA 91912

Telephone: 619-476-9150, extension 103

Facsimile: 619- 476-9149

Email: Victoria\_Touchstone@fws.gov (include "San Diego NWR CCP" in the subject line).

## **SUMMARY OF EFFECTS**

Provided in Table 1 is a summary of the potential environmental consequences of implementing the four alternatives evaluated in the draft CCP/EA for the San Diego NWR.

**Table 1**  
**Summary of Potential Environmental Consequences**  
**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

<b>Resource</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Physical Environment</b>				
<b>Topography</b>	Proposed actions would involve minimal changes to the existing landform; therefore, no adverse effects to the Refuge's topographic character are anticipated.	Wildlife and habitat management proposals would have no effect on the existing landform; several public use projects (e.g., parking lots, kiosk installations, visitor contact station, trail bridges) are proposed that would involve grading and other site preparation activities, however the proposed project sites are relatively level requiring little change to the existing landform; development of a sustainable trail system and closure of existing pathways that follow the fall line would reduce existing and minimize the potential for future impacts to the natural landform.	Although some additional trails and the construction of a refuge office in the Sweetwater River management area are proposed under Alternative C, these projects would have impacts similar to those described under Alternative B. All construction projects would be located on relatively flat land and sustainable trail practices would be followed in the construction of any new trails.	Same as Alternative B
<b>Visual Quality</b>	Removing invasive plants can change the appearance of an area, particularly wetland areas, until the native vegetation is restored. These actions, although resulting in minor temporary changes to the visual appearance of the site, would no longer be apparent once the native vegetation is restored. Removal of trash and debris from Refuge lands improves the visual quality of the area. No actions occur on the Refuge that would block public views.	Invasive plant control would be expanded under this alternative, but the effects of these actions to visual quality would continue to be temporary and minor. Revegetating unwanted trails would reduce the overall appearance of disturbed pathways throughout the Refuge. Parking lots, a visitor contact station, information kiosks, and interpretive signs would be sited and designed to protect views. Measures are proposed to minimize the visibility of Refuge facilities from adjacent areas.	Same as Alternative B.	Similar to Alternative B; in addition, feral pig control would provide potential benefits by minimizing impacts associated with pig rooting, while conservation measures would be implemented to minimize visual impacts along trails related to the temporary construction of corral traps used in pig control.

**Table 1**  
**Summary of Potential Environmental Consequences**  
**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

<b>Resource</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Geology, Soils, and Geological Hazards</b>	Wildlife and habitat management activities would not result in adverse effects to geology or soils. None of the management activities proposed under Alternative A would trigger or accelerate substantial slope instability, subsidence or ground failure. Erosion associated with water flow down poorly laid out trails would continue until the subject trails are closed and/or rehabilitated. BMPs are implemented for all projects that involve grading or ground disturbance. Areas of the Refuge are subject to rock fall hazards.	No adverse effects related to geology and soils would result for the expanded wildlife and habitat management activities. The construction of the proposed public use facilities could result in increased erosion during construction, to minimize the potential for such impacts, the implementation of site specific BMPs are proposed. Projects of an acre or more in size would be required to implement conditions outlined in a SWPPP. Periodic monitoring of potential rock fall areas would occur and trails in these areas would be subject to closure to avoid impacts to trail users.	Same as Alternative B	Similar to Alternative B; in addition, feral pig control would provide potential benefits by minimizing impacts to soils associated with pig rooting, while conservation measures would be implemented to minimize erosion impacts associated with the construction of temporary corral traps used in pig control.
<b>Paleontological Resources</b>	No adverse effects to paleontological resources are anticipated. Prohibitions on collecting paleontological resources would be enforced.	Although there is the potential for paleontological resources to be present within the Sweetwater River and San Miguel Mountain areas of the Otay-Sweetwater Unit and within the Del Mar Mesa Vernal Pool Unit, no significant excavation is proposed in these areas. Prohibitions on collecting would be enforced.	Same as Alternative B	Same as Alternative B
<b>Agricultural Resources</b>	Some portions of the Refuge are designated as Farmland of Local Importance, these areas are relatively small and have no access to waterlines or well water.	No actions are proposed that would result in the irrevocable loss of Farmland of Local Importance.	Same as Alternative B	Same as Alternative B

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**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

<b>Resource</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Mineral Resources</b>	Aggregate resources are present or are likely to be present within portions of the Otay-Sweetwater Unit. These resources would not be available for extraction due to the presence of listed species; but no actions are proposed that would result in the irrevocable loss of these resources.	Same as Alternative A	Same as Alternative A	Same as Alternative A
<b>Hydrology</b>	The management activities occurring on the Refuge have limited effect on the natural flows within the Sweetwater River, Steele Canyon Creek, and other drainages on the Refuge. In addition, these activities have little influence over natural stormwater flow and velocities.	To ensure that bridges and other public facility structures do no impact water flows, particularly during flood events, the siting, structural design, and elevation of a proposed structure would take into consideration the hydrology and flood flow elevation of the affected stream or river. New parking areas would be designed to avoid any obstructions to both seasonal low flow volumes and higher stormwater flows.	Same as Alternative B	Same as Alternative B
<b>Water Quality</b>	BMPs are implemented to reduce the potential for pollutants and excessive siltation to enter wetlands and storm drains. All pesticide use is approved via the Service's PUPS to ensure that only those products that pose the lowest toxicity-related threat to non-target species are applied.	BMPs for pesticide use would be implemented per the IPM Plan. In addition, a variety of BMPs would be implemented during grading for various public use facilities including trails, parking lots, and buildings. For projects involving an acre of more of land, short and long-term BMPs and monitoring during construction would be required under a Water Board approved SWPPP.	Same as Alternative B	Similar to Alternative B; in addition, feral pig control would provide potential benefits associated with protecting water quality and minimizing erosion should feral pigs expand their range and enter the Refuge.

**Table 1**  
**Summary of Potential Environmental Consequences**  
**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

<b>Resource</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Climate Change</b>	The actual effects to Refuge resources as a result climate change are difficult to predict; and under Alternative A, management would continue as currently implemented.	Future management actions, as proposed in Alternative B would attempt to measure and address the effects of climate change on Refuge resources through monitoring and adaptive management.	Same as Alternative B	Same as Alternative B
<b>Air Quality</b>	Proper maintenance of vehicles, minimizing the generation of fugitive dust during refuge operations, and implementing BMPs when applying herbicides reduce the effects of Refuge operations on air quality to below a level of significance.	Incorporation of BMPs to reduce emissions and fugitive dust during grading and construction of public use facilities would minimize air quality impacts. In addition, BMPs to reduce the effects of herbicide application on air quality would be implemented per the requirements of the IPM Plan and Chemical Profiles.	Same as Alternative B	Same as Alternative B
<b>Greenhouse Gas Emissions</b>	GHG emissions associated with Refuge management and operations would not represent a significant direct or indirect impact on the environment.	Same as Alternative A	Same as Alternative A	Same as Alternative A
<b>Contaminants</b>	Refuge staff would continue to work with the Service's Contaminants Program to evaluate potential sources of contaminants.	Same as Alternative A	Same as Alternative A	Same as Alternative A

**Table 1**  
**Summary of Potential Environmental Consequences**  
**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

Resource	Alternative A	Alternative B	Alternative C	Alternative D
<b>Biological Resources</b>				
<b>Habitat/ Vegetation Resources</b>	Current wildlife and habitat management activities have the potential to produce temporary impacts to native habitat due to trampling or minor vegetation clearing. These impacts, which are limited in scope, would not be considered significant. The primary impacts to the Refuge's native vegetation are from public use (e.g., the expanding user-created trail system, off-trail activities), which result in the loss or trampling of vegetation, particularly shrub species, soil compaction, and general degradation of habitat quality.	A number of restoration and enhancement proposals are included would result in added benefits for native vegetation and overall habitat quality. The implementation of an IPM Plan would ensure that no adverse effects to vegetation occur as a result of the use of approved herbicides. The establishment of a designated trail system and the closure of those trails that impact sensitive habitat areas would benefit native vegetation and habitat quality.	Same as Alternative B	Similar to Alternative B; in addition, feral pig control would provide potential benefits by minimizing the extent of damage to vegetation and habitat quality that could occur if pigs move onto Refuge lands. Conservation measures would be implemented as part of the feral pig control plan to minimize impacts to vegetation.
<b>Wildlife</b>	Measures to minimize disturbance to wildlife such as timing activities to avoid the bird breeding season and avoiding potential butterfly habitat at appropriate seasons ensure than impacts to wildlife from Refuge management activities are minimized. Unauthorized off trail activity and the presence of dogs on the Refuge can result in deleterious effects to wildlife.	Actions to benefit wildlife would be expanded, but the measures to avoid impacts from management activities would continue to be implemented. A designated trail system would direct activities away from sensitive habitat areas in an effort to reduce impacts related to disturbance and dogs would be prohibited on the Refuge. Public use facilities would be sited to minimize the loss of sensitive habitat and buffers would be provided between sensitive habitats and public use areas.	The potential effects to wildlife would be similar to Alternative B with two exceptions: leashed dogs would be permitted on designated trails and hunting would be permitted in portions of the Refuge. Hunting would result in some direct and indirect adverse effects to hunted species as well as other wildlife, to minimize the effects of hunting and other public uses on the Refuge, large areas of habitat would be closed to all public access.	Similar to Alternative C; but with a smaller hunting area (a portion of the Otay Mesa and Lakes area) and leashed dogs would only be permitted on trails designated for multiple use. Feral pig control would provide potential benefits by minimizing conflicts between native wildlife and feral pigs should they move onto the Refuge. Conservation measures would be implemented to minimize impacts to wildlife from implementing pig control.

**Table 1**  
**Summary of Potential Environmental Consequences**  
**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

<b>Resource</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Federally and State Listed Species and other Species of Concern</b>	Impacts to listed and sensitive species would be similar to the impacts described under Alternative A for vegetation and wildlife.	Impacts to listed and sensitive species would be similar to the impacts described under Alternative B for vegetation and wildlife.	Impacts to listed and sensitive species would be similar to the impacts described under Alternative C for vegetation and wildlife.	Impacts to listed and sensitive species would be similar to the impacts described under Alternative D for vegetation and wildlife.
<b>Cultural Resources</b>				
<b>Historical and Archaeological Resources</b>	Adherence to existing regulations/policies would minimize the potential for impacts to cultural resources.	Same as Alternative A	Same as Alternative A	Same as Alternative A
<b>Social and Economic Environment</b>				
<b>Land Use</b>	Uses and activities occurring on the Refuge do not result in any adverse effects to adjacent development and the Refuge is managed consistent with the San Diego MSCP.	Expansion of wildlife and habitat management activities and expanded opportunities for wildlife dependent recreational use would have no effect on existing or planned land uses in the vicinity of the Refuge.	Similar in most ways to Alternative B, but under Alternative C, portions of the Refuge would be opened to hunting in accordance with a Refuge hunt plan to be developed with public involvement after the approval of the CCP. Designated hunting areas would provide adequate separation from adjacent private property and residential use and hunt days and species to be taken would vary by location.	Similar to Alternative C, but only a portion of the Otay Mesa and Lakes area would be opened to hunting. No land use issues are anticipated as the lands surrounding the hunt area are publicly owned and hunting is currently permitted on the adjoining BLM and CDFW properties.
<b>Recreational Opportunities</b>	Wildlife-related recreation would be provided; the County regional trail would be accommodated, and Refuge proposals would not conflict with other regional recreational opportunities.	Same as Alternative A	Same as Alternative A	Same as Alternative A

**Table 1**  
**Summary of Potential Environmental Consequences**  
**Alternatives A, B, C and D, as presented in the Draft CCP/EA for the San Diego NWR**

<b>Resource</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Traffic Circulation and Parking</b>	No impacts to the regional transportation system are anticipated. Opportunities for on Refuge parking are currently limited.	Same as Alternative A and additional parking areas are proposed on the Refuge to accommodate proposed public uses.	Same as Alternative B	Same as Alternative B
<b>Public Utilities and Easements</b>	No adverse effects to existing public utilities and easements are anticipated.	Same as Alternative A	Same as Alternative A	Same as Alternative A
<b>Economics and Employment</b>	The Refuge provides minor economic benefits related to visitation.	Same as Alternative A	The proposed hunting program would provide some additional economic benefit to the region.	Although the hunting program would be smaller, the economic benefits would be greater than those from Alternatives A and B.
<b>Environmental Justice</b>	No disproportionate adverse impacts on minority or low-income residents in the region have been identified.	Same as Alternative A	Same as Alternative A	Same as Alternative A