

7.1 Overview

This chapter describes the implementation structure of the Yolo HCP/NCCP, including the responsibilities of the Yolo Habitat Conservancy (Conservancy) and other participating entities, land acquisition procedures, approval processes, data tracking and reporting, and the regulatory and other assurances requested by the Permittees. In addition, the chapter outlines the process for changing or amending the Yolo HCP/NCCP.

7.2 Implementation Structure

The Conservancy will coordinate implementation of the Yolo HCP/NCCP with the Permittees, the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and a range of stakeholders and other interests (Figure 7-1).

7.2.1 Permittees

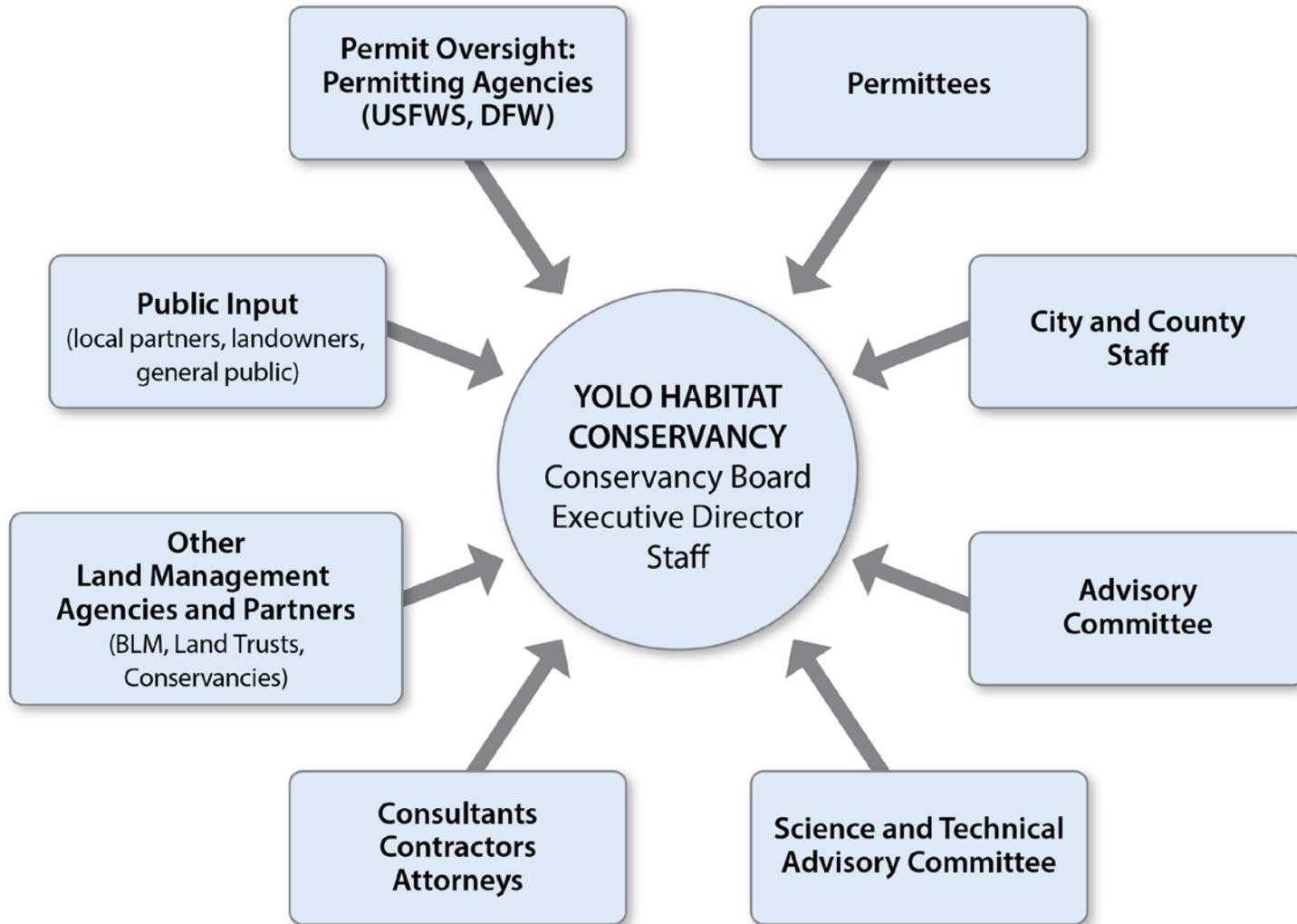
The Yolo HCP/NCCP provides the basis for the issuance of regulatory authorizations under the federal Endangered Species Act (FESA) and the California Natural Community Conservation Planning Act (NCCPA) for the incidental take of federally and state-listed species resulting from covered activities (Chapter 3, *Covered Activities*). The entities that receive incidental take authorizations for activities covered under the Yolo HCP/NCCP pursuant to FESA Section 10(a)(1)(B) and NCCPA Section 2835 are referred to collectively as the “Permittees.” Each of the Permittees will also be a signatory to the Yolo HCP/NCCP’s Implementing Agreement.

The following entities are Permittees for the purpose of the Yolo HCP/NCCP and its regulatory authorizations:

- Yolo Habitat Conservancy,
- County of Yolo,
- City of Davis,
- City of West Sacramento,
- City of Winters, and
- City of Woodland.

The Permittees will vest responsibility for implementing the Yolo HCP/NCCP in the Conservancy. The Permittees, however, will ultimately be responsible for compliance with all the terms and conditions of the Permits and the Conservancy’s performance. Each entity will designate staff members to advise the Conservancy on implementation of the Yolo HCP/NCCP. The Permittees, including the Conservancy, may enter into agreements individually, amongst themselves, or with other entities to designate responsibility for carrying out certain actions under the Yolo HCP/NCCP.

Figure 7-1. Yolo NHP Organizational Structure



7.2.2 Yolo Habitat Conservancy

Immediately following execution of the Implementing Agreement and issuance of the Permits, the role of the Conservancy will shift from HCP/NCCP preparation to HCP/NCCP implementation. At that point, the Conservancy will begin implementation of the Yolo HCP/NCCP through its Board of Directors, Executive Director, and staff and consultants who work at the direction of the Executive Director. Additional information about the role of the Conservancy in HCP/NCCP implementation is provided below in Section 7.3, *Responsibilities of the Conservancy*.

7.2.3 Wildlife Agencies

On the basis of the Yolo HCP/NCCP, USFWS and CDFW will issue regulatory authorizations to the Permittees pursuant to the FESA and the NCCPA. Consistent with their authorities under these laws, USFWS and CDFW will retain responsibility for enforcing the terms and conditions of the Permits and regulatory authorizations.

USFWS and CDFW retain full responsibility to:

- Determine whether HCP/NCCP implementation is proceeding in compliance with the terms and conditions of the regulatory authorizations,
- Enforce the terms and conditions of the regulatory authorizations, and
- Modify, suspend, or revoke regulatory authorizations, consistent with the terms and conditions of the Yolo HCP/NCCP, the Implementing Agreement, the Permit, and applicable state or federal law.

USFWS and CDFW will also provide input on a range of implementation actions the Conservancy will carry out. The Conservancy will work closely with USFWS and CDFW to ensure ongoing compliance with the Permits and authorizations.

7.2.4 Other Land and Water Management Agencies

Local land and water management agencies (such as parks departments, private land trusts, etc.) other than the Permittees are also important to the HCP/NCCP's success. These agencies may acquire or manage HCP/NCCP reserve lands on behalf of the Conservancy. Further, these land and water management agencies may own land adjacent to HCP/NCCP reserve lands where coordinated management and monitoring may benefit both entities. The Conservancy will invite land and water managers from relevant local organizations to coordinate closely with the Conservancy to ensure management actions are compatible and consistent across the region. The Conservancy can achieve significant cost savings by undertaking joint management actions with local land and water management agencies that are consistent with the Yolo HCP/NCCP.

Examples of partnerships that could occur with identified local funding partners include:

- City of Davis. The Davis open space tax (see Section 8.4.2.1, *City of Davis*) provides funding for acquisition of open space lands. Where it is possible for the City to utilize the Yolo HCP/NCCP conservation easement template (Appendix K, *Conservation Easement Template*) for acquisitions, those lands can be counted acre for acre toward the Yolo HCP/NCCP conservation strategy. The Conservancy also may secure grants or other funds to match City of Davis

contributions for acquisition of open space lands consistent with the Yolo HCP/NCCP. Activities other than land or easement acquisitions that are purchased with open space tax funds, consistent with the Yolo HCP/NCCP, will also count toward the local share of HCP/NCCP implementation;

- Cache Creek Resources Management Plan (CCRMP). The Yolo County CCRMP (see Section 8.4.2.2, *Cache Creek Resources Management Plan*) provides a policy framework, regulations, and an implementation plan for management and restoration of lower Cache Creek. Where CCRMP implementation actions (e.g., invasive species removal) are consistent with the Yolo HCP/NCCP conservation strategy, that funding and those actions can count toward implementation of the plan. Moreover, where the county is willing to place a conservation easement, consistent with the Yolo HCP/NCCP conservation easement template (Appendix K), on county CCRMP open space land and manage that land pursuant to the Yolo HCP/NCCP management template, the Conservancy will manage the habitat on the property in perpetuity¹ consistent with the Conservancy's December 2014 partnership resolution with Yolo County. The value of the easement will count toward the Conservancy's local share of HCP/NCCP implementation; and
- Solano County Water Agency (SCWA)/Lower Putah Creek Coordinating Committee (LPCCC). The LPCCC (see Section 8.4.2.3, *Solano County Water Agency/Lower Putah Creek Coordinating Committee*) receives funding through a legal settlement that is used to hire a staff and conduct activities to restore lower Putah Creek. Where these activities are consistent with the Yolo HCP/NCCP conservation strategy, that funding and those actions can count toward implementation of the plan. If SCWA donates time and materials for restoration projects consistent with the Yolo HCP/NCCP, for example, those expenditures would count toward the Conservancy's local share of HCP/NCCP implementation. Prior to initiation of any easement acquisition that will contribute to the Yolo HCP/NCCP conservation strategy in Solano County, within the extended Plan Area on the south side of Putah Creek, the Conservancy will consult with Solano County. The purpose of any such easements will be to protect or restore and adaptively manage and enhance the riparian natural community along the Putah Creek corridor (Figure 6-3, *Ecological Corridors*) to create a continuous riparian and public open space corridor along the creek.²

In addition, new partnerships could be established. For example, the Parks Division of the Yolo County General Services Department manages large open space parks that are owned by Yolo County. Where the county is willing to place a conservation easement, consistent with the HCP/NCCP conservation easement template (Appendix K), on county open space land and manage that land pursuant to the HCP/NCCP management template, the Conservancy can oversee complete or partial operation and provide management in perpetuity.

7.2.4.1 Advisory Committee

In recognition of the need to have broad community participation during preparation of the Yolo HCP/NCCP, the Conservancy Board of Directors formed an Advisory Committee, with membership

¹ If the Conservancy dissolves after the HCP/NCCP permit term, the Conservancy will designate a successor entity to ensure management in perpetuity of CCRMP lands, subject to written approval of the conservation easement's third party beneficiaries.

² For current details, see <https://www.putahcreekcouncil.org/lower-putah-creek-restoration-planning>

that is representative of the varied interests in Yolo County, including the environmental interests, landowners, agricultural interests, member agency representatives, and the community at large. The Conservancy anticipates that these stakeholders may be interested in continuing to participate and provide input regarding HCP/NCCP implementation. As a result, the Conservancy will continue the Advisory Committee as a stakeholder group throughout the implementation process.

Advisory Committee input will ensure continuity between development of the Yolo HCP/NCCP and implementation of the Yolo HCP/NCCP. It will also ensure the timely, efficient, and proper implementation of the commitments reflected in the Yolo HCP/NCCP. Membership in the Advisory Committee will continue to be voluntary, and members will not be paid. The Advisory Committee will continue to consist of a range of individuals and entities with an interest in HCP/NCCP-related matters. Members of the Committee may include, but will not be limited to:

- Land developers and others who are seeking use of the Permits under the Yolo HCP/NCCP,
- Conservation interests,
- Agricultural interests,
- Landowner representatives, and
- Other stakeholders whose assistance will increase the likelihood of the success of HCP/NCCP implementation.

The Advisory Committee also includes non-voting liaisons from the USFWS, CDFW, and each of the Permittees. These liaisons regularly attend meetings and help to ensure consistent and productive communication between the Advisory Committee, the Permittees, and the Board of Directors. A liaison for a Permittee, for example, may brief their member on the Conservancy Board of Directors on important items. The Advisory Committee process will complement, but not substitute for, ongoing collaboration and communication between stakeholders and the Conservancy, Permittees, the Board of Directors, USFWS, and CDFW.

The Conservancy will organize, help convene, and provide support for the Advisory Committee and its proceedings. The Conservancy will convene the Advisory Committee at least twice a year. The Executive Director may also convene the Advisory Committee as needed to exchange information and discuss current issues, such as updates on HCP/NCCP implementation. Stakeholders will have the opportunity to inquire about implementation matters and make recommendations concerning pending decisions. All Advisory Committee meetings will be open to the public, and the Conservancy will publish notices regarding upcoming meetings on the Yolo HCP/NCCP web site or another appropriate public forum.

To further facilitate access to information and promote transparency in decision-making, the Conservancy will also maintain a publicly available database of key documents and information, such as annual implementation reports, work plans, and budgets (Section 7.9, *Data Tracking and Reporting*).

7.2.4.2 Science and Technical Advisory Committee

The Science and Technical Advisory Committee (STAC) will provide scientific and technical guidance to the Conservancy on the suitability of potential sites for easements and mitigation (e.g., species biology, species habitat requirements, and habitat restoration actions). The STAC may also advise

the Conservancy on other issues, as requested by the Executive Director, such as site-specific management and monitoring plans, habitat management, and/or enhancement opportunities.

The STAC will be composed of four to six biologists who have experience with the habitat types and species that are covered by the Yolo HCP/NCCP (preferably experience in local conservation planning). Representatives from the wildlife agencies may also participate in the STAC as liaisons. Between the members, the STAC will have a diversity of species expertise.

The STAC will meet every two months or as necessary to evaluate potential sites. The primary role of the STAC is to assess and evaluate prospective conservation sites (e.g., sites that have been proposed as mitigation receiving sites or other reserve lands).

Specific activities of the STAC include the following:

- Conduct a field assessment of prospective conservation sites;
- Assess and rank the value of the prospective conservation sites based on ecological, land use, and management parameters, including an evaluation of the extent to which the site is consistent with the Yolo HCP/NCCP;
- Submit a formal written evaluation based on the assessment and ranking effort to the Conservancy, including a recommendation to the Executive Director as to whether the property is appropriate for inclusion in the reserve system;
- Develop recommendations for site-specific management, restoration, and monitoring; and
- Coordinate, as requested, with the Conservancy to provide input, guidance, and recommendations on conservation actions, land use issues, and species needs.

The STAC will have a chair, whose responsibilities will include:

- Convening the committee in coordination with staff members;
- Organizing site visits with assistance from staff members;
- Assigning leads for completing site evaluations, based on expertise; and
- Ensuring timely reporting by the committee on proposed sites.

The STAC's role in Yolo HCP/NCCP implementation is advisory only. The STAC will make recommendations to the Executive Director, who in turn will make recommendations to the Conservancy Board. The Conservancy Board will retain authority to approve all acquisitions and individual mitigation receiving sites. All acquisitions will be subject to wildlife agency approval as described in Section 7.5.2, *Acquisition Process*, Step 12.

7.2.5 Special Participating Entities

Entities that are not subject to the jurisdiction of the Permittees may conduct or initiate projects or ongoing activities within the Permit area that may affect listed species and require take authorization from USFWS or CDFW. Such organizations may include existing or future school districts, water districts, irrigation districts, transportation agencies, local park districts, geologic hazard abatement districts, other utility or special districts that own land or provide public services, or individuals with activities that may result in take but that do not require a discretionary permit. These public agencies or individuals, known as *Special Participating Entities* (SPEs), can request

coverage under the Yolo HCP/NCCP during implementation. Such coverage will provide take authorization for their projects.

Chapter 4, Section 4.2.1.3, *Proposed Projects by Special Participating Agencies*, describes the application, review, and approval process for SPEs to be covered under the Yolo HCP/NCCP.

As described in Chapter 4, *Application Process and Conditions on Covered Activities*, some management and monitoring activities will result in take of the covered species, even if the net result of the actions are beneficial (e.g., prescribed burning, handling species to identify or mark them). Any special district or other agency that carries out such activities on behalf of the Conservancy will require take authorization. If the special district or agency is either a Permittee itself or a contractor of the Conservancy that carries out management and monitoring activities on Yolo HCP/NCCP reserve lands, it will receive take authorization under the HCP/NCCP Permits. Management or monitoring agencies that are not a Permittee or a contractor of the Conservancy can secure take authorization as an SPE.

7.3 Responsibilities of the Conservancy

The Conservancy is responsible for implementation of the Yolo HCP/NCCP through its Board of Directors, Executive Director, staff members, and consultants who work at the direction of the Executive Director (Figure 7-2). The Conservancy will have day-to-day responsibility for plan implementation and oversight and coordinate implementation actions with Permittees, USFWS and CDFW, the Advisory Committee, and other interests. The Conservancy will also provide additional detail regarding plan implementation in an implementation handbook the Conservancy will prepare within one year of Permit issuance. The Conservancy has the capacity to hire staff members and enter into contracts to implement the Yolo HCP/NCCP.

The Conservancy will have responsibility for the implementation of a broad range of actions, including:

- Oversight and coordination of administration of program funding and resources;
- Preparation of annual and 10-year reports, work plans, and budgets;
- Establishment of procedures to implement plan actions;
- Oversight of and engagement in the implementation of conservation measures;
- Management of the monitoring and research and adaptive management programs;
- Monitoring and enforcement of HCP/NCCP conservation easements;
- Implementation of the public outreach program; and
- Fulfillment of compliance monitoring and reporting requirements.

The following sections describe the functions and responsibilities of the Conservancy in implementing the Yolo HCP/NCCP. Some or all of these job functions may be performed within the Conservancy through its internal staff. Alternatively, the Conservancy may partner with Permittees to provide some of these staff functions through their own agencies. The Conservancy may also hire contractors or consultants to provide many of these functions under the direction of the Conservancy Executive Director.

7.3.1.1 Board of Directors

As stated in Section 1.3.1, *Role of the Conservancy*, the Conservancy Board of Directors consists of elected representatives who have been appointed by Yolo County and the incorporated Cities of Davis, West Sacramento, Winters, and Woodland. The seven-member board is composed of two members from Yolo County and one from each of the four incorporated cities and the University of California, Davis. The Board of Directors' current responsibility is to assist in the planning and administration of the Yolo HCP/NCCP and facilitate interim acquisition of conservation easements to preserve foraging habitat for Swainson's hawk. Upon execution of the Implementing Agreement and issuance of the Permits, this program will be subsumed and replaced by the Yolo HCP/NCCP.

The responsibilities of the Conservancy Board of Directors will transition to include:

- Selection, supervision, and evaluation of an Executive Director;
- Approval and oversight of the Yolo HCP/NCCP;
- Financial oversight, as specified in Board-approved administrative procedures and policies;
- Approval of the annual work plan and budget, including the anticipated Conservancy actions associated with the adaptive management program and the habitat acquisition and restoration projects. The Board's review of the work plan and budget will focus primarily on the programmatic aspects of the proposed actions;
- Coordination of regular meetings. The Board of Directors will hold a minimum of two meetings per year. The Chair of the Board or three members of the Board can convene a meeting. The Executive Director may also convene the Board as needed to review issues that arise in the implementation of the annual work plan and budget as well as the annual audit. The Board of Directors meetings will be public as provided by applicable law;
- Approval of all land acquisition or land provided by project proponents in lieu of HCP/NCCP fees (see Section 7.5.9, *Land Dedication In Lieu of HCP/NCCP Fee*);
- Approval of minor modifications to the plan or the submittal of an application for a formal plan amendment, as described in Section 7.8, *Modifications to the Plan*;
- Review of challenges by project proponents to the mapped extent of land cover types that are exempt from the land cover fee or wetland fee; and
- Review of appeals made by Permittees of HCP/NCCP fee determinations.

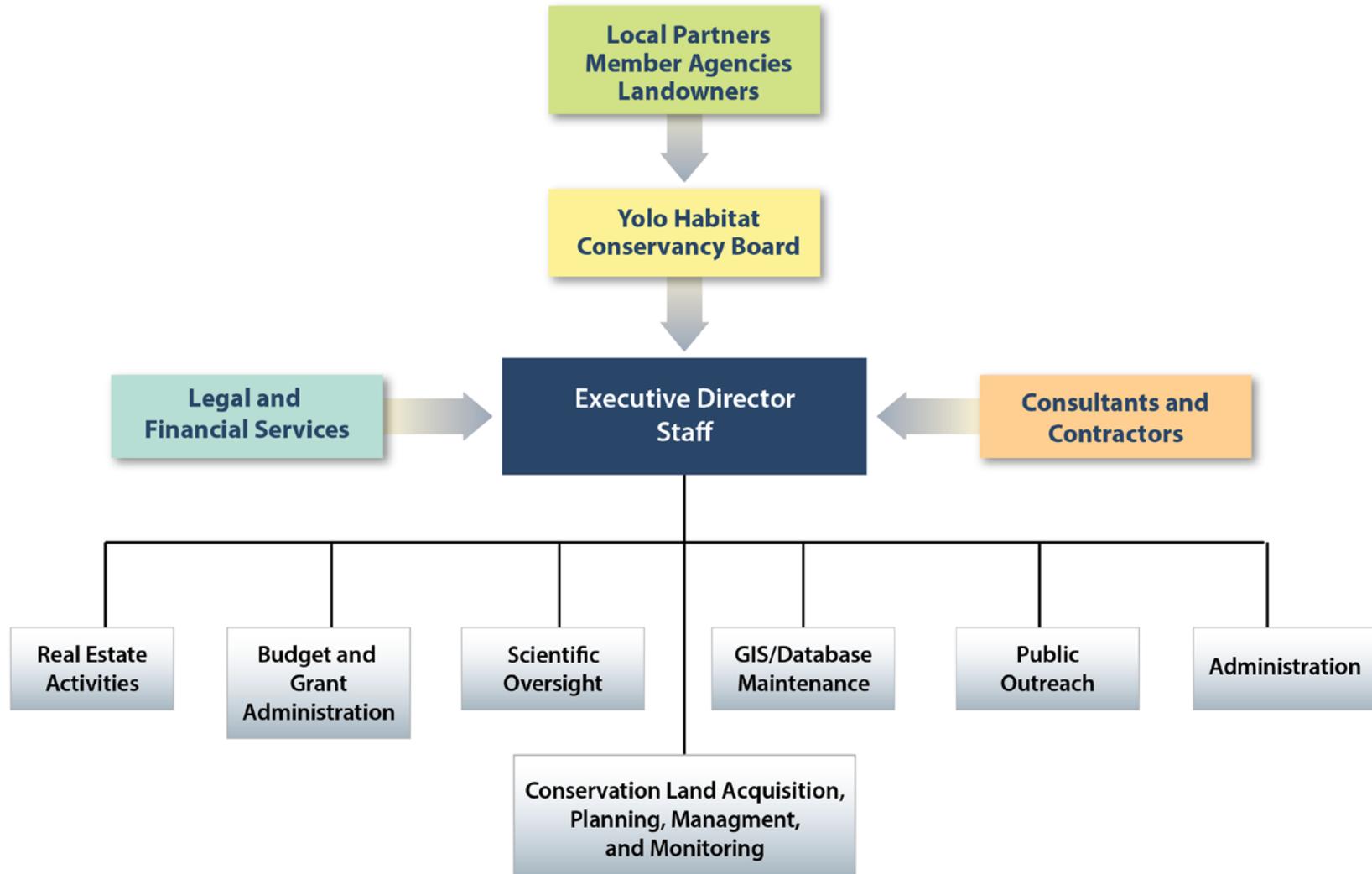
7.3.1.2 Executive Director and Staff

The Executive Director will organize, convene, and provide support for the Board of Directors and its proceedings and be responsible for day-to-day administration and implementation of the Yolo HCP/NCCP. The Executive Director will work with Conservancy staff to implement the HCP/NCCP conservation measures, including local conservation measures and those related to protection, restoration, and management of habitat throughout the life of the Yolo HCP/NCCP. The Executive Director will work with the Conservancy staff to implement the adaptive management program; monitoring, data collection, and scientific research efforts; annual and ten-year report, budget, and work plan preparation; and the public outreach process. To ensure the commitments reflected in the Yolo HCP/NCCP are carried out in a timely and efficient manner, the Executive Director (with approval of the Conservancy Board of Directors) will institute procedures to address planning,

budgeting, sequencing, oversight, and scheduling needs related to plan implementation. These procedures include:

- Preparation of the annual work plan and budget;
- Regular reporting to the Conservancy Board on the status of plan implementation, financial oversight, and the budget;
- Regular briefings of member agency governing boards on the status of plan implementation; and
- Regular communication with designated wildlife agency representatives.

Figure 7-2. Organization and Functions of the Yolo NHP Implementing Entity



7.3.2 Real Estate Activities

The Conservancy will conduct relevant financial and legal analyses to guide the selection of parcels for the reserve system. It will also conduct or manage appraisals and transactions. The Conservancy will hire or contract with a specialist with expertise in real estate law, zoning, and local regulations to fulfill the fiduciary duties of the Conservancy for the acquisition of properties. This specialist will work in coordination with the Executive Director and Conservancy Counsel to acquire properties. Existing county and city agencies may already have staff members with these skills; the Conservancy may partner with such agencies to obtain these skills externally as an in-kind service. The Conservancy may also hire contractors or consultants to provide these functions under the direction of the Executive Director.

7.3.3 Grant Administration

The Conservancy is responsible for writing grants and managing all grants, contracts, and other funding sources during HCP/NCCP implementation. The Conservancy must establish accounting procedures and methods for disbursing funds and actively pursue and acquire additional funding for HCP/NCCP implementation. Existing agencies may already have staff members with these skills; the Conservancy may partner with such agencies to obtain these skills externally. For any grants received, the Conservancy must also monitor, track, and report to the granting agency according to the grant requirements.

7.3.4 Budget Analysis

The Executive Director will develop, propose, and administer budgets for general program administration. The Board of Directors will approve the annual budget and provide oversight of Conservancy finances. Specific responsibilities will include developing and monitoring budgets, processing invoices, managing financial reserves, identifying cost savings, and managing administrative contracts (e.g., liability insurance). The Executive Director will establish processes to ensure timely implementation and proper oversight of annual budgets and related expenditures.

7.3.5 GIS/Database Maintenance

The Conservancy will use GIS or other equivalent spatially explicit database systems to collect, store, and utilize the relevant data necessary for HCP/NCCP implementation. The Conservancy will maintain these data systems to track compliance and guide reserve system design as well as monitoring and adaptive management programs. The Conservancy must query the database, for example, to summarize take and conservation by year and cumulatively (by land cover types and modeled habitat for covered species). The Conservancy will track all data related to the progress of meeting HCP/NCCP goals and objectives. The Conservancy may also hire contractors or consultants or use the staff from a local jurisdiction to provide these functions under the direction of the Executive Director. Data must be made available to USFWS and CDFW at any time.

7.3.6 Reserve Management and Monitoring

The Conservancy will direct the management of land and easements acquired for the reserve system and coordinate with managers of other protected areas to form a biologically cohesive network of

protected lands in the Plan Area. The Conservancy expects that minimal management will be required for lands on which the Conservancy purchases an easement, that remain in private ownership, and that continue in agricultural production. The Conservancy will coordinate closely with landowners as necessary, however, to implement the site-specific management plan for each property. On land that is not in agricultural production, the Conservancy will manage or oversee the management of the land to maintain the habitat values. These activities will include regular patrols, trash removal, fence/gate installation and repair, road maintenance, and other necessary activities. The Conservancy will not be responsible for management of recreational activities that may occur on these properties, however, and will reach agreement with landowners regarding the scope and management of these recreation activities on a case-by-case basis to ensure the habitat values of reserve lands are protected.

The Conservancy will be responsible for developing reserve unit management plans covering all units of the reserve system to guide site-specific management. The Conservancy may hire contractors or consultants to provide this function under the direction of the Executive Director. The Conservancy will develop, or will oversee contractor development of, site restoration plans for each site where restoration would occur. These plans will include designs and construction drawings. The Conservancy will also be responsible for interim management of newly protected lands prior to completion of these reserve unit management plans.

The Conservancy will be responsible for designing and implementing the monitoring and adaptive management program described in Chapter 6, *Conservation Strategy*. The Permittees and the Conservancy will be responsible for all monitoring and insuring management occurs in a manner that is consistent with the Yolo HCP/NCCP throughout the reserve system after the Permits expire (i.e., in perpetuity).

The schedules, approvals, and updating processes for management plans are as follows:

Reserve Unit Management Plans

- The Conservancy will prepare reserve unit management plans within five years of the first parcel acquired in each reserve unit. Each of these reserve unit management plans will be subject to review and approval by the Conservancy, USFWS, and CDFW.
- The Conservancy will review reserve unit management plans every five years and update them if needed. Reserve unit management plans may be revised more frequently if deemed necessary by the Conservancy, CDFW, and/or USFWS. The USFWS and CDFW must approve any changes.

Site-Specific Management Plans

- Individual site-specific management plans will rely on provisions from the applicable reserve unit management plan(s) to provide management approaches, prohibitions, and other conditions specific to relevant natural or semi-natural community type(s) and species associated with the site.
- Individual site-specific management plans will be updated on an as-needed basis as determined by either the Conservancy, the landowner, or in response to updates made by the umbrella reserve unit management plan. The Conservancy will provide notification of amendments and provide draft amendments to wildlife agencies for review and input; however, agency approval

will not be required if they are consistent with the reserve unit management plan³. Modifications to a site-specific management plan that are not consistent with the reserve unit management plan will require that the proposed modification undergo a wildlife agency review and approval process.

Pre-Permit Reserve Cultivated Lands Management Plan

- As described in Section 6.4.1.7, the Conservancy has committed to enroll baseline public and easement lands into the reserve system as *pre-permit reserve lands*. A portion of these baseline public and easement lands are either Swainson's hawk easement sites or Swainson's hawk mitigation receiving sites associated with the countywide Swainson's hawk mitigation fee program (See Section 7.5.9.2 for program description). All easements associated with the Swainson's hawk mitigation fee program utilize the easement template previously approved by CDFW and the associated lands consist of cultivated lands that are either in row crops, field crops, or pasture. Due to the similarities among these sites, a single management plan will be developed for all Swainson's hawk easement and mitigation receiving site properties that are enrolled as pre-permit reserve lands. The format for this management plan will be similar to the reserve unit management plans in that it is an umbrella plan covering multiple properties. The Conservancy will develop the pre-permit reserve management plan and USFWS and CDFW must approve it. The management plan for pre-permit reserve lands may be revised if deemed necessary by the Conservancy, CDFW, and/or USFWS. CDFW and USFW must approve any changes.

7.3.7 Public Outreach and Education

The Conservancy will conduct outreach to local private and public landowners and residents that will include education on the management goals and objectives as well as implementation techniques. The Conservancy may also hire contractors or consultants to provide this function under the direction of the Executive Director. The focus of public education and outreach activities will be to raise landowner and public awareness of reserve management goals, as well as actions and methods, and how the public can support them. To that end, the Conservancy will ensure development and management of a public web site for the Yolo HCP/NCCP, which will include information on establishing conservation easements, annual monitoring reports, and other useful information for landowners and others who may participate or have interest in the HCP/NCCP. Where appropriate, the Conservancy will develop and publish guidelines for local landowners and provide education programs to assist in the implementation of these guidelines. The Conservancy will coordinate public education and outreach with other local agencies that provide similar services in the study area.

During early implementation, the Conservancy will develop an implementation handbook, which will include information on implementing the HCP/NCCP. The handbook will include information for the following stakeholders:

- Developers interested in covering their projects under the HCP/NCCP;
- Farmers and landowners interested in selling easements or land in fee- title to the Conservancy for conservation purposes (the Conservancy may also convene a forum of farmers and

³ Wildlife agency approval will be required for amendments to site-specific management plans if the wildlife agencies have not yet approved a reserve unit management plan.

landowners to address questions and concerns that may arise during HCP/NCCP implementation); and

- Conservation partners interested in coordinating with the Conservancy to achieve conservation consistent with the HCP/NCCP.

7.3.8 Legal and Financial Services

The Conservancy's staff and Board of Directors, in coordination with USFWS, CDFW, and other appropriate public agencies, will help direct efforts to defend against legal challenges to the Yolo HCP/NCCP or its associated state and federal authorizations. As necessary, the Conservancy may also provide funding for legal counsel, or use Permittee or other local agency legal counsel, to address the range of legal issues associated with implementation, including defense against litigation related to the Yolo HCP/NCCP, liability associated with land acquisition and related matters, disputes arising out of contractual agreements, and general, routine in-house legal matters.

The Conservancy will require outside financial analysis assistance every five years to review the program's cost/revenue balance and ensure that development fees are adjusted with changing land costs and inflation (see Chapter 8, *Cost and Funding*). This review is in addition to the Conservancy's annual process to update the fee to adjust to changing land costs and inflation, which may also require outside financial analysis assistance.

7.3.9 Consultants and Contractors

The Conservancy will retain consultants to meet any technical, scientific, or other staffing needs that cannot be effectively or efficiently addressed through in-house staff due to insufficient expertise or availability. It is expected the Conservancy will utilize consultants more heavily during the early stages of HCP/NCCP implementation, becoming less necessary as the Conservancy develops and becomes more familiar with the reserve system.

7.3.10 Responsibilities of the Local Jurisdictions

The local jurisdictions with land use planning and development authority that participate in the Yolo HCP/NCCP (County of Yolo, City of Davis, City of Woodland, City of West Sacramento, and City of Winters) have a responsibility to assist with implementation because of their local government authorities. As Permittees and members of the Conservancy, the participating local jurisdictions will support HCP/NCCP implementation by:

- Receiving, reviewing, and approving applications for take authorization under the Yolo HCP/NCCP from private project proponents, according to the procedures and requirements described in Chapter 4, *Application Process and Conditions on Covered Activities*;
- Requiring private project proponents to pay HCP/NCCP fees established by the Conservancy, as described in Chapter 8, *Cost and Funding*;
- Transferring quarterly the HCP/NCCP fees to the Conservancy to support HCP/NCCP implementation. The Conservancy may request that local jurisdictions transfer fees more frequently if necessary for prudent financial management of the Conservancy. All fees paid must be transferred or in the process of transfer (e.g., the member agency has notified the

Conservancy that the fee has been paid and the transfer process has been initiated) within 15 days of the end of the quarter in which the fee was paid;

- Reporting periodically, at least quarterly, information to the Conservancy regarding the applications and approvals for take authorization under the Yolo HCP/NCCP, including take associated with projects that are exempt from the fees and/or conditions of the Yolo HCP/NCCP. The participating local jurisdictions will report quarterly, ending in December of each year. The Conservancy will use the participating local jurisdictions' quarterly reporting to complete the annual report by the end of April of the following year. For example, staff will present the 2018 annual report to the Conservancy Board and the wildlife agencies in April 2019;
- Hearing appeals of fee determinations for projects within their jurisdictions;
- Monitoring the compliance with conditions on covered activities on project sites;
- Participating in regular working group meetings with Conservancy staff;
- Participating in the Conservancy's Advisory Committee as agency liaisons ; and
- Coordinating closely with the Conservancy regarding Plan implementation.

7.4 Local Implementing Ordinances

To implement the Yolo HCP/NCCP on the local level, each participating jurisdiction must adopt an implementing ordinance that will reference the permits, implementing agreement, and the Yolo HCP/NCCP as well as the jurisdiction's obligations under the Yolo HCP/NCCP. Each jurisdiction will consider ordinances for adoption no later than 120 days after execution of the implementing agreement (Appendix F, *Implementing Agreement*) and issuance of the last permit by USFWS and CDFW.

Once issued, the permits will be contingent upon the adoption of local implementing ordinances in Davis, Woodland, West Sacramento, Winters, and Yolo County. The implementing agreement and permits will specify that the permit is contingent upon the adoption of these implementing ordinances.

7.5 Land Acquisition

The Conservancy is responsible for ensuring acquisition of land for the reserve system in accordance with the requirements in Chapter 6, *Conservation Strategy*. As described in Chapter 6, all land for the reserve system must be acquired by Year 45 of the permit term.

7.5.1 Acquisition Credit

For inclusion into the reserve system, newly protected lands must meet the following criteria:

- Contribute to meeting the goals and objectives of the Plan and overall success of the Yolo HCP/NCCP, as described in Chapter 6, *Conservation Strategy*;
- Have a location, configuration, and quality that are consistent with the reserve design and assembly principles in Chapter 6, Section 6.4.1, Conservation Measure 1: Establish Reserve System;
- Permanently protect the biological functions and values that contribute to the Yolo HCP/NCCP. Permanent protection must be ensured through a conservation easement that is consistent with the requirements of Section 7.5.5, *Conservation Easements*, and the conservation easement template in Appendix K or by some other permanent dedication of land to the reserve system; and
- Have no hazardous materials or property encumbrances that conflict with HCP/NCCP goals and objectives.

7.5.2 Acquisition Process

The process for acquiring land in fee title or through conservation easements is represented by Steps 1 through 13, below. These steps are representative of the process for a typical transaction; the process, however, may vary based on the specific characteristics of each transaction. Regardless, certain elements (such as wildlife agency participation) will be integral to each acquisition. In addition, the Conservancy Board or Executive Director may make modifications to this process as needed with written approval by the wildlife agencies.

The Conservancy may perform these acquisition steps on its own or an acquisition partner (e.g., a local land management agency) could perform these steps. In addition, landowners who are interested in selling easements or land in fee title may initiate the acquisition process.

1. The Conservancy initiates the acquisition process by requesting applications from landowners who are interested in selling easements or land in fee title. The Conservancy may also approach a property owner directly with a proposal to acquire land through conservation easement or fee title;
2. The Conservancy reviews applications for consistency with the Yolo HCP/NCCP and requests additional information, as necessary. The Conservancy screens the applications to make sure they are complete and consistent with the framework of the acquisition strategy (e.g., within the boundary of the reserve system, without inconsistent property easements or land uses, etc.);
3. The Conservancy provides applications to the STAC for review, along with the necessary information on land cover types, habitat for covered species, restoration potential, and presence of covered species based on Plan data and other available data sources. The STAC will conduct an on-site evaluation, coordinate with the landowner for additional information, and prepare an evaluation report using a standardized report template. The property evaluation report will include an acquisition recommendation to the Executive Director based on the suitability of the property to meet the conservation goals and objectives for covered species identified in the conservation strategy;

4. The Conservancy will provide the wildlife agencies with the STAC evaluations (and mineral risk assessment if available at this time; if not, this information will be available in Step 9) and answer any questions the wildlife agencies may have prior to making a recommendation to the Board of Directors. Since the wildlife agencies must approve or deny the decision to include a site in the reserve system, the Executive Director is not required to wait for wildlife agency comments to proceed with a recommendation to the Board of Directors;
5. The Executive Director will make a recommendation to the Board regarding whether to include the proposed site in the reserve system. After Board approval of recommended sites, the Executive Director will seek approval from the wildlife agencies to proceed with the acquisition;
6. The Conservancy and the landowner will sign a letter of intent prior to negotiating easement or land acquisition terms to ensure a clear understanding of the process through which the Conservancy will evaluate the potential purchase of an easement. The Conservancy or the landowner may decide not to proceed with the acquisition if it is not possible to reach agreement on the letter of intent.
7. The Conservancy and the landowner will reach agreement on easement or land acquisition terms and any necessary management prior to purchase. When possible, development of a site-specific management plan should be completed before final purchase (site-specific management plans will be based on the applicable management in the reserve unit management plan that includes the site). Development of the site-specific management plan prior to final purchase of a conservation easement will allow the landowner, the wildlife agencies, and the Conservancy to agree on management practices on the property prior to the purchase (see Section 7.3.6, *Reserve Management and Monitoring*, regarding the process for development of management plans). If the easement terms deviate from the easement template, the wildlife agencies will review and approve these modifications.
8. Conservancy staff members will examine all leases that apply to the property for consistency with HCP/NCCP goals and objectives. Inconsistent leases may be terminated or modified to conform to the Yolo HCP/NCCP. The Conservancy may choose not to purchase a site with incompatible leases or management actions until the leases expire; if purchased, the lease area will be excluded from the reserve system until these leases expire;
9. Conservancy staff members will determine, through the due diligence process, whether a separate mineral estate exists for the property. If a separate mineral estate exists, Conservancy staff members will assess the risk of mineral extraction occurring on the property that would disturb the surface and degrade the conservation values being considered for purchase through easement or fee. This assessment will follow the procedures outlined in Section 7.5.12, *Mineral Rights*, below. If a separate mineral estate is found to have low likelihood of being exercised (i.e., for surface mining to occur), the Conservancy may proceed with its evaluation of the property. If the separate mineral estate is found to have a moderate to high likelihood of being exercised, the Conservancy will proceed with the options described in Section 7.5.12, *Mineral Rights*;
10. The Conservancy conducts an appraisal of property value (easement or fee), mineral estate (if applicable), and water rights consistent with legal requirements for acquisition of public lands;
11. The Conservancy and landowner negotiate a fair-market price and easement conditions, if applicable;
12. If the wildlife agencies have not already approved the acquisition (Step 5), the wildlife agencies have 30 working days to respond to a request for approval once all relevant and available

information has been provided (preliminary title report, conservation easement, STAC evaluation, management plan, and mineral extraction risk assessment). If after 30 days there has been no response from the wildlife agencies, the Conservancy may proceed with the acquisition; and

13. The Conservancy completes the acquisition, including final approval by the Board of relevant easement documents.

7.5.3 Stay-Ahead Provision

The conservation strategy of an NCCP must be implemented at or faster than the rate at which the loss of natural communities or habitat for covered species occurs so that conservation always stays ahead of effects and rough proportionality is maintained between adverse effects on natural communities or covered species and conservation measures (California Fish and Game Code 2820(b)(3)(B)). The rough proportionality standard of the NCCPA states that,

“...implementation of mitigation and conservation measures on a plan basis is roughly proportional in time and extent to the impact on habitat or covered species authorized under the plan. These provisions shall identify the conservation measures, including assembly of reserves where appropriate and implementation of monitoring and management activities, that will be maintained or carried out in rough proportion to the impact on habitat or covered species and the measurements that will be used to determine if this is occurring” (California Fish and Game Code 2820(b)(3)(D)(9)).

Similarly, the FESA also requires that HCPs minimize and mitigate the impacts of the taking to the maximum extent practicable (FESA Section 10(a)(2)(B)(ii)). When conducting its jeopardy analyses prior to issuance of the incidental take permit, USFWS will consider whether the mitigation proposed is scientifically and rationally related to the impact of the taking. To make findings that the proposed impacts are mitigated to the maximum extent practicable, USFWS will consider temporal losses (if any) resulting from the time of impact relative to the time of mitigation.

The stay-ahead provision requires the Conservancy to ensure the amount of each natural community conserved, restored, or created by the Conservancy as a proportion of the total requirement for each natural community (Tables 6-2(a), *Newly Protected Lands Commitments* and 6-2b, *Pre-permit Reserve Lands Commitments*) is roughly proportional to the impact on that natural community as a proportion of the total impact expected by all covered activities (Table 5-1, *Maximum Allowable Loss, Natural Communities*). If 25 percent of the expected loss of grasslands has occurred, for example, then at least 25 percent of the required land acquisition for grasslands must also have occurred.

To provide flexibility during implementation, the Conservancy may fall behind by a maximum of 10 percent of its conservation strategy acreage requirements (conservation overall and by each applicable land cover type) and still be in compliance with the stay-ahead provision for the Yolo HCP/NCCP. This deviation accounts for the likely pattern of infrequent land acquisition of large parcels, which will allow the Conservancy to jump far ahead of impacts with one acquisition. The Conservancy will be allowed a 10 percent deviation below the required trajectory of conservation. Once the Permits end (i.e., through expiration, suspension, revocation), however, the Permittees will be held responsible for any outstanding requirements in the Permits, Implementing Agreement, and HCP/NCCP (see the Implementing Agreement for a detailed discussion).

7.5.3.1 Measurement of Stay-Ahead Provision

During the first year after Permit issuance, the Conservancy will be establishing its structure, collecting initial HCP/NCCP fees, and actively pursuing land acquisition deals with willing landowners. To allow time for these start-up tasks to occur, the stay-ahead provision will apply only two years after the last local ordinance takes effect. After two years of HCP/NCCP implementation, the Conservancy must measure its compliance with the stay-ahead provision by using the method described below.

To measure compliance with the stay-ahead provision, the amount of each natural community conserved, restored, or created as a proportion of the total requirement by natural community must be equal to or greater than the impact on the natural community as a proportion of the total impact expected by all covered activities. For example, if 40 percent of the total expected impacts on the grasslands natural community have occurred, then at least 40 percent of the conservation of the collective grasslands natural community must also occur. This method of aggregating land cover types into natural communities applies only to measurement of the stay-ahead provision.

Requirements for acquisition by each natural community (Tables 6-2a, *Newly Protected Lands Commitments* and 6-2b, *Pre-permit Reserve Lands Commitments*) still apply and must be met by Year 45 of the permit term or by Year 40 if restoration or creation is to occur. This aggregation method provides incentives and flexibility to the Conservancy to acquire, restore, or create the most sensitive and difficult land cover types first within each natural community, even if impacts on these land cover types have not yet occurred.

Land that has been acquired or funded in full or in part by state or federal agencies that contributes to species recovery under the Yolo HCP/NCCP will also contribute to compliance with the stay-ahead provision once enrolled in the reserve system. A portion of the Yolo HCP/NCCP assumes funding by the state and federal governments. The Conservancy must recognize, however, that funds from public agencies will be available on budget cycles, and subject to administrative processes, that may or may not correspond to the timing of covered activities.

The Conservancy will monitor the status of the stay-ahead provision throughout HCP/NCCP implementation. The wildlife agencies will also evaluate the stay-ahead provision on an annual basis. The Conservancy will report the status of the stay-ahead provision in each annual report, beginning with the Year 2 annual report (see Tables 7-1, *Schedule for Major Implementation Tasks*, and 7-2, *Key Deadlines for HCP/NCCP Compliance*). As long as the pace of conservation measure implementation (i.e., preservation, restoration, or creation) does not fall behind the pace of covered activity impacts by more than 10 percent, the Conservancy will meet the stay-ahead provision.

If the stay-ahead provision is not met, the Conservancy and the wildlife agencies will meet and confer within 30 days of the annual report to assess the situation. If the wildlife agencies find that the Yolo HCP/NCCP is out of compliance with the stay-ahead provision, the wildlife agencies will determine if the Yolo HCP/NCCP has maintained rough proportionality. If any of the wildlife agencies issue a notification to the Conservancy that rough proportionality has not been met, then the wildlife agencies and the Conservancy will meet to develop and implement a mutually agreeable plan of action to remedy the situation and achieve compliance with the stay-ahead provision.

Table 7-1. Schedule for Major Implementation Tasks

Time Period	Tasks and Milestones^a	Responsible Party^b
Prior to Permit Issuance (i.e., Year 0)		
	Complete final versions of implementing agreement and Permittee ordinances in preparation for permit issuance.	Conservancy
	Where feasible, apply for state/federal grants for land acquisition (after publication of draft Yolo HCP/NCCP).	Conservancy
	Commence the recruitment process for Conservancy key staff members (if possible, to allow early implementation).	Conservancy
	Establish Science and Technical Advisory Committee.	Conservancy
By Permit Issuance (Day 1)		
	Prepare initial budget for Conservancy.	Conservancy
Post-Permit		
0-1 year	Hire Conservancy key staff members and consultants (if not completed prior to permit issuance). This task will be ongoing.	Conservancy
	Within six months of permit issuance, determine the annual date for the Conservancy's Board of Directors to update the HCP/NCCP fee, based on the indices and procedures described in Table 8-10, <i>HCP/NCCP Fee Adjustment Indices</i> .	Conservancy
	Develop monitoring protocol. This task may begin prior to permit issuance.	Conservancy
	Develop implementation handbook.	Conservancy
	Within two years of permit issuance, develop a set of guidelines subject to wildlife agency approval with which to evaluate the loss and necessary replacement of conservation easement values from the exercise of mineral rights (from Section 7.5.12, <i>Mineral Rights</i>)	Conservancy
	Develop database for tracking take coverage.	Conservancy
	Train Conservancy and Permittee staff members to review and process HCP/NCCP applications. This task will be ongoing.	Conservancy
	Provide each Permittee with detailed maps of land cover types so they can process and evaluate HCP/NCCP applications.	Conservancy
	Develop template pre-acquisition assessment and protocols prior to the first land acquisition.	Conservancy
	Prepare and review applications for public sector activities under the Yolo HCP/NCCP submitted to the Conservancy. This task will be ongoing.	Conservancy
	Where feasible, apply for state/federal grants for land acquisition and other conservation measures. This task will be ongoing.	Conservancy
	Establish an appeals process for HCP/NCCP fee determinations. This process will be consistent with the typical appeals process for each Permittee for development projects.	Conservancy
	Collect Yolo HCP/NCCP fees. This task will be ongoing.	Cities and County, Conservancy
	Develop application for land in lieu of fees.	
	Develop template HCP/NCCP application for Permittees and private entities to apply for take coverage under the plan.	Conservancy
	Develop Special Participating Entities application package for take coverage under the plan.	Conservancy

Time Period	Tasks and Milestones^a	Responsible Party^b
	Establish reserve fund for ongoing management when mitigation fees are not available or insufficient.	Conservancy
	Establish and maintain database to track permit compliance (e.g. land acquisition and HCP/NCCP effects). This task will be ongoing.	Conservancy
	Continue coordination of annual audit, including reports to the Conservancy Board. This task will be ongoing.	Conservancy
	Establish performance measures to evaluate progress during implementation.	Conservancy
	Complete prepermit reserve cultivated lands management plan (Section 7.3.6).	Conservancy
	Enter into a memorandum of understanding with the City of Davis to provide more detail about the terms of the partnership described in Section 8.4.2, <i>Local Funding</i> .	
1–5 years	Continue to hire or contract out Conservancy technical and operational staff as reserve system expands.	Conservancy
	Investigate restoration and creation opportunities on existing open space and newly acquired land to ensure compliance with stay-ahead provision. This task will be ongoing and Conservancy should begin this task as soon as feasible	Conservancy, Permittees
	Develop a set of guidelines with which to evaluate the loss and necessary replacement of conservation easement values from the exercise of mineral rights. (Within two years of permit issuance.)	Conservancy, Wildlife Agencies
	Update fees annually according to Chapter 8, <i>Costs and Funding</i> . Provide new fee schedule to Permittees (the Conservancy will give 30-day notice to Permittees prior to fees going into effect). This task will be ongoing. ^a	Cities and County, Conservancy
	Every five years, perform financial assessment as described in Chapter 8. This task will be ongoing.	Conservancy
	Submit annual report to the wildlife agencies. This task is performed on an annual basis by April 30 of every year for the previous fiscal year (July 1 to June 30). ^a	Conservancy
	Conduct annual meeting to report on implementation progress of HCP/NCCP. This task will be ongoing.	Conservancy
	Prepare reserve unit management plans as described in Chapter 6, <i>Conservation Strategy</i> . Conservancy must prepare plans within five years of the first parcel acquired in each reserve unit and reviewed no less than every five years. ^a	Conservancy
	Initiate adaptive management and monitoring of biological resources. This task will be ongoing.	Conservancy
	Initiate or continue management and monitoring in reserve system.	Conservancy
	Continue to acquire land to assemble reserve system and meet stay-ahead provision requirements (by Year 2). This task will be ongoing, but the Conservancy must complete all land acquisition by Year 45. ^a	Conservancy, Permittees
	Begin design of habitat restoration and creation and additional environmental compliance for restoration and creation. This task will be ongoing.	Conservancy
	Implement land cover restoration and creation projects described in Chapter 6. This task will be ongoing; however, the Conservancy must complete construction of all habitat restoration and creation projects for land cover types and plant occurrences by Year 40.	Conservancy

Time Period	Tasks and Milestones^a	Responsible Party^b
	Open selected reserve lands to public access according to reserve unit management plans. Develop enforcement procedures for the reserve system before newly acquired land is open to public access.	Conservancy or Applicable Local Agencies
	Prioritize implementation of studies described in Chapter 6.	Conservancy
	Update land cover map with most recent aerial photograph (at least every 5 years).	Conservancy
	Develop a wildfire local operating agreement for the reserve system with the California Department of Forestry and Fire Protection (CAL FIRE) and with any other firefighting agency that has responsibility for the reserve lands within 4 years of Permit issuance.	Conservancy
	Develop framework for landowner incentive program for Swainson’s hawk foraging habitat.	Conservancy
	Complete enrollment of pre-permit reserve lands (the Conservancy will initiate this process prior to Year 6 and complete the enrollments by Year 5.	
6–50 years	Continue coordination of annual audit, including reports to the Conservancy Board.	Conservancy
	Ten-year comprehensive reviews.	Conservancy
	Finalize post-permit implementation structure prior to Permit expiration (Chapter 8, Section 8.4.4.5, <i>Funding for Post-Permit Management and Monitoring</i>).	Conservancy
		Conservancy
More than 50 years	Continue adaptive management and limited monitoring of biological resources to ensure management actions are working.	Conservancy

Notes:

^a Key Task Tied to Permit Compliance; see Table 7-2

^b The responsible party is the entity that must ensure the task or milestone is achieved. In many cases, the responsible party may delegate implementation of the task to a third party (e.g., a Permittee, landowner, or consultant).

Table 7-2. Key Deadlines for HCP/NCCP Compliance

Key Implementing Entity Task With Deadline Tied to Permit Compliance^a	Deadline(s)	Deadline Flexibility
Key Initial Deadlines		
Cities and county will consider the adoption of local ordinances to implement HCP/NCCP	Within 120 days after the execution of the Implementing Agreement and issuance by the wildlife agencies of the last Permit	None
Development of strategic plan to outline activities over next 5 to 10 years	With one year of issuance by the wildlife agencies of the last Permit	At the discretion of the Conservancy Board
Enroll pre-permit reserve lands ^a	Within five years of issuance by the wildlife agencies of the last Permit	At the discretion of the Conservancy Board
Key Annual Deadlines		

Key Implementing Entity Task With Deadline Tied to Permit Compliance^a	Deadline(s)	Deadline Flexibility
Update fees annually	Date to be determined by the Conservancy within the first six months of plan implementation	Fee update can be delayed if the federal indices are delayed
Submit annual report to wildlife agencies with all required information	By April 30 of each year for the previous fiscal year (July 1 to June 30)	Extensions available with prior approval by wildlife agencies
Review and approval of annual report and work plan by Conservancy Board	Should be submitted to Conservancy Board with annual budget	At the discretion of the Conservancy Board
Key Periodic or One-Time Deadlines		
Prepare reserve unit management plans	Within five years of first acquisition in each reserve unit	Extensions available with prior approval by wildlife agencies
Acquire and enhance land; restore and create habitat in compliance with the stay-ahead provision	Applies two years after the last ordinance takes effect and is measured annually thereafter	10% deviation below stay-ahead requirements is allowed
Update strategic plan	Every five years	At the discretion of the Board
The Conservancy will work with the wildlife agencies to conduct a formal and complete review of progress toward building the reserve system	Every ten years	None
Complete construction of all restoration and creation projects for land cover types	Year 40	Success criteria will be proposed in reserve management plans and restoration/creation designs. Success criteria in some cases may not need to be demonstrated by year 40 but would have to be demonstrated by the end of the permit term. The wildlife agencies would review these proposals as they are submitted during HCP/NCCP implementation
Acquire all land for the reserve system according to the acreage requirements in Chapter 6, <i>Conservation Strategy</i> , by land cover type, conservation analysis zone, and landscape linkage	Year 45	Extend by up to 2 years with wildlife agency approval if reserve system is within up to 5% of completion
Acquire modeled habitat for covered species in the reserve system according to the species protection requirements in Chapter 6	Year 45	Extend by up to 2 years with wildlife agency approval if reserve system is within up to 5% of completion

Key Implementing Entity Task With Deadline Tied to Permit Compliance^a	Deadline(s)	Deadline Flexibility
Develop a wildlife agency-approved plan to address the continuing obligations of the Conservancy beyond the permit term	Years 45–47	None
Note:		
a. The process and criteria for enrolling pre-permit reserve lands are described in Chapter 6, Section 6.4.1.7, <i>Enrolling Baseline Public and Easement Lands into the Reserve System as Pre-permit Reserve Lands</i> .		

7.5.3.2 Counting Land Acquisition and Restoration toward Commitments

The criteria for incorporating land into the reserve system are described in Chapter 6, *Conservation Strategy*. Land may be counted toward HCP/NCCP requirements and the stay-ahead provision once it is enrolled into the reserve system (see Section 6.4.1.7 *Enrolling Baseline Public and Easement Lands into the Reserve System as Pre-permit Reserve Lands*). Existing and newly constructed infrastructure (e.g., roads, watering facilities) within the reserve system do not count toward the land cover type land acquisition requirements described in Chapter 6.

Compliance with natural community restoration will be measured when construction of the restoration project is completed. If, at the conclusion of the monitoring period, the project fails to support the amount of restored land cover for which the Conservancy initially claimed credit, the Conservancy will adjust the credit to the actual amount of restored land cover type present on the site.

The Conservancy must document the conditions of the restoration site prior to initiating restoration to determine whether the project is enhancing or restoring the land cover type. If the site is only being enhanced and not restored (i.e., if the intended natural community or habitat for covered species is already present), as determined by a qualified biologist, then the enhanced land counts toward only the protection commitment. If the site meets the definition of restoration, then the restored acres will count toward the restoration commitment. The area restored will count toward only the restoration commitment and will not count toward the protection commitment. Restoration of a site will be presented to the Science and Technical Advisory Committee and the wildlife agencies. The wildlife agencies will review and approve any restoration projects.

A key requirement of the land acquisition strategy is landscape connectivity and connections to existing open space. Land acquired early in the permit term may be isolated from existing open space until future acquisitions can connect it. Such acquisitions are eligible for credit under the Plan and for the stay-ahead provision.

Some rights-of-way or utility easements are maintained or used regularly and may not be appropriate for receiving credit toward land acquisition requirements because of the frequent disturbance that occurs within these areas. Where land contemplated for the reserve system is encumbered by rights-of-way or easements, it is the responsibility of the Conservancy to document the frequency and type of use in these rights-of-way or easements and justify whether land acquisition credit should be applied in these areas.

7.5.3.3 Stay-Ahead Reporting and Process for Addressing Deficits in Land Conservation

As discussed in Section 7.5.3.1 *Measurement of Stay-Ahead Provision*, above, if the stay-ahead provision is not met, the Conservancy and the wildlife agencies will meet to develop and implement a mutually agreeable plan of action to remedy the situation and achieve compliance with the stay-ahead provision. The mutually agreeable plan of action may include a range of potential solutions, including those listed below.

- Wait for key pending land acquisition deals to close that will bring the Yolo HCP/NCCP into compliance with the stay-ahead provision;
- Speed delivery of funding sources or partnerships that will enable more land acquisition to bring the Yolo HCP/NCCP into compliance with the stay-ahead provision, including hiring consultants with project management, grant-writing, or real estate expertise;
- More aggressively solicit interest from key landowners who may be willing to sell land to the Conservancy that would enable compliance with the stay-ahead provision;
- Change the acquisition strategy (e.g., more direct acquisition of land by the Conservancy rather than relying on partnerships, shifting the Conservancy's budget allocations to place a higher priority on land acquisition, or accelerating the process for being able to count land that has already been acquired against stay-ahead requirements by, for example, recording easements more quickly);
- Require that project proponents provide land in lieu of fees (see Section 7.5.9, *Land Dedication In Lieu of HCP/NCCP Fee*);
- Slowing or stopping take authorizations until conservation strategy obligations catch up with impacts; and
- If, after the exercise of all available authority and utilization of all available resources, the Conservancy cannot comply with the stay-ahead provision, the Yolo HCP/NCCP will be reevaluated. An amendment may be warranted if adjustments to the take authorization, permit term, conservation obligations, or other aspects of the permits, implementing agreement, or HCP/NCCP are necessary. See Section 7.5.9, *Land Dedication In Lieu of HCP/NCCP Fee*, for more information on the requirement regarding land in lieu of fee when the Conservancy is not meeting the stay-ahead provision or is at risk of not meeting the stay-ahead provision.

7.5.3.4 Requirements for Providing Land Instead of Paying a Fee When Stay-Ahead Provision Is Not Being Met

If the Conservancy determines the Yolo HCP/NCCP is at risk of noncompliance with the stay-ahead provision, the Conservancy will notify the Permittees. The Conservancy may determine it is necessary to temporarily require project proponents (including Permittees) to provide land (or perform equivalent conservation actions [see Chapter 6, *Conservation Strategy*]) instead of paying a fee if the stay-ahead provision is not satisfied based on the criteria listed above. This requirement may be waived if the wildlife agencies agree, after conferring with the Conservancy, that a different plan of action, developed in concert with the Conservancy, will remedy the situation and that it is not necessary to require project proponents to provide land instead of paying a fee. Alternatively, a Permittee may have accrued sufficient credits to offset any fees that are due.

Land will be provided to the Conservancy according to the guidelines and criteria in Section 7.5.9, *Land Dedication In Lieu of HCP/NCCP Fee*. Project proponents will always have the option of providing land in lieu of the base development fee as long as the land that is being offered meets the criteria in Section 7.5.9, *Land Dedication In Lieu of HCP/NCCP Fee*. If the Conservancy initiated the requirement from its own determination that the Yolo HCP/NCCP was at risk of noncompliance, the requirement to provide land instead of a fee will be lifted (i.e., it will revert back to an option) as soon as the Conservancy determines that it is no longer at risk of noncompliance with the stay-ahead provision. If the Conservancy or wildlife agencies initiated the requirement following noncompliance with the stay-ahead provision, the requirement will be lifted as soon as the Conservancy demonstrates in writing, to the satisfaction of the wildlife agencies, that the Yolo HCP/NCCP is in compliance with the stay-ahead provision.

7.5.3.5 Conservation Action Deadlines Beyond Stay-Ahead Requirement

As summarized above, the Conservancy will be required to meet the stay-ahead provision so that land acquisition keeps pace with impacts. If impacts occur more slowly than expected, however, strict adherence to the stay-ahead provision would result in relatively slow growth of the reserve system initially, followed by a rapid expansion of the reserve system to meet the final acquisition targets. To ensure the Conservancy makes steady progress toward the final land acquisition targets, the Conservancy will work with the wildlife agencies to conduct a formal and complete review of progress toward building the reserve system every 10 years after the initial implementation.

7.5.4 Land Acquired by Other Organizations or through Partnerships

Agencies and organizations other than Permittees will acquire land in the Plan Area that will help meet the goals and objectives of the Yolo HCP/NCCP. In these cases, the Conservancy may receive credit toward HCP/NCCP requirements if the acquisitions are made in partnership with the Conservancy and are consistent with the Yolo HCP/NCCP. The Conservancy will most likely participate in many of the habitat-related land acquisitions in the Plan Area during the permit term. The Conservancy may own little or no land, however. If the Conservancy partners with other groups and provides matching funds, for example, larger land acquisitions will be possible (i.e., compared with the Conservancy purchasing land only on its own). Land acquired through partnerships with non-Permittees can be counted toward the Yolo HCP/NCCP conservation requirements (i.e., contribution to recovery) if the acquisition meets the criteria for reserve lands described in Chapter 6, *Conservation Strategy*, and the criteria described above in Section 7.5, *Land Acquisition*.

The Yolo HCP/NCCP budget assumes the Conservancy will always fund management for natural communities land monitoring for all land in the reserve system; actual funding will be determined on a case-by-case basis. The Conservancy, or other groups and agencies, may manage and monitor land acquired through partnerships as long as a contract or other binding agreement is in place to ensure that management and monitoring occurs according to the terms of the Yolo HCP/NCCP. Land acquired with state or federal money will be credited toward the state/federal contribution discussed in Section 8.4.3.2, *State and Federal Funding Sources*. All acquisitions—regardless of the method of acquisition—that are enrolled in the reserve system will be credited toward the stay-ahead provision, as discussed in Section 7.5.3, *Stay-Ahead Provision*.

7.5.5 Conservation Easements

Voluntary permanent conservation easements (hereafter referred to “conservation easements”) on private lands are an important tool, one that the Conservancy will use together with fee title acquisition from willing sellers to fulfill the land conservation commitments. Conservation easements are voluntary, legally binding agreements between a landowner and an easement holder that restrict certain uses of the land to protect specified wildlife and plant species and natural communities while the landowner maintains ownership. Under the Yolo HCP/NCCP, the conditions of conservation easements must provide sufficient protection of a sufficient amount of land to achieve the biological goals and objectives of the Yolo HCP/NCCP. A number of entities may hold HCP/NCCP conservation easements (e.g., the Conservancy, Permittees, and land trusts); however, the Conservancy must always be granted the right of enforcement of the easement and access for monitoring (see the template easement in Appendix K). Although conservation easements can include a variety of restrictions and stewardship commitments, only those that are permanent and meet statutory and regulatory requirements, including specific substantiation requirements, are considered viable tools for implementing land conservation under the Yolo HCP/NCCP.

The primary purpose of conservation easements on private lands under the Yolo HCP/NCCP will be to provide the combined benefit of conservation for covered species and natural communities and continued viable use of rangelands and certain agricultural lands in the Plan Area. The Yolo HCP/NCCP includes acreage targets for the protection of natural communities to benefit a number of HCP/NCCP covered species. The Conservancy will achieve most of this conservation through conservation easements. The Yolo HCP/NCCP includes targets for the protection of rice lands, for example, that provide habitat for giant garter snake. The Conservancy will achieve a substantial portion of this target through conservation easements that allow for the continuation of rice production. Easements the Conservancy purchases from willing landowners on such rice lands will allow the use of agricultural practices that are compatible with the conservation of this species.

7.5.5.1 Conservation Easements on Private and Public Lands

The Conservancy will use conservation easements as an important tool in HCP/NCCP implementation in three ways:

- Conservation easements purchased from a private party and placed on the land that remains in the ownership of that private party (i.e., as an alternative to fee title acquisition),
- Conservation easements placed on land acquired in fee title by the Conservancy to secure credit under the Plan (see Section 8.3.1, *Establish Reserve System*), and
- Conservation easements placed on land in public ownership (may be purchased by the Conservancy or donated by the public entity, potentially for take credit).

The section below describes the process for developing acceptable conservation easements in all three cases.

7.5.5.1.1 Easements on Private Land

The Yolo HCP/NCCP assumes that the Conservancy will purchase most of the land for the reserve system in conservation easements rather than in fee title. Conservation easements are appropriate where landowners wish to retain ownership and control of the property and the Conservancy can meet the HCP/NCCP’s conservation goals with an easement. The conservation easements purchased

by the Conservancy are intended to preserve the habitat values of the covered species and other native species habitat values that exist on a property. The Conservancy will count only portions of properties that meet one or more of the goals of the Yolo HCP/NCCP toward the conservation commitments outlined in the conservation strategy. In some cases, an easement may be placed over more of a property than the Conservancy initially counted toward the conservation targets if the Conservancy determines that other portions of the property will be restored or enhanced to accommodate HCP/NCCP goals in the future. Additional credit would be applied to the other sites once they meet HCP/NCCP goals.

7.5.5.1.2 Easements on Land Acquired by or for the Conservancy

If the Conservancy or a Permittee owns reserve system land, a conservation easement must be placed on the site to ensure permanent protection. For lands acquired for the reserve system but owned by other public entities, and for lands acquired in fee or easement but owned by private parties, permanent protection must also be ensured by a conservation easement, consistent with the requirements herein. In all cases, conservation easement terms will be consistent with those described in this section.

7.5.5.1.3 Easements on Public Lands

For lands in public ownership, the Conservancy will place permanent conservation easements on the properties that allow recreational uses compatible with the Yolo HCP/NCCP conservation strategy. If these sites are protected and managed to support the Yolo HCP/NCCP biological goals and objectives, they may count toward the Yolo HCP/NCCP conservation commitments.

7.5.5.2 Conservation Easement Guidelines

The Conservancy, or partners who acquire conservation easements on behalf of the Conservancy with HCP/NCCP funding, will use the guidelines described below.

All conservation easements acquired to fulfill the requirements of the Yolo HCP/NCCP will be in perpetuity and in accordance with California Civil Code Sections 815 et seq.⁴ as well as the current policies of the wildlife agencies. All conservation easements will be acquired voluntarily. The Conservancy or another qualified conservation organization (e.g., Yolo Land Trust, The Nature Conservancy) may own or *hold* the easement, provided the easement holder complies with all applicable provisions of state and federal law that dictate the qualifications of conservation easement holders. In addition, a binding agreement must exist between the Conservancy and the easement holder to ensure compliance with the Permits, Implementing Agreement, and HCP/NCCP. An objective of the easements is to have consistency in enforcement, monitoring, and maintenance. For land owned by the Conservancy, the easement must be held by another qualified conservation organization.

The wildlife agencies will be named as third-party beneficiaries on all conservation easements so that all rights conveyed to the Conservancy will also be conveyed to the wildlife agencies. The wildlife agencies will rely on the Conservancy to verify and enforce all easement terms. In the highly unlikely event that the Conservancy fails to do so, the wildlife agencies, as third-party beneficiaries, would have the right to access the property to verify compliance with the easement terms and to enforce those

⁴ This section of California law allows placement of restrictions on the use of land for conservation purposes that is binding on all successive owners of that land.

terms, if necessary. To ensure compliance with the Yolo HCP/NCCP, all conservation easements will follow the template easement in Appendix K as closely as is reasonably possible⁵. Reasonable variations from the template may be needed to address site-specific constraints. CDFW and USFWS, along with the Conservancy, must review and approve any substantive modifications to the template easement.

It is the responsibility of participating landowners to abide by the terms of these conservation easements. The landowner and the Conservancy will negotiate the terms and prices of conservation easements on a case-by-case basis. The specific terms of the conservation easement will be based on site conditions, landowner preferences and operations, and species and habitat needs. Some landowners may wish to reserve a portion of their property for a home site or a recreational facility with high-intensity use. In those cases, the conservation easement may either exclude the incompatible site or apply to the entire property but define the portion of the site in which the incompatible uses are allowed.⁶ The Yolo HCP/NCCP will receive credit only for the portion of the property that is compatible with HCP/NCCP goals and objectives.

Each conservation easement for the property or portion of the property that will be incorporated into the reserve system will be drafted to:

- Ensure that the property will be kept in compatible agricultural uses or, for properties that will not be used for the production of crops, in its natural or existing condition (all or portions of the site may also be enhanced or restored);
- Protect the existing, enhanced, and/or restored conservation values of the property in perpetuity;
- Ensure the easement cannot be extinguished without the prior written consent of the Conservancy and the identified third-party beneficiary wildlife agencies and compliance with any applicable provisions of state and federal law;
- Confine the allowable uses of the property to those activities that do not interfere with the protection or enhancement of those conservation values, consistent with the Yolo HCP/NCCP; and
- Prevent any use of the property that would impair or interfere with the conservation values of the property.

The conservation easement will describe the conservation values of the property in terms of covered species and their habitat, as well as land cover types and natural communities on the property. It will describe conservation values, at a minimum, using the land cover types and covered species habitat described in Chapter 2, *Existing Ecological Conditions*, and Appendix A, *Covered Species Accounts*. A legal description and map must be included in the easement.

Each conservation easement will prohibit certain activities, as described in the template provided in Appendix K, except as necessary to meet the biological goals and objectives of the Yolo HCP/NCCP (including reserve infrastructure required to support monitoring, management, and maintenance). The Conservancy will describe these allowances in the site-specific reserve management plan that

⁵ The conservation easement template is likely to be modified over the course of HCP/NCCP implementation, subject to approval by the wildlife agencies, through the minor modification process described in Section 7.8.2, *Minor Modifications*).

⁶ There may be advantages to having the conservation easement apply to the entire site (e.g., to avoid costly boundary surveys to define the conservation easement more narrowly than the property boundary).

the Conservancy will develop in coordination with the landowner, consistent with the management plan template provided in Appendix G, *Management Plan Template*. In addition, all recorded conservation easements will include or incorporate by reference the items listed below.

- The initial pre-acquisition assessment, or baseline report, of covered species habitat and natural communities present;
- A detailed list of the allowable uses and use restrictions on the parcel, consistent with the minimum requirements stated above;
- Any mandatory terms and conditions to maintain or enhance the habitat, pursuant to Section 6.4, *Conservation Measures*, of the Yolo HCP/NCCP;
- Provisions for reasonable access upon prior notice by the wildlife agencies and the Conservancy or its designee to monitor compliance with the terms of the conservation easement and to carry out all applicable management and monitoring requirements described in Chapter 6;
- Conservation easements on grazing lands will describe the general nature of the grazing to be allowed or refer to a management plan that covers such matters. The easement or its management plan will specify the desired vegetation and other habitat conditions and, if necessary, impose limits on the timing, stocking density, and duration of permitted grazing to meet those conditions. These desired conditions and grazing limitations will be allowed to fluctuate according to the adaptive management process. The conservation easement will describe a baseline condition to provide a benchmark and measure habitat enhancement on the site. The conservation easement may accomplish this requirement by reference to a separate reserve management plan prepared for the lands that are covered by the easement;
- Conservation easements will take into account issues of water use and runoff into adjacent or nearby streams and their potential effects on covered species, if applicable;
- Provisions for enforcement and available remedies for the Conservancy or appropriate other party in the event that title holder or a third party violates the terms of the conservation easement;
- If the easement boundaries are different from the parcel boundaries, a legal description and map of the easement boundaries will also accompany the easement; and
- When a site-specific management plan is prepared for private property, according to Section 6.4.3.3, *Site-Specific Management Plans*, the Conservancy will record a Memorandum of Unrecorded Site-specific Management Plan, indicating where that the site-specific management plan may be found and that the terms of such site-specific management plan will be followed. Such a record, to be recorded with the land deed, ensures that the site-specific management plan will be tied to the conservation easement in the event property ownership changes. It also ensures management of the site in perpetuity.

To approve and accept a conservation easement, the Conservancy must have the following documentation:

- A pre-acquisition assessment of the property, or baseline report, that summarizes the baseline biological conditions, including the presence and condition of natural communities and covered species, if known;
- A preliminary title report and legal description of the property;

- Assurance that any superior liens or interests will not substantially conflict with the property's conservation values;
- Evidence of all other easements, covenants, restrictions, reserved rights (including mineral rights), and property interests (including water rights);
- A Phase I Environmental Site Assessment to identify potential environmental contamination if there are indications that a property may have previously included uses other than reasonable and customary agricultural activities; and
- A map of the parcel and a description of its physical condition (e.g., roads, buildings, fences, wells, other structures) as well as its relation to other components of the reserve system and other properties that are subject to other permanent protections for conservation purposes.

7.5.5.3 Conservation Easement Minimum Requirements

This section describes the required content of a conservation easement and the minimum restrictions that must be placed on a conservation easement for it to count toward the goals of the Yolo HCP/NCCP.

7.5.5.3.1 Content of an HCP/NCCP Conservation Easement

A HCP/NCCP conservation easement deed is a recorded in-perpetuity deed restriction instrument that is conveyed to the Conservancy, Permittee, USFWS, CDFW, or other appropriate entity (e.g., a land trust) to restrict the uses of the subject property in a manner that achieves the intended conservation goals and objectives. HCP/NCCP conservation easements must state a specific conservation purpose, such as the protection of specified natural communities, covered species habitat, and agricultural uses that support one or more covered species.

The following describes the minimum content of HCP/NCCP conservation easements:

1. **Conveyance Form.** This section of the easement contains the identification of the parties, a description of the parcel(s), required words of conveyance, and a statement of consideration. All persons with ownership interest in the property must be a party to the deed;
2. **Recitals.** The recitals identify the nature of the agreement and describe the intent of the parties in establishing the conservation easement. They also identify the conservation values that warrant protection and the statutory foundation for the transaction;
3. **Easement Holder's Rights.** This section must grant the Conservancy the right to enforce the restrictions of the easement and the right to access the land for monitoring purposes. Ancillary rights related to these two primary functions of the holder are also granted;
4. **Restrictions and Reserved Rights.** This section identifies the land use restrictions, allowable and prohibited uses and activities, the requirement for prior approval of certain activities by the Conservancy, and those rights reserved by the landowner. All rights and restrictions will be directly relevant to the conservation purposes of the easement;
5. **Administrative Provisions.** This section must include all provisions that establish the easement holder's and the Conservancy's rights and remedies in case of a violation. The easement must include an environmental indemnity to ensure that the easement holder will not be liable under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 United States Code [U.S.C.] Sections 9601 et seq.) or the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. Sections 6901 et seq.). Additional administrative clauses

that govern, among other items, procedures for enforcement, notices, and required approvals may be included;

6. **Signatures of Necessary Parties.** All owners and the easement holder must sign the document. Signatures must be notarized; and
7. **Exhibits.** The legal description of the property is incorporated as an exhibit at the end of the conservation easement. The easement may also be clarified by attaching maps and other relevant information.

7.5.5.3.2 Minimum Restrictions of a Yolo HCP/NCCP Conservation Easement

The Conservancy will develop performance standards and minimum conservation easement requirements for HCP/NCCP conservation easement properties. In particular, the Conservancy will identify standard restrictions on allowable uses and develop a list of inconsistent uses for each conveyed easement to clearly identify the intended objectives, methods, and assurances that each conservation easement is expected to provide for achieving the conservation objectives of the property. These performance standards will represent the minimum conservation easement requirements. The Conservancy may negotiate additional requirements and restrictions with each property owner on a case-by-case basis. At minimum, the Restrictions and Reserved Rights section of each HCP/NCCP conservation easement (or, in some instances, the Management Plan) must:

1. Identify the conservation purpose and the natural communities and habitat for covered species that are addressed by the conservation easement;
2. Identify the conservation actions that may be implemented by the Conservancy on property (e.g., habitat improvements, control of nonnative species);
3. Identify the range of crops and rotation practices that are allowable under the easement and/or the range of crops and practices that are not allowable under the easement, as applicable for active agricultural fields that are included in HCP/NCCP reserve lands. For rice lands, this will include a provision that water will remain in conveyance channels if, during some years, rice fields cannot be flooded because of drought or market conditions;
4. Grant in-perpetuity protection of the subject natural communities and habitat values, permanently restricting the use of the property;
5. Allow the Conservancy to designate a successor or easement holder at its discretion;
6. Protect the land surface from mineral extraction where feasible (see Section 7.5.12, *Mineral Rights*);
7. Restrict the permanent separation of water rights from the property, and provide for short-term transfers only in limited circumstances and with prior approval by the easement holder;
8. Prevent improvements that reduce the property's conservation values;
9. Allow the easement holder and Conservancy access to the property to determine compliance with and to enforce the easement;
10. Allow the easement holder, the Conservancy, and its designees access to the property to conduct HCP/NCCP-required biological monitoring and documentation of baseline conditions, implement habitat improvements covered under the conservation easement, and control nonnative species;

11. Reference the site-specific management plan that is tied to the easement;
12. Provide standards for easement enforcement, amendments, and modification procedures;
13. Provide a clear set of restrictions and/or limitations on allowable uses, including commercial, agricultural, and recreational uses;
14. Clearly describe activities and actions by the landowner that require prior consent from the Conservancy;
15. Describe generally the extent to which removal, filling, or other disturbances to the soil surface as well as any changes in topography, surface or subsurface water systems, wetlands, or natural habitat may be allowed without approval by the Conservancy, except for active agricultural fields where normal farming practices will continue and the easement will identify the allowable (or, alternatively, prohibited) range of crops and rotation practices and specify any additional prohibitions;
16. Declare that all terms and conditions of the easement run with the property and shall be enforceable against the landowner or any other person or entity holding any interest in the property;
17. Provide for the notification of the Conservancy at least 30 working days prior to the transfer of title to the property; and
18. Include provisions in case a property interest is taken by public authority under power of eminent domain.

Management-related requirements for reserve lands are described in Chapter 6, Section 6.4.3, *Conservation Measure 3, Manage and Enhance the Reserve System*.

7.5.5.4 Allowable Activities on HCP/NCCP Reserve System

The following discretionary and non-discretionary activities may be conducted on HCP/NCCP reserve lands. In many instances, these activities will involve both the continuation of ongoing activities on properties and new activities related to implementation of HCP/NCCP conservation measures. Within the restrictions on allowable uses detailed in conservation easement deeds, the following activities may be allowable on HCP/NCCP reserve lands at the discretion of the Conservancy:

- Habitat management activities, as provided for in Conservation Measure 3, *Manage and Enhance Natural Communities*;
- Biological and physical resources monitoring, as described in Section 6.5, *Monitoring and Adaptive Management*;
- Directed studies that support the HCP/NCCP adaptive management decision-making process and non-HCP/NCCP-related research approved by the Conservancy;
- Controlled passive recreational uses (e.g., hiking, bird watching, and non-commercial fishing and hunting) and facilities to support such uses (e.g., trails, check-in kiosks, and interpretive signs), as approved within reserve lands management plans and Conservancy approved conservation easements. If there are trails or permanent structures, however, this acreage will not count toward the HCP/NCCP conservation commitments. If new trails or structures are built, this acreage will be counted as part of the jurisdiction's take. The Conservancy expects that most conservation easements will preclude public access;

- Commercial recreational uses (e.g., waterfowl or upland bird hunting during legal hunting seasons on HCP/NCCP protected lands), as approved within reserve system management plans by the wildlife agencies and Conservancy-approved conservation easements. Any hunting or recreational uses cannot diminish the conservation goals outlined in the Yolo HCP/NCCP;
- Access for emergencies and public safety (e.g., fire suppression, flood control, and emergency response). The Conservancy will develop a wildfire local operating agreement for fire suppression in the reserve system with the California Department of Forestry and Fire Protection (CAL FIRE) and with any other firefighting agency that has responsibility for reserve lands;
- Use of non-public roads on reserve lands to provide land manager and local landowner access to adjoining lands, as approved by the Conservancy;
- Access to and maintenance of water conveyance infrastructure by water districts;
- Access to and maintenance of existing road and utility infrastructure (e.g., maintenance of below- and aboveground electric transmission lines, below- and aboveground cable and telephone lines, and underground pipelines) on reserve lands, consistent with pre-existing easements and any other in-perpetuity agreements attached to property titles;
- Ongoing agricultural and grazing practices and other land uses (including customary fallowing and rotation practices that are necessary to maintain production of target crop types over time), as allowable under Conservancy-approved conservation easements;
- Ongoing use of approved pesticides, herbicides, and other agro-chemicals in accordance with U.S. Environmental Protection Agency (EPA) labels; for rice land application, the recommended application shall not be harmful to mammals, reptiles, and amphibians (use of these chemicals is not a covered activity under the Yolo HCP/NCCP);
- In rice conservation easements, crop rotations involving non-rice crops (e.g., row crops, corn) are allowable provided that the following conditions are met:
 - Conveyance channels that are customarily used for rice farming on the respective parcel must be filled with water to provide habitat for giant garter snakes during the active season of the species (March through October),
 - Berms, levees, and other potential hibernation habitat for giant garter snakes may not be removed, altered, or otherwise compromised during the hibernation season (October 1 through March 31) to avoid disturbance of hibernating snakes;
- Non-commercial wood cutting, as allowed under Conservancy-approved conservation easements. This precludes the removal of nesting trees that are used by Swainson's hawks or riparian vegetation associated with a stream;
- Educational tours of reserve lands (e.g., school science classes), as authorized by the Conservancy;
- Access for and implementation of specified mosquito abatement treatments, as agreed to by the Conservancy; and
- Other uses agreed to in writing by the Conservancy and the wildlife agencies.

The Conservancy must, in all cases, ensure that the intended conservation benefits and conservation values of the reserve lands, as stated in the HCP/NCCP conservation strategy, are not compromised.

7.5.5.5 Easement Stacking

The Yolo Habitat Conservancy recognizes the importance of preventing the conversion of agricultural lands to orchards and vineyards on key habitat properties. In some cases, properties that provide important habitat for Swainson's hawk or other covered species may already have an agricultural conservation easement established that restricts development activities on the site, but does not restrict orchards and vineyards, and/or is lacking other provisions needed to protect the habitat conservation values of the site to a standard necessary to include the property as part of the Yolo HCP/NCCP reserve system.

In general, the Conservancy will avoid placement of habitat conservation easements on properties already restricted by agricultural conservation easements, known as easement "stacking." This policy recognizes that properties restricted by an agricultural conservation easement are already protected from development and therefore provide some ecological benefits. As a result, the Conservancy will focus its scarce resources on lands with no pre-existing protection. If circumstances arise in which easement stacking is desirable from an ecological perspective, however, the Conservancy may consider allowing the placement of habitat conservation easements on lands already encumbered by agricultural land conservation easements as long as its placement is consistent with wildlife agency policies. The Conservancy may consider the following conditions in making this decision.

- Whether the existing easement can be amended and approved by participating parties, including the landowner and other signatories to the existing agricultural conservation easement, in a manner satisfactory to the Yolo Habitat Conservancy or a subordination agreement is signed by participating parties that subordinates the existing easement in favor of the of the habitat conservation easement.
- Whether the agricultural conservation easement was executed to fulfill CEQA mitigation obligations for loss of farmland.
- Whether the participating parties associated with the existing agricultural conservation easement (including the agency that required the agricultural mitigation in cases where the agricultural conservation was established to fulfill a mitigation requirement) are in agreement with the proposed stacking and determine that the proposed stacking would not diminish the intent of the existing agricultural conservation easement.
- Whether the landowner was paid to execute the previously established agricultural conservation easement. This consideration is not meant to apply to tax benefits the landowner may receive.

Existing easements not purchased for mitigation purposes include, but are not limited to, agricultural conservation easements: purchased by the City of Davis with Measure O funds, donated by the landowner, Cache Creek Area Plan reclaimed sites, or lands acquired with grant funding that allows stacking. With regard to the Cache Creek Area Plan, reclaimed sites that are protected by an agricultural conservation easement can be "upgraded" to a habitat conservation easement with the approval of Yolo County. Those easements were negotiated public benefits, not mitigation. For Cache Creek Area Plan reclamation sites approved in the future, Yolo County may require a habitat conservation easement that is permissive of ongoing agricultural use on the reclaimed (non-mitigation) portions of the mining site.

The Conservancy shall determine whether to count the acres associated with the habitat conservation easement at less than a 1:1 ratio in order to account for development rights that have already been extinguished from the property under the pre-existing agricultural conservation easement. The Conservancy may pay for the additional habitat conservation easement or the landowner may donate the easement. Grazing Leases, Licenses, or Contracts within the Reserve System

Livestock grazing is an important management tool that benefits some terrestrial covered species. As a result, the Conservancy will most likely use managed livestock grazing in some of the reserve system. Existing grazing leases or licenses on a newly established reserve will continue until the Conservancy prepares, and the wildlife agencies approve a reserve unit management plan. After the reserve unit management plan is approved, the Conservancy will review all grazing leases or licenses on the reserve for consistency with the reserve unit management plan and with the terms of the Yolo HCP/NCCP. If necessary, leases or licenses will be revised and brought into compliance with the HCP/NCCP's conservation strategy and the framework for adaptive management to the extent allowable by the terms of the lease. If land is acquired in fee title from a landowner who is also the grazing operator, the Conservancy may maintain the previous grazing regime with a willing former landowner (e.g., through a short-term lease) until the Conservancy prepares a reserve unit management plan and the wildlife agencies approve it. Once approved, this reserve unit management plan will establish the grazing regime on the site, which can then be incorporated into long-term grazing leases.

If livestock grazing is introduced to reserve land or if the pre-existing grazing lease or license expires, the Conservancy or other Permittee will enter into a lease agreement or license with the livestock operator. A contract may be necessary in the event the Conservancy pays the livestock operator to graze livestock (e.g., when grazing a small site or the operator is implementing a grazing regime prescribed by the Conservancy that does not provide an economic return to the operator). The contract, lease agreement, or license will specify the desired vegetation and other habitat conditions and impose limits on the timing, stocking density, and duration of permitted grazing to meet those conditions. The Conservancy will review the grazing contracts, leases, or licenses annually with the operator to adjust grazing practices to meet habitat goals. At the expiration of the contract, lease, or license, the Conservancy will review monitoring data to determine whether the contract, lease, or license should be reissued with no changes in grazing management, reissued with changes in the grazing regime, or not reissued. All new and renewed contracts, leases, or licenses will include the following conditions of agricultural use and covenants to protect resources:

- Grazing capacity and stocking rates;
- Residual dry-matter guidelines or other management targets;
- Conditions under which the desired stocking rate can be changed or exceeded (e.g., seasonal adjustments to maintain habitat quality, annual adjustments in response to rainfall);
- Grazing and livestock practices; and
- Pest control restrictions.

The lease agreement will also outline the responsibilities of each party for maintaining reserve infrastructure. In addition to maintenance of reserve infrastructure, lease agreements will also include the responsibilities of the grazing lessee to maintain or meet desired habitat conditions. Responsibilities of the grazing lessee may include, but are not limited to:

- Evaluation, repair, and general maintenance of fences, including in riparian areas;

- Invasive species control, including any necessary herbicide application (this does not include rodenticide application); and
- Pond maintenance (if California tiger salamanders are confirmed to be absent).

The Conservancy may include other maintenance actions in the lease agreements if the Conservancy deems appropriate.

7.5.6 Willing Sellers

A key principle of the Yolo HCP/NCCP is that the Conservancy will acquire land for the conservation strategy only from willing sellers. The Conservancy will strictly follow this principle; the Conservancy will not condemn land from unwilling sellers to meet Plan conservation requirements.

Nothing in the Yolo HCP/NCCP will prevent other organizations from exercising their powers of eminent domain for purposes other than implementation of the HCP/NCCP and with funds other than those raised as a result of the Yolo HCP/NCCP. If, subsequent to such a condemnation and after soliciting input from the public and the Advisory Committee, the Conservancy Board of Directors finds that the condemned lands are integral to the successful implementation of the Yolo HCP/NCCP, the Conservancy may seek agreement with the owner of the condemned lands to manage those lands in a manner consistent with the Yolo HCP/NCCP.

Given the many land acquisition requirements in Chapter 6, *Conservation Strategy*, it is possible that one or several landowners who own key resources that are of interest to the Conservancy will refuse to sell or negotiations to sell will fail. It is impossible to predict at this time where this may occur and in what context it will occur (e.g., how much of the reserve system has been acquired, the extent of resources remaining to protect). This situation, if it occurs, is expected only near the end of Year 45, when all land acquisition requirements must be met. By that time, most or all of the development impacts will have most likely occurred; consequently, any delays in land acquisition associated with a lack of willing sellers will affect few covered activities. The Conservancy can avoid this situation if the Conservancy begins negotiations with key landowners early in the permit term. A review of progress toward land acquisition goals will take place at least annually, with each annual report submitted to the wildlife agencies.

If the wildlife agencies are not satisfied with the reserve system, as constructed, based on purchases from willing landowners, the Conservancy will reconfigure the land acquisition strategy in coordination with the wildlife agencies. If such a reconfiguration is not possible, the Conservancy and wildlife agencies will meet and confer, as described above in Section 7.5.3.1, *Measurement of Stay-Ahead Provision*.

The Conservancy and wildlife agencies will consider the options below, and other available options.

- Requiring project proponents to provide land instead of fees to obtain coverage under the Yolo HCP/NCCP (see Section 7.5.8, *Land Dedication In Lieu of HCP/NCCP Fee*); and
- Slowing or stopping local Permit issuance under the Yolo HCP/NCCP until key land acquisitions can be made.

7.5.7 Gifts of Land

The Conservancy may accept land (or other conservation actions) as a gift or charitable donation. In the case of a prospective gift or donation, the Conservancy will evaluate the conservation benefit of

the lands to be donated relative to the goals, objectives, and requirements of the Yolo HCP/NCCP. The Conservancy may sell or exchange donated land that does not meet these goals, objectives, and requirements to enable acquisition of land that does meet these goals, objectives, and requirements. The Conservancy may also accept gifts of land that meet the goals and objectives of its Local Conservation Plan.

7.5.8 Land Dedication In Lieu of HCP/NCCP Fee

Private landowners (i.e., project proponents) or Permittees may own land that can help to meet the conservation goals of the Yolo HCP/NCCP. Project proponents that own land within areas the Conservancy has determined are a priority for implementation of the Yolo HCP/NCCP (Figure 6-6, *Priority Acquisition Areas*) may wish to transfer fee title or place a conservation easement on all or a portion of their property to satisfy their own mitigation requirements from covered activities on the site or off-site. If the Conservancy and wildlife agencies approve this transfer or easement dedication, it can reduce or eliminate the HCP/NCCP fees required for development. Alternatively, project proponents may prefer to acquire their own mitigation lands consistent with the Yolo HCP/NCCP and transfer title of these lands or dedicate easements to the Conservancy consistent with the Yolo HCP/NCCP instead of paying all or a portion of the development fees.

The section that follows describes the process for allowing these situations.

7.5.8.1 Criteria for Providing Land in Lieu of HCP/NCCP Fees

The Conservancy will consider requests for an HCP/NCCP fee reduction or waiver in exchange for land dedication (title transfer or conservation easement) on a case-by-case basis. Land will be eligible for HCP/NCCP fee credit if the land satisfies the criteria below.

- The land satisfies the criteria for reserve lands in Chapter 6, *Conservation Strategy*, as demonstrated by a field assessment conducted by the project proponent and verified in the field by the Conservancy;
- The land is within an area considered to be a priority for acquisition (see Chapter 6, *Conservation Strategy*), or the unique and high values on the site justify its inclusion in these designated areas; and
- The transaction is approved for the reserve system by the Conservancy and the wildlife agencies, consistent with their review and approval authority over all land acquisitions for the reserve system (see Section 7.5, *Land Acquisition*, Step 12).

Project proponents must fill out an application, which is available on the Conservancy's web site that provides baseline data on the properties that are proposed in lieu of development fees, including the biological value to the Yolo HCP/NCCP. Documentation should explain how the site meets land acquisition requirements and relevant biological goals and objectives. The property owner also must provide access to the proposed site to allow Conservancy staff members or their designees to survey the site and verify its biological value for the reserve system. The Conservancy may require the project proponent to bear some or all of the costs of the evaluation, including potential surveys, and the process through which the landowner places an easement on the property. If the Conservancy decides to accept the land in lieu of fees, the cost of surveys will either be counted against the fees owed or reimbursed by the Conservancy. The Conservancy may also require a project proponent to pay the cost of other due diligence, such as a Phase 1 site assessment, appraisal, and title search.

The Conservancy will determine the amount of development fee credit based on the fair market value of the property. The Conservancy must also ensure that it has sufficient funds with which to conduct necessary management and monitoring of the proposed land in lieu. If the Conservancy finds that sufficient funds are available or are expected to be available for its operational costs associated with the land, it will allow credit of the land in lieu against all of the development fee, except for the portion of the fee dedicated to the endowment contribution (see Appendix I, *Funding*). If the Conservancy does not have or will not have sufficient funds for the operating costs associated with the property, the Conservancy may credit only the land in lieu against the portion of the development fee that pays for land acquisition (in these cases, the project proponent would pay the remainder of the fee).

If land proposed for dedication is of sufficient conservation value to the reserve system, the Conservancy may offer additional incentives to the project proponent for the land dedication. The Conservancy will determine the conservation value of the land that has been proposed for transfer based on the current and projected land acquisition needs of the Conservancy and the ability of the proposed site to meet those needs. In limited circumstances, and only late in the permit term (e.g., Years 35–45), the Conservancy may, for sites with high conservation value, credit the land dedication against the full value of the development fee, including the share of the fee for the endowment. This full fee credit is available only in circumstances where the Conservancy can document that the endowment is fully funded or can be fully funded from other expected sources.

7.5.8.2 Swainson’s Hawk Mitigation Receiving Sites

In 2005, Yolo County established a program of “mitigation receiving sites” to provide developers with a fast, market-based system of mitigation for impacts on Swainson’s hawk habitat. This system was put in place to support the county’s Swainson’s hawk mitigation fee program, established in 1993. A mitigation receiving site is property that is encumbered by a conservation easement for the purpose of providing mitigation credits to offset the impacts of future development, consistent with the 2005 agreement. The Conservancy has administered the review and approval of mitigation receiving sites. To date, several mitigation receiving sites have been approved and sold all of their credits; other sites may have credits available when the Yolo HCP/NCCP is put in place. Once approved, the Yolo HCP/NCCP will replace the county’s Swainson’s hawk mitigation fee program, and pre-existing mitigation receiving sites may continue to operate through the HCP/NCCP. During HCP/NCCP implementation, landowners may continue to sell credits through the in-lieu program described in Section 7.5.8.1, *Criteria for Providing Land in Lieu of HCP/NCCP Mitigation Fees*. Once approved, the Yolo HCP/NCCP may replace the county’s Swainson’s hawk mitigation fee program and eliminate the need for mitigation receiving sites, or may continue use of mitigation receiving sites. All mitigation receiving sites with unsold credits at the time of HCP/NCCP approval will be eligible to sell the portion of their land with remaining credits to the Conservancy or to third parties that wish to provide HCP/NCCP development fees for land in lieu, according to the criteria in section 7.5.8.1. In either case, eligible lands must place a conservation easement on the property, consistent with the Yolo HCP/NCCP (see Section 7.5.5, *Conservation Easements*).⁷ If the landowner and Conservancy upgrade the conservation easements to be consistent with the template provided in Appendix K, *Conservation Easement Template*, then these lands may count toward the Yolo

⁷ Conservation easements established previously for the Swainson’s hawk mitigation fee program are not consistent with the HCP/NCCP easement requirements, but are similar enough to current requirements that the wildlife agencies agreed to count them toward the pre-permit reserve land requirements of the Yolo HCP/NCCP.

HCP/NCCP's newly protected lands commitments.⁸ Otherwise, these lands may count toward the Yolo HCP/NCCP's commitment of 8,000 acres of pre-permit reserve lands.

7.5.9 Use of Mitigation Banks

A mitigation bank is privately or publicly owned land that is managed for its natural resource values. Mitigation banks may sell species credits, wetland credits, or both. Mitigation banks⁹ must be approved by USFWS and/or CDFW. In exchange for permanently protecting and managing the land, the wildlife agencies allow the bank operator to sell species credits to developers who must satisfy legal requirements for compensating the effects of projects that affect listed species or their habitat.¹⁰ A conservation or mitigation bank is a free-market enterprise that performs the following functions:

- Offers landowners economic incentives to protect natural resources,
- Saves project proponents' time and money by providing them with the certainty of preapproved compensation lands,
- Provides for long-term protection and management of habitat, and
- Operates with goals similar to those of regional HCPs or NCCPs, including this Plan.

Several mitigation banks operate in Yolo County that have conservation credits for covered species, including Swainson's hawk, giant garter snake, and valley elderberry longhorn beetle. Three mitigation banks in Yolo County target salmonids and other fish species and will not be used to meet Yolo HCP/NCCP conservation commitments for covered species. Table 7-3 lists the mitigation banks in Yolo County, excluding banks for fish species.

Table 7-3. Status of Mitigation Banks in Yolo County

Bank	Bank Purpose	Status ^a	Total Credits (Acres)	Credits Remaining for Sale ^a
Pope Ranch Conservation Bank	Giant garter snake	Sold out	387	0
Bullock Bend Mitigation Bank	Swainson's hawk	Active	116	10
River Ranch Valley Elderberry Longhorn Beetle Conservation Bank ^b	Valley elderberry longhorn beetle	Active	155	31
Ridge Cut Giant Garter Snake Bank (Teal) ^c	Giant garter snake	Active	186	119
Sacramento River Ranch Wetlands Mitigation Bank	Wetlands	Active	101	79
Putah Creek Mitigation Bank ^d	Wetlands and riparian	Approved	434	434
Capital Conservation Bank ^e	Giant garter snake	Pending	138	138

Note:
^a. As of August 2016.

⁸ The conservation easement template is likely to be modified during HCP/NCCP implementation, subject to wildlife agency approval, per the minor modification process described in Section 7.8.2, *Minor Modifications*.

⁹ A conservation bank is a type of mitigation bank directed specifically at providing credits for species habitat (rather than wetlands, as in a wetland mitigation bank).

¹⁰ For additional information on banking see <https://www.wildlife.ca.gov/Conservation/Planning/Banking>.

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- b. Not a CDFW-approved bank and may not have adequate protection to meet CDFW permit requirements. Is approved by the USFWS.
 - c. Currently not a CDFW-approved bank and until CDFW signs off on the bank it may not have adequate protections to meet permit requirements.
 - d. Not a CDFW-approved bank and may not have adequate protections to meet CDFW permit requirements.
 - e. No request for CDFW approval and may not have adequate protections to meet CDFW permit requirements.
-

Credits sold by private mitigation banks within the Plan Area to activities or projects covered by the Yolo HCP/NCCP can count toward the Yolo HCP/NCCP if they are consistent with the conservation, monitoring, adaptive management, and other relevant provisions of the Yolo HCP/NCCP. For the bank to be eligible to sell credits to project proponents (public or private) with activities covered by the Yolo HCP/NCCP, the bank must meet all of the relevant standards of habitat enhancement, adaptive management, and monitoring outlined in Chapter 6, *Conservation Strategy*. This includes updating the existing easement on the property to conform to the Yolo HCP/NCCP's easement template (Appendix K) and providing the Conservancy with copies of monitoring reports annually. All effects and mitigation for effects covered under the Yolo HCP/NCCP must occur within the Plan Area analyzed in USFWS's biological opinion for the Yolo HCP/NCCP. Similarly, CDFW policy requires all effects and mitigation to occur within the Plan Area. As such, mitigation banks located outside of the Plan Area may not be used.

Mitigation bankers that wish to establish a bank whose credits can count toward HCP/NCCP requirements must notify the wildlife agencies to allow consideration of such provisions during bank development and agency approval. Bankers must also coordinate closely with the Conservancy to help ensure the bank's consistency with the Yolo HCP/NCCP and use by HCP/NCCP Permittees.

For existing mitigation banks with no credits left to sell, the Conservancy may work with the bank (and possibly the conservation easement grantee and the bank's signatory agencies) to conform with the Yolo HCP/NCCP, if possible, so the bank may count toward the Conservancy's target as pre-permit reserve lands (Chapter 6, Section 6.4.1.7, *Enrolling Baseline Public and Easement Lands into the Reserve System as Pre-permit Reserve Lands*). Credits sold by banks located outside the Permit area cannot count toward HCP/NCCP goals or fees, even if the bank's service area extends into the Plan Area.

7.5.10 Pre-Permit Reserve Lands

Pre-permit reserve lands are defined in Chapter 6, Table 6-1(b), *Reserve System Land Types*, as Category 1 and 2 baseline public and easement lands that are enrolled into the reserve system. The process and criteria for enrolling pre-permit reserve lands are described in Chapter 6, Section 6.4.1.7, *Enrolling Baseline Public and Easement Lands into the Reserve System as Pre-permit Reserve Lands*. Some of the lands the Conservancy acquired between June 2006 and issuance of the Permits for the Yolo HCP/NCCP, in addition to other lands that meet the criteria described in Section 6.4.1.7, will count toward the 8,000-acre commitment of pre-permit reserve lands. Lands acquired after 2012 and prior to permit issuance that meet the requirements of the conservation strategy and use the conservation easement template provided in Appendix K, *Conservation Easement Template*¹¹ may count toward the newly protected lands commitments.

¹¹ The conservation easement template is likely to change over the course of HCP/NCCP implementation, subject to wildlife agency approval.

7.5.11 Compliance Tracking

The Conservancy will track all aspects of compliance with the permits, the HCP/NCCP, and implementing agreement. To track compliance, the Conservancy will maintain data as specified below.

- The Conservancy and member agencies will track the amount of land cover and covered species habitat temporarily and permanently removed as a result of covered activities regularly but no less than annually by overlaying impacts that year (and cumulatively) with each species model in a GIS exercise to ensure that impact caps are not exceeded. Modeled habitat impacts and modeled habitat acquisition requirements will be tracked according to the most recently developed land cover maps and habitat models. Implementation of species surveys described in Chapter 5, *Effects on Covered Species and Natural Communities*, and the remaining conservation strategy will be directed by the most current land cover maps and habitat models, as updated and maintained by the Conservancy throughout the permit term;
- The location, extent, and timing of land acquisition and Plan reserve lands establishment;
- The status of implementation of each conservation action in Chapter 6, *Conservation Strategy*;
- The success of the conservations actions in meeting the biological objectives in Chapter 6, *Conservation Strategy*;
- Descriptions of recorded conservation easements, lands acquired in fee title, interagency memorandums of agreement, or any other agreements entered into for the purposes of protecting, enhancing, restoring, or creating covered species habitat;
- The location, extent, and timing of effects on land cover types, based on reports submitted by project proponents and Permittees for take authority under the Yolo HCP/NCCP;
- The location and extent of compliance with the species occupancy requirements;
- The location, extent, and timing of restoration or creation of applicable land cover types;
- The location, extent, timing, and progress of plant occurrence creation and enhancement; and
- The location, extent, timing, and success rates of implementation of all other conservation actions described in Chapter 6, *Conservation Strategy* (e.g., preparation of reserve unit management plans, including recreation plans, construction of artificial perches, monitoring).

The purpose of monitoring this information will be to track the Conservancy's progress toward successful implementation of the conservation strategy described in Chapter 6, *Conservation Strategy*, of the Yolo HCP/NCCP. This tracking will help ensure that habitats for covered species and natural communities are conserved within the reserve system at a rate commensurate with the timing and magnitude of effects from covered activities. The data will also be linked to supporting information that documents Plan compliance. These reports and other data will be stored and archived electronically whenever possible.

Appropriate supporting information includes the following categories:

- Application material submitted for covered activities,
- Preconstruction survey reports, and
- Reports and other documentation related to the screening, selection, and acquisition of reserve lands.

HabiTrak is a standardized database developed by CDFW and others to track NCCP implementation. The database developed for the Plan must be compatible with the HabiTrak system or its successor so that compliance tracking for this Plan can be compared with other NCCPs in California.

The monitoring and adaptive management program described in Chapter 6, *Conservation Strategy*, will support compliance tracking. In addition, the monitoring program includes effectiveness monitoring, status-and-trend monitoring, and directed studies that are aimed at addressing key management or ecological questions. The data tracking system will be developed to assemble, store, and analyze all monitoring data in the program. The details of the monitoring program will not be developed until individual reserve unit management plans are prepared for each reserve. By necessity, therefore, the data tracking system for the monitoring and adaptive management program cannot be finalized until after this Plan is completed.

7.5.12 Mineral Rights

Mineral rights may occur on properties that the Conservancy considers for the reserve system. If these mineral rights exist, they may be “severed” from the surface rights of the real property on the surface. This situation is known as a “split estate” where the mineral estate is severed from the surface estate. In such situations, if the mineral estate cannot also be acquired with the surface estate, there may be risk of the mineral estate being exercised in the future by a third party. Mineral rights could be exercised for the extraction of oil, gas, precious metals, trace elements, or other resources, such as sand or gravel (i.e., aggregate). Depending on the nature of the surface activity, exercising a mineral right could substantially disturb the surface and degrade the conservation values of the site. The Conservancy will place a permanent conservation easement on all lands enrolled in the reserve system; therefore, the conservation values are assumed to remain in place in perpetuity. A severed mineral estate therefore poses a risk that may undermine that important assumption. CDFW has a policy that applies throughout the state to help address this concern when CDFW evaluates an easement in which it will be an easement holder (CDFW 2015).

The reserve lands will all have conservation easements in which CDFW and USFWS will be named a third-party beneficiary (see Section 7.5.5.2 *Conservation Easement Guidelines*); therefore, the procedures included in this section and to be followed by the Conservancy are based on this CDFW policy.

Section 7.5.2, *Acquisition Process*, describes the process the Conservancy will use each time it considers and evaluates a property to acquire for the reserve system. Step 9 of this process is the determination of whether a severed mineral estate exists for the property. If a severed mineral estate exists, the Conservancy will then determine whether the risk of exercising that mineral estate is low, moderate, or high. A severed mineral right with a low risk of being exercised requires no further action by the Conservancy in the property evaluation process, other than documenting that conclusion. If the exercise of the mineral estate is found to be of moderate or high risk, then additional actions are required to evaluate that risk and provide information to the Conservancy Board and wildlife agencies for determining the best course of action with the property.

The determination of risk of exercising the mineral estate will be based on the following steps and criteria:

1. The Conservancy will review existing deeds, title policies, and any related leases for the property to determine ownership of or rights to the mineral estate. If the mineral estate is not severed (i.e., bound to the real property or surface rights) or there is clear documentation that

there is no right to enter the surface in order to access the mineral estate, the Conservancy may determine a low risk of exercising the mineral right. In these instances, no further investigation is needed;

2. If the minerals are severed from the surface, review county assessor's records to determine if any recent ownership transactions have occurred. If feasible, review a title report that is no more than six months old; and
3. Based on the information it obtains, the Conservancy will determine if there is a low, moderate, or high level of risk of future mineral exploration or extraction by documenting answers to the following questions:
 - a. Is there evidence of past mining on the land, including any applications or permits to mine?
 - b. Has the landowner been contacted by parties who wish to conduct exploration or mining on the land?
 - c. Has the mineral estate owner previously conducted any exploratory actions on the land or entered into any leases for others to do so?
 - d. Is there a mineral assessment report on the property that indicates risk?
 - e. Is mining currently practiced on the property or adjoining lands?
 - f. Is the mineral estate owner or mineral lease holder actively engaged in mining elsewhere?
 - g. Is the property within an oil, gas, or geothermal field boundary mapped by the California Department of Oil, Gas, and Geothermal Resources? Is the property within an area mapped by the county as containing, or likely to contain, a commercial mineral resources (e.g., sand or gravel)?
 - h. Does the federal or state government own and plan to lease the mineral estate?
 - i. Is there any credible indication of litigation risk posed by owners of the mineral estate?

If the answer to all questions is "no," the Conservancy may assign a low risk of exercising the mineral estate, and no further action is required in the property evaluation process. If the answer is "yes" to one or more of questions "a" through "d" and the answer to the remaining questions is "no," then the Conservancy will assign a moderate risk to the property where the severed mineral estate is being exercised. If the answer to *any* of the questions ("a" through "i") is "yes," then the Conservancy must determine a high risk of the mineral estate being exercised.

If the property has a moderate or high risk of the severed mineral estate being exercised, the Conservancy may either abandon consideration of the easement or property acquisition or proceed with the acquisition using the following options:

1. **Prepare a Mineral Assessment Report.** A mineral assessment report will further evaluate the status of the property and the risk of exercising the severed mineral estate. The required contents of a mineral assessment report are currently found in Appendix B of the 2015 memorandum from CDFW, titled *Policy and Procedural Guidance for Managing Risks of Mining on Conservation Lands* (CDFW 2015), and Appendix B (or any similar future CDFW guidance document that may replace it) should be used in preparing the assessment. The results of the assessment may change the risk rating according to the criteria listed above. The cost and

logistical difficulty in obtaining the required information, however, may make such a report impractical in some cases;

2. **Negotiate with the Mineral Estate Holder to Purchase the Estate.** The Conservancy may wish to purchase the mineral estate in cases where the conservation values of the site are high, the risk of exercising the mineral estate are moderate to high, and the cost of the estate is modest. In these cases, the Conservancy may need to complete a mineral estate valuation to determine its value. Alternatively, the Conservancy may request that the landowner purchase the mineral estate prior to the Conservancy purchasing an easement from the landowner;
3. **Establish a Surface Use Agreement.** The Conservancy could develop a surface use agreement to ensure that the conservation values of the property will be maintained. The required minimum contents of a surface use agreement are listed in Appendix C of the 2015 memorandum from CDFW, titled *Policy and Procedural Guidance for Managing Risks of Mining on Conservation Lands* (CDFW 2015), and Appendix C (or any similar future CDFW guidance document that may replace it) should be used in developing the agreement. Where feasible, surface access should be prohibited in the Surface Use Agreement. When this is not feasible, the Conservancy should attempt to negotiate with the owner(s) of the mineral estate to limit any future surface access of the mineral estate to specific locations on the site. The surface use agreement would be signed by the owner(s) of the mineral estate, the owner(s) of the real property, the Conservancy, any additional easement holders, and the wildlife agencies. In cases where the mineral estate ownership is complicated or unknown, this option may not be feasible; and
4. **Exclude the Mineral Estate from the Conservation Easement.** In some cases the mineral estate may apply only to a portion of the parcel. If there is a moderate or high risk of exercising the severed mineral estate, the simplest option may be to exclude the portion of the site from the conservation easement on which the mineral estate occurs. The Conservancy and the wildlife agencies must evaluate, however, whether the indirect impacts of any mineral extraction operation may, if it occurs, indirectly and adversely affect the conservation values of the protected portion of the site. In such cases, a suitable buffer will be established between the mineral estate boundary and the conservation easement.

If the Conservancy acquires a property with a mineral estate that overlaps the conservation easement and the Conservancy either does not own the mineral estate or does not have an overriding surface use agreement, the mineral estate owner may still exercise that mineral right. For sites in which this may occur, the mineral rights development envelope will not count toward the Yolo HCP/NCCP reserve system acres. If the mineral right is exercised, the Conservancy and the wildlife agencies will evaluate whether the exercise of the mineral right disturbs the conservation easement area beyond the mineral rights development envelope, thereby further reducing the conservation value for which the conservation easement was established. If the conservation values of the easement will be diminished, the Conservancy and the wildlife agencies will quantify the lost values of the site. The Conservancy must replace those lost values elsewhere in the Plan Area by purchasing an additional easement, habitat enhancement, habitat restoration, or a combination of these approaches, with approval by the wildlife agencies. Within two years of permit issuance, the Conservancy will develop a set of guidelines subject to wildlife agency approval with which to evaluate the loss and necessary replacement of conservation easement values from the exercise of mineral rights.

7.6 Implementing Agreement

The NCCPA requires an implementing agreement for all NCCPs and specifies necessary provisions. The purpose of an implementing agreement is to ensure that each party understands its obligations under the HCP Section 10(a)(1)(B) permit and NCCP permit and provide remedies should any party fail to fulfill its obligations. Accordingly, an implementing agreement has been prepared for the Yolo HCP/NCCP (Appendix F). This agreement specifies the responsibilities of each party, how the Yolo HCP/NCCP will be implemented, reporting and enforcement procedures, and various other provisions that have been agreed to by the parties. The implementing agreement references material in the Yolo HCP/NCCP whenever possible. As a result, the Yolo HCP/NCCP and the implementing agreement are made as consistent as possible. In the unlikely event that there are inconsistencies among documents, the Permits prevail first, then the Yolo HCP/NCCP, and finally the implementing agreement.

7.7 Plan Assurances

FESA regulations and provisions of the NCCPA each provide for regulatory and economic assurances to parties covered by approved HCPs and/or NCCPs concerning their financial obligations under a plan. Specifically, these assurances are intended to provide a degree of certainty regarding the overall costs associated with implementation and add durability and reliability to agreements reached between the Permittees and the wildlife agencies. That is, if unforeseen circumstances occur that adversely affect species that are covered by an HCP or NCCP, the wildlife agencies will not require of that HCP or NCCP any additional land, water, or financial compensation or impose additional restrictions on the use of land, water, or other natural resources. The assurances provided under the FESA and the NCCPA do not limit or constrain the wildlife agencies, or any other public agency, from taking additional actions to protect or conserve species that are covered by an HCP or NCCP.

7.7.1 Changed and Unforeseen Circumstances

7.7.1.1 Unforeseen Circumstances

Unforeseen circumstances are events that may not be reasonably anticipated during development of the Yolo HCP/NCCP. As a result of the unpredictable nature of unforeseen circumstances, response measures to such events are not included in the Yolo HCP/NCCP. The difference between a “changed” and an “unforeseen” circumstance might depend upon the severity of the event. For example, flooding up to a certain defined point might qualify as a “changed circumstance,” whereas an even larger flooding event would be an “unforeseen circumstance.” Likewise, a small fire that affects only limited acreage may be a “changed circumstance,” but a large fire that destroys hundreds or thousands of acres may be considered unforeseen.

USFWS defines *unforeseen circumstances* as those changes in circumstances that affect a species or geographic area covered by an HCP that may not reasonably have been anticipated by the plan participants during development of the conservation plan and that result in a substantial and adverse change in the status of a covered species.

Similarly, unforeseen circumstances are defined in the NCCPA as changes that affect one or more species, habitat, natural community, or geographic area covered by a conservation plan that may not reasonably have been anticipated at the time of plan development and that result in a substantial adverse change in the status of one or more covered species. The NCCPA further provides that, in the event of unforeseen circumstances, CDFW shall not require additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources without the consent of the plan participants for a period of time specified in the Implementing Agreement as long as the plan is being implemented consistent with the substantive terms of the Implementing Agreement.

Under FESA regulations, if unforeseen circumstances arise during the life of the HCP, USFWS may not require the commitment of additional land or financial compensation or additional restrictions on the use of land, water, or other natural resources, other than those agreed to in the HCP, unless the HCP authorized entities consent. Within these constraints, USFWS may require additional measures, but only if (1) USFWS proves an unforeseen circumstance exists, (2) such measures are limited to modifications of the HCP's operating conservation program for the affected species, (3) the original terms of the HCP are maintained to the maximum extent practicable, and (4) the overall cost of implementing the HCP is not increased by the modification.

7.7.1.2 Changed Circumstances

The federal No Surprises Regulation¹² defines *changed circumstances* as changes in circumstances that affect a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and USFWS and that can be planned for (e.g., the listing of a new species or a fire or other natural catastrophic event in areas that are prone to such events). Similarly, state regulation under the NCCPA defines changed circumstances as those circumstances that are reasonably foreseeable and may affect a covered species or geographic area covered by the plan.¹³ The wildlife agencies will not require any additional conservation or mitigation to address changed circumstances that are not identified in the Yolo HCP/NCCP without the consent of the Conservancy as long as the Conservancy is properly implementing the Yolo HCP/NCCP. *Properly implementing* means the Permittees are implementing or have fully implemented the commitments and provisions of the Yolo HCP/NCCP, Implementing Agreement, and Permits. Accordingly, an HCP/NCCP must identify potential changed circumstances and describe the remedial measures the Conservancy will take to address such circumstances. The Conservancy must implement these remedial measures in response to the existence of a changed circumstance in accordance with the federal No Surprises Regulation. If the Conservancy, wildlife agencies, or any of the Permittees becomes aware of the existence of a changed circumstance, that organization shall immediately notify the other organizations.

¹² See 63 Federal Register 35 (1998) (amending 50 CFR 17.22(b)(5) and 222.307(g)).

¹³ California Fish and Game Code Section 2805 (c).

The following changed circumstances can reasonably be anticipated in the Plan Area:

1. New species listings,
2. Climate change,
3. Wildfire,
4. Nonnative invasive species or disease,
5. Flooding,
6. Drought,
7. Earthquakes, and
8. Loss of Swainson's hawk habitat and populations declining below the threshold, as specified in Section 7.7.1.2.8, *Regional Loss of Swainson's Hawk Habitat*.

If a changed circumstance occurs within the Plan Area, as defined by these sections, the Conservancy will modify its activities in the manner described below to the extent necessary to address the effects of the changed circumstances on the Yolo HCP/NCCP's conservation strategy and will report on its actions to the wildlife agencies.

7.7.1.2.1 New Species Listing

The wildlife agencies may list additional species as threatened or endangered under the FESA or CESA that are not HCP/NCCP covered species. In the event that USFWS or CDFW lists a species that is not covered by the Yolo HCP/NCCP, the provisions of this changed circumstance will be automatically triggered.

Upon a new listing of a species under state or federal endangered species laws, the Conservancy will undertake the following measures:

- Evaluate the potential impacts of covered activities on the newly listed or candidate species and conduct an assessment of the presence of suitable habitat in areas of potential effect, and
- Implement measures to avoid take of the newly listed species until such time as the Yolo HCP/NCCP and Permits have been amended to include the newly listed species as a covered species.

Alternatively, the Permittees may receive take authorization for the newly listed species as needed on a project-by-project basis through individual incidental take authorization (i.e., not under the Yolo HCP/NCCP).

In the event a species that is not covered by the Yolo HCP/NCCP becomes listed as threatened or endangered or designated as a candidate species, or is proposed or petitioned for listing, the Conservancy may request that USFWS and CDFW add the species to the relevant take authorizations issued pursuant to the Yolo HCP/NCCP. In determining whether to seek take coverage for the species, the Conservancy will consider, among other things, whether the species is present in the Plan Area and if the covered activities may result in take of the species. If such take coverage is sought, the Yolo HCP/NCCP and its authorizations will be amended consistent with the amendment procedures described in Section 7.8.3, *Amendments*, for major plan amendments. Alternatively, the Conservancy may seek new and separate take authorizations on behalf of the Permittees.

7.7.1.2.2 Climate Change

Global climate change is occurring as a result of high concentrations of greenhouse gases in the earth's atmosphere (National Research Council 2010; Intergovernmental Panel on Climate Change 2007). Greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, and ozone. These gases absorb energy emitted by the earth's surface and then re-emit some of this energy back to the earth, warming its surface and influencing global and local climates. As more and more greenhouse gases are emitted into the atmosphere from human activities such as the burning of fossil fuels, the earth's energy balance is disrupted, resulting in a number of changes to the historical climate. Evidence of long-term changes in climate over the twentieth century include the following (Intergovernmental Panel on Climate Change 2007; National Research Council 2010; Global Change Research Program 2009):

- An increase of 0.74 degree Celsius (°C) (1.3 degrees Fahrenheit [°F]) in the earth's global average surface temperature;
- An increase of 0.17 meter (6.7 inches) in the global average sea level;
- A decrease in arctic sea-ice cover at a rate of approximately 4.1 percent per decade since 1979, with faster decreases of 7.4 percent per decade in summer;
- Decreases in the extent and volume of mountain glaciers and snow cover;
- A shift to higher altitudes and latitudes of cold-dependent habitats;
- Longer growing seasons; and
- More frequent weather extremes such as droughts, floods, severe storms, and heat waves.

Current global and regional trends suggest climate change is likely to have an effect on the Plan Area. By mid-century, the average annual mean temperature in California is projected to increase 1.1°C (2°F) to more than 2.5°C (4.6°F) (Ostro et al. 2011). Although there is significant variability between models and emissions scenarios, projections suggest there may be up to a 10 to 20 percent decrease in total annual precipitation by mid-century in California (Luers et al. 2006). Model predictions for California range from a six-millimeter (0.24-inch) annual decrease in precipitation to a 70-millimeter (2.76-inch) annual increase. Consequently, it is likely the climate in the Plan Area will shift to warmer and dryer than current conditions.

A number of ecological responses to climate change may occur in the Plan Area. First, the timing of seasonal events, such as migration, flowering, and egg laying, may shift to earlier or later periods (Walther et al. 2002; Forister and Shapiro 2003; Root et al. 2003; Root et al. 2005). Such shifts may affect the timing and synchrony of events that must occur together, such as butterfly emergence and nectar availability. Second, the range and distribution of species and natural communities may shift (Parmesan 1999; Pimm 2001; Walther et al. 2002; Easterling et al. 2000). Range is the area over which a species occurs or potentially occurs, whereas distribution refers to where a species is located within its range. This is of particular concern for narrowly distributed species that already have restricted ranges due to urban growth or altitudinal gradients. Historically, some species may shift their ranges across the landscape. Today, urban and rural development prevents the movement of many species across the landscape. Species or natural communities that occur only at high elevation (no HCP/NCCP covered species fit this description) or within narrow environmental gradients (e.g., palmate-bracted bird's beak) are particularly vulnerable to changing climate because they most likely have nowhere to move if their habitat becomes less suitable (Shainsky and Radosevich 1986; Murphy and Weiss 1992; Thorne 2006, PIER Conference; Hillman pers. comm.).

Second, increases in disturbance events, such as fire or flooding, may increase the distribution of disturbance-dependent land cover types, such as grasslands, within the Plan Area (Brown and Hebda 1998; Lenihan et al. 2003; Fried et al. 2004; California Climate Change Center 2006; Rogers and Westfall 2007). An increase in the frequency and intensity of disturbance may increase the likelihood that these events will harm or kill individual covered species. Events that occur with unpredictable or random frequency (called stochastic events), such as those described above, can have an inordinately negative effect on rare species.

Third, the number or density of individuals found in a particular location may change. This may be triggered in large part by changes in resource availability associated with an increase or decrease in precipitation (Martin 1998; Dukes and Mooney 1999; Walther et al. 2002; Lenihan et al. 2003; Millar et al. 2006; Pounds et al. 2006). Such changes may benefit one species at the expense of other species.

Fourth, over a longer time period, species may change in outward appearance and behavior. Changes in climate may favor different adaptive strategies or appearances that may lead to genetic shifts (Davis and Shaw 2001). An example of this would be a shift to smaller average body size for certain mammals to use limited food sources for maintenance rather than growth.

The conservation strategy, reserve design, and monitoring and adaptive management program anticipate possible effects of climate change using a multi-scale approach that views conservation through landscape, natural-community, and species level. This approach focuses on protecting and enhancing a range of natural communities, habitat types, and environmental gradients (e.g., altitude, aspect, slope) as well as other features that are important as global warming changes the availability of resources and habitat types in the study area.

Implementing conservation actions that protect a variety of landscapes over a large scale provides flexibility for shifts in the range and distribution of species and natural communities due to climate change. Land acquisition actions target properties that provide connectivity and allow for northward and upslope movement, maintenance and restoration of habitat linkages, and reduced habitat fragmentation. As a result, some species and natural communities in the study area would continue to be able to “move” in response to climate change, allowing for shifts in range and distribution.

At the natural-community level, the Conservancy developed conservation and monitoring actions to address natural community issues primarily through the enhancement, restoration, and management of vegetation types (i.e., land cover types). It also monitors the changes. The Conservancy will manage habitats to help ensure natural community and species persistence in the face of abundance shifts driven by climate change. Enhancement, restoration, and management actions will most likely increase the resilience of natural communities by improving habitat quality overall and controlling invasive plants and nonnative predators.

At the species level, the Conservancy developed conservation and monitoring actions to supplement and focus actions that were developed at broader scales and ensure that all of the needs of particular species are addressed. These species-specific actions will help ensure that shifts in range, distribution, and abundance that are driven by climate change are buffered by the protection and enhancement of individuals, populations, and groups of populations. Status-and-trend monitoring will serve as an early warning of the possible effects of climate change and allow the conservation strategy to adapt, thereby ensuring species persistence in the Plan Area.

In addition to the conservation actions, monitoring actions will allow for the early detection of trends that are driven by climate change over multiple scales. Landscape-level monitoring is designed to detect large-scale changes, such as changes in ecosystem processes, shifts in natural-community distribution, and the integrity of landscape linkages. Community-level monitoring will, in turn, detect changes in the composition and function of natural communities, populations of key predator or prey populations, invasive species, and other important habitat factors for covered species. Finally, species-level monitoring will measure the effects of management actions on covered species and the status and trends of covered species in the reserve system. Collectively, these monitoring actions will allow the Conservancy to detect and respond to the effects of climate change. Taken together, the conservation and monitoring actions described above will help buffer against the effects of climate change in the Plan Area.

Climate change is considered a foreseeable event and is therefore a changed circumstance. The Plan places limits on the changed circumstance, as described below.

The Conservancy will use a method consistent with the California Climate Action Team for measuring temperature change within the study area. The annual average temperature in the Plan Area (16.5°C [61.7°F]) has risen, on average, 0.01°C (0.02°F) per year over the past century (1909 to 2009) (California Climate Change Center 2012). This increase in average temperature has been driven by warmer winters rather than by warmer summers, with three times larger percentage increases in the average temperature in January than that in July (California Climate Change Center 2012). If modeled California climate-change trends are applied to the Plan Area, one may anticipate that the temperature may increase up to 2.5°C (4.5°F) during the permit term. Under the Yolo HCP/NCCP, the following is considered a changed circumstance for which the Conservancy will fund remedial measures:

- An increase in temperature of up to 2.5°C (4.5°F), measured as a 10-year running average for three baseline periods (i.e., average annual temperature, average summer temperature [June, July, and August], and average winter temperature [December, January, and February]).

The Conservancy's response to the changed circumstance of global climate change will vary by the character and magnitude of the physical and biological changes observed. Responses may include those listed below. All responses will occur within one year of identifying changed circumstances, unless the wildlife agencies concur on a case-by-case basis that specific remedial actions would require more time to initiate.

- Enhanced monitoring to detect ecological responses to climate change,
- Identification of target species that are most vulnerable to climate change and increased status-and-trend monitoring for those species,
- Alterations to the conceptual ecological models for natural communities and covered species as a tool to devise improved management action,
- Altered or more intensive management actions on target/vulnerable species to facilitate shifts in species distribution (e.g., more active population management of covered species),
- More aggressive control of invasive species that respond positively to climate change, and
- Implement other measures through the Adaptive Management Program (Section 6.5, *Monitoring and Adaptive Management*) in ways consistent with Permit obligations and with the consent of the Conservancy.

The Conservancy has established thresholds for events that are not reasonably foreseeable for determining unforeseen circumstances. Unforeseen circumstances that are not funded by the Yolo HCP/NCCP include the following:

- A temperature increase greater than 2.5°C (4.5°F) for the three baseline periods (see above) will be considered an unforeseen circumstance. Temperature increases will be measured as a 10-year running average.

Limits on the variation in other parameters (e.g., rainfall) are much more difficult to determine. Given the seasonality of rainfall in the study area, an increase in winter precipitation may be offset by increased evapotranspiration during the summer months (Intergovernmental Panel on Climate Change 2007). A decrease in winter precipitation would be exacerbated by increased summer temperatures, leading to increased drought. Therefore, it is not possible at this time to define limits of rainfall patterns that would qualify as unforeseen circumstances. Regardless of increases or decreases in precipitation, it is anticipated that the number of strong storm events will increase during the winter season (Kim 2005). These events are more likely to result in flooding than in increased soil percolation or water storage recharge (California Natural Resources Agency 2009). Increased frequencies of flooding and drought are taken into account in the sections below that address these changed circumstances.

7.7.1.2.3 Wildfire

Fire is a natural component of many ecosystems and natural community types, including grasslands and oak woodlands. For these natural communities, fire frequency and intensity influence community regeneration, composition, and extent. To ensure that fire-dependent natural community processes occur, the Conservancy will implement minimum suppression techniques (e.g., limiting the use of earth-moving equipment, discouraging the application of fire-retardant chemicals) and prescribe burning as part of the conservation strategy. It is possible, however, that large, intense, and frequent fires may have a negative effect on natural communities and restoration projects. For example, more frequent, intense fires caused by high fuel loads and increased encroachment by woody species into grasslands may negatively affect community composition by favoring early successional species.

For the Yolo HCP/NCCP, *wildfire* is defined as any fire on reserve lands that is not prescribed by the Conservancy or its land manager that removes a sizeable extent of vegetation, leaving the intended habitat functions of the protected land for covered species substantially degraded, as jointly determined by the Conservancy, CDFW, and USFWS.

Wildfire danger varies throughout Yolo County. The county is characterized by relatively level valley floor landscapes to the south and east. This lack of varied topography and complex fuel leads to very little severe fire behavior. In the increasingly hilly landscapes to the north and west, the rugged topography creates a landscape where fires can spread rapidly upslope and access for suppression equipment is limited. The risk of wildfire is greatest for protected lands in the western portion of the Plan Area, which support extensive areas of natural vegetation. Lands within the eastern portion of the Plan Area, in the Conservation Reserve Area, are characterized primarily by intensively managed agriculture, which generally does not provide the conditions for uncontrolled or extensive fire events.

To determine the limits of changed circumstances, the size of catastrophic fires (e.g., more than 10,000 acres) and their frequency (i.e., return interval) was assessed for the Plan Area. This assessment was based on both historic fire occurrence and the influence of climate change. These conservative estimates for the Plan Area were then scaled down to fit the reserve system. Since 1965 wildfires have burned more than 181,000 acres in Yolo County. During this time period, three catastrophic fires

occurred in Yolo County. The largest fire, in 1999, burned over 40,000 acres within the county. . Many of the fires have occurred along the Highway 16 corridor through Rumsey Canyon, two of which occurred as recently as the summer/fall of 2012. The most notable recent fire in the region was the Rocky Fire in August 2015, when 69,438 acres burned in Yolo, Lake, and Colusa Counties (approximately 10 percent, or 7,014 acres, of the Rocky Fire was in Yolo County, in the Little Blue Ridge Mountains). The Monticello Fire of 2014 burned 6,488 acres in western Yolo County.

Climate change must also be taken into account when predicting fire frequency in the Plan Area. Throughout California, fire occurrence can be correlated with drought, moisture availability, and biomass (fuel) accumulation (Lenihan et al. 2003). Both “wetter and warmer” and “drier and warmer” climate change scenarios are predicted for the Plan Area (Hayhoe et al. 2004). The warmer, drier scenario would increase the occurrence of drought, while increased biomass production would result from the warmer, wetter scenario. Both of these scenarios have the potential to increase fire frequency due to either increased drought frequency or an increase in biomass accumulation.

With climate change, it is assumed that the frequency of fire occurrence and the size of the area that is burned will increase by 25 percent. Recent literature that analyzed the relationship between climate change and fire frequency in California identified a median increase in fire occurrence and burned area of 30 percent by 2050 (Westerling et al 2009). This is a statewide estimate, with increases in fire occurrence ranging from 11 to 55 percent and increases in burned area ranging from 11 to 70 percent. The largest increases for both fire occurrence and burned area are expected to occur in the Sierra Nevada, Northern California Coast, and south Cascade Ranges. These increases are expected to occur by 2050.

The potential effects of climate change on fire frequency are anticipated to increase over the course of the permit term. At the beginning of the permit term, limited change from historic fire occurrences and burned area may be acceptable as a changed circumstance; however, the potential effects of climate change will grow over the permit term. In addition, at the beginning of the permit term, fire risks in reserve system will be low because it will be smaller. As such, it is felt that a 25 percent increase due to climate change represents a conservative estimate for the increase in fire frequency and burned area in the Plan Area for the duration of the permit term.

Lands within the eastern portion of the Plan Area are characterized primarily as having minimal to moderate wildfire risk, including the areas identified for the reserve system; therefore, it is foreseeable that three catastrophic fires could occur during the permit term, each burning four to 14 percent of the land cover types that are prone to wildfire within the study area. Increasing these values by 25 percent ($0.04 * 1.25$ and $0.14 * 1.25$) to take climate change into account, the Plan anticipates up to four catastrophic fires (more than 10,000 acres) within the study area over the course of the permit term. This level of fire occurrence would be considered a changed circumstance for the purposes of the Yolo HCP/NCCP.

To minimize the risk of wildfire, the Conservancy will identify reserve lands with a high risk of fire (e.g., grasslands situated near roadways) and implement fire risk reduction measures on those lands consistent with Conservation Measure 3: *Manage and Enhance the Reserve System* (e.g., Section 6.4.3.5.2, *Grasslands Natural Community*), including:

- Establishing and maintaining fuel breaks around high-risk reserve lands,
- Coordinating with state and local fire agencies to improve fire suppression preparedness for reserve lands, and
- Developing post-fire monitoring plans.

In the event of a wildfire, the Conservancy will assess the proportion of the protected habitat area that has burned and likely effects on habitat use by covered species. The Conservancy will make an initial determination of whether or not the fire constitutes a changed circumstance and notify the wildlife agencies of the fire event.

If a changed circumstance is determined to exist, the Conservancy will implement an appropriate post-fire monitoring plan for a two-year period following the fire to assess the recovery of vegetation and wildlife. If, over the course of the monitoring period, it is determined that vegetation is not recovering sufficiently in the burned area to reestablish the functions of the affected habitat, the Conservancy will develop and implement through the adaptive management process a habitat restoration plan to enhance recovery of the affected habitat area to the extent practicable. Elements of habitat restoration plans may include provisions for planting and caring for native vegetation and controlling the establishment of invasive plant species.

7.7.1.2.4 Nonnative Invasive Species or Disease

Nonnative species and diseases currently occur in the Plan Area and will be present in the reserve system (e.g., bullfrogs). Additionally, there are nonnative species and diseases that exist in areas outside the Plan Area that have the potential to spread into the Plan Area and adversely affect the covered species and natural communities within the reserve system (e.g., sudden oak death). Given the nature of invasive species and diseases, there is no unforeseen circumstance, only an upper limit to which changed circumstances will be funded. In other words, a new disease or invasive species that spreads throughout the Plan Area within the permit term is a foreseeable event. If a disease or nonnative species spreads beyond the thresholds identified below, however, it will be considered a catastrophic event beyond the Yolo HCP/NCCP scope, and the wildlife agencies will not require the Conservancy to fund remedial actions to address it.

The conservation strategy includes measures to reduce existing and prevent future infestations of nonnative invasive species and diseases. The monitoring program will identify and map existing diseases and nonnative species in the reserve system so that new ones can be identified quickly and a control or eradication plan can be put into place. It is possible the following events may occur, however, despite implementation of the conservation strategy and monitoring program:

- New and aggressive nonnative species may invade the reserve system,
- Infestations of a new disease that affects covered or predominant species in the study area may have dramatic effects on the reserve system, and
- Existing nonnative species or diseases may expand to unprecedented levels in the reserve system, perhaps due to changing climate.

Under the Yolo HCP/NCCP, the following are considered changed circumstances for which the Conservancy will fund remedial measures:

- Infestations of new diseases or new nonnative invasive species that affect up to 25 percent of the extent (i.e., acres) of a predominant natural community (i.e., valley foothill riparian) or occupied covered species habitat within the reserve system in any given year,¹⁴ and

¹⁴ The Conservancy will assemble the reserve system for the majority of the permit term. The Conservancy must complete all creation and restoration activities by Year 40 and all land protection by Year 45. The Conservancy will monitor current levels of disease and nonnatives relative to the current composition of the reserve system each monitoring year.

- Spread of nonnative species or diseases on up to 25 percent above current conditions within the reserve system in any given year.

The reserve system builds on existing open space in the Plan Area, targeting specific natural communities and species habitat across a range of environmental gradients in geographically distinct areas. Diseases and nonnative species may spread into the Plan Area from lands adjacent to the Plan Area. It is foreseeable a single disease or invasive species would spread across the entire reserve system, even if the Yolo HCP/NCCP and remedial measures are properly implemented. Such an event would be catastrophic, and most likely no effort by the Conservancy alone would be able to stop its spread. Therefore, if remedial measure implementation does not prevent the spread of the nonnative species or disease beyond the established thresholds, it will be considered a catastrophic event beyond the Yolo HCP/NCCP scope, and the wildlife agencies will not require the Conservancy to fund remedial actions to address it.

In these situations, prior to ceasing or reducing remedial actions, the Conservancy must demonstrate the following to the wildlife agencies in writing:

- The changed circumstance was detected as soon as feasible and the wildlife agencies were notified;
- The Conservancy coordinated and worked actively with the wildlife agencies and other land managers to assess the changed circumstance and determine the best course of action;
- The Conservancy implemented remedial measures for the changed circumstance, according to the Yolo HCP/NCCP, but these measures failed to stop the spread of the disease or invasive species; and
- The disease or invasive species is a serious problem outside the reserve system in the Plan Area, and similar control measures implemented by others also failed to control its spread.

Based on current knowledge of likely diseases and nonnative species, disease spread at catastrophic levels is only reasonably likely in the study area for sudden oak death. For other known diseases or nonnative species, the remedial measure thresholds are assumed to be sufficient.

Sudden oak death is not currently found in the Plan Area; it is, however, found in adjacent Napa County. This disease spreads rapidly and may spread into the reserve system and affect Swainson's hawk nest trees and oaks in the valley foothill riparian natural community despite implementation of the conservation strategy, adaptive management, and remedial measures. If this occurs, the spread of the disease will not be limited to the reserve system and will affect oaks at the landscape scale. If sudden oak death spreads beyond an estimated 25 percent of the oaks in the reserve system, it will be considered a catastrophic event, beyond the Yolo HCP/NCCP scope, and the wildlife agencies will not require the Conservancy to fund remedial actions to address it.

The spread of diseases or invasive species in excess of 25 percent above baseline conditions is foreseeable for sudden oak death and may be foreseeable for other diseases that are not currently known. Although these events are considered catastrophic, the Conservancy will fund only remedial actions for these circumstances, up to a 25 percent increase in the extent (i.e., acres) for the predominant natural community affected, for any diseases or invasive species.

Nonnative animals include, but are not limited to, invasive brown-headed cowbirds, bullfrogs, and introduced predatory fish. These species currently occur in the Plan Area, and conservation and monitoring actions to reduce or contain their occurrence within the study area have been developed.

When a new disease or nonnative species is detected or an existing disease or nonnative species begins to spread aggressively, the Conservancy will contact the wildlife agencies and other relevant agencies with authority over disease control to collaboratively determine the best method of measuring, monitoring, and eradicating or controlling the disease before it spreads. Remedial measures that address the invasion of nonnative species or disease follow the steps listed below.

- Determine the best method for measurement and tracking extent within three months of detection,
- Prepare a damage-assessment report within six months of detection,
- Recommend and plan actions to address the threat within six months of detection, and
- Respond through adaptive management in ways that are consistent with Permit obligations and with the consent of the wildlife agencies within one year of detection.

7.7.1.2.5 Flooding

The effects of floods on HCP/NCCP reserve lands and covered species depend on several factors, including the severity of the flood event, its duration, and the type of habitat affected. Flood events are a natural process that maintain aquatic, riparian, and wetland ecosystems. Small flood events are expected to have relatively minor effects on protected natural communities and covered species. Furthermore, many of the covered species would not be adversely affected by flooding because they are adapted to flooding (e.g., the giant garter snake and western pond turtle), likely to not be present or nesting during winter flood events (e.g., Swainson's hawk, western burrowing owl), or are capable of fleeing flooded areas (e.g., bank swallow, tri-colored blackbird). More severe flood events, however, can have deleterious consequences on protected resources, including erosion of protected habitats, deposition of sediment and debris on reserve lands that damage habitat functions for covered species, and loss of vegetation plantings in restored riparian habitats.

Major floods are defined as flood events that exceed the stream's capacity (i.e., 10-year flood event). Several major floods have been documented in Yolo County, most recently in 1967, 1973, 1975, and 1986. Flooding probability is specific to each stream's capacity, the runoff potential of the stream's upper catchment, and rainfall patterns across the county. Given that urbanization has increased across the county (increasing flood potential) and that local agencies have completed and continue to develop flood control projects to accommodate increased peak runoff (decreasing flood potential), past flood events do not reliably predict future flood probability.

Taking into account climate change, we must rely on predictive models in addition to historic trends. Climate change models typically focus on the occurrence of 100-year flood events. Flood damage in protected natural communities and habitats caused by storms that are at or below a 100-year flood event on a given stream is considered to be a changed circumstance that is reasonably foreseeable over the term of the Yolo HCP/NCCP. Larger flood events are considered to be an unforeseen circumstance. The 100-year flood (i.e., one-percent flood) is defined as the flood event that has a one-percent probability of occurrence in any given year. Over a very long period of time, it is the flood event that would, on average, occur once per hundred years; however, over a short time span, it can occur more than once in a single year or not at all for several hundred years. For example, a one-year storm event has a 100%, approximately, probability of recurring each year. This does not mean that that a 1-year event will happen every year; however it is highly likely to happen each year. A 100-year storm event has a 1% probability of recurring each year. A 100-year flood event was selected as the limit of changed circumstances for the 50-year permit term because the frequency and severity of flooding in the Plan Area is expected to increase with climate change

(California Natural Resources Agency 2009). Therefore, a flood event that currently has a one percent probability of occurrence per year (i.e., a 100-year event) is likely to have a greater probability of occurrence with climate change.

Following a flood event, the Conservancy will inspect affected reserve lands within 45 days of the event to evaluate the extent of damage to the protected habitats and evaluate the need for implementing actions to rehabilitate affected habitat functions. If the habitat functions are unlikely to naturally reestablish the former conditions through natural processes at a similar or greater rate than with implementation of remedial management actions, the Conservancy will identify and implement, within one year of the flood event, the management actions necessary to restore affected habitat conditions.

7.7.1.2.6 Drought

Drought is defined by the National Weather Service as “a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage and causing adverse impacts on vegetation, animals, and/or people” (National Weather Service 2008). The Plan Area is characterized by a Mediterranean climate, with cool, wet winters and warm, dry summers. El Niño and La Niña climatic events typically cause large annual fluctuations in precipitation levels (Minnich 2007; Reeve-Morghen et al. 2007). Precipitation occurs primarily in the form of rain from October through April, with very little precipitation in May through September. Drought is a natural part of Mediterranean climates. From 2011 to 2015, most of California, including Yolo County, experienced one of the worst droughts on record. Drought conditions experienced over the term of the Yolo HCP/NCCP may result in the loss of restored riparian and wetland natural communities as well as agricultural habitats that are maintained in the reserve system.

Historically, California has experienced multiple severe droughts. According to the Department of Water Resources, droughts that exceed three years are relatively rare in Northern California, the source of much of the state’s developed water supply. According to the State of California Hazard Mitigation Plan, Yolo County experienced one drought that resulted in a state disaster declaration.

Yolo County receives an average of 18 inches of precipitation annually. In the Plan Area, drought is characterized as two or more consecutive water years with 75 percent or less of mean seasonal precipitation, as measured at the Woodland rain gauge in the Valley Landscape Unit and averaged between the Knoxville Creek rain gauge and Brooks rain gauge in the Hill and Ridge Landscape Unit.

To estimate how many drought years might be expected during the permit term, annual natural reservoir inflow (i.e., inflow from local precipitation, not imported water) within the Plan Area was reviewed from 2014 back to 1974 by water year (July 1 to June 30). The data show that droughts that lasted two to six years occurred three times over a 40-year period (National Climate Data Center 2014). Of these droughts, only a single event lasted six years. Based on the Yolo County Hazard Mitigation Plan (2012), historic data, and conservative application of climate change predictions, the Yolo HCP/NCCP will fund remedial actions for up to five droughts that occur during the permit term. Of the five droughts, only one is anticipated to be more than six years in duration. More than five droughts during the permit term, or more than a single drought of at least six years each, is considered an unforeseen circumstance and is not funded by the Plan.

Although climate change is anticipated to result in increased drought (potential precipitation is likely to decrease toward the end of the century), the extent of such change is not fully understood. Thus, the predicted drought potential during the permit term is conservative.

HCP/NCCP conservation land management plans (CM3, *Manage and Enhance Natural Communities*, in Section 6.4, *Conservation Measures*) include drought monitoring and protection measures to minimize the risk of losing restored natural communities to drought. Preventative measures include the following actions:

- Monitoring Yolo County rain data and gauges to determine if the seasonal rainfall at the end of March and April indicates a drought (near 75 percent of mean seasonal precipitation), and
- Monitoring natural community restoration sites that are beyond their establishment periods (i.e., no longer sustained by irrigation) for stress due to low soil moisture or high evapotranspiration rates.

In the event of drought conditions, the Conservancy will evaluate habitat restoration sites to assess the degree of effect on natural community development and functions. Following the evaluation, the Conservancy will prepare a report that documents the effects of drought on restoration sites and identifies management actions the Conservancy will implement through the adaptive management process (Section 6.5, *Monitoring and Adaptive Management*) to alleviate the effects of drought (e.g., providing supplemental irrigation for riparian plantings). For droughts that affect the availability of water for irrigation of HCP/NCCP-protected cultivated lands, the Conservancy may, if practicable, purchase additional water supplies to maintain crop types that support the target habitat functions of the cultivated land or acquire other natural communities, such as fresh emergent wetlands or grasslands, to replace the habitat functions provided by the affected cultivated land habitat. Objective NC-CL1.2 requires the Conservancy to ensure that water remains in conveyance channels during years when rice fields cannot be flooded because of drought or market conditions.

7.7.1.2.7 Earthquakes

Earthquakes of less than 4.0 on the Richter scale (defined as “micro” or “minor” earthquakes by the U.S. Geological Survey) occur frequently in the Plan Area. Their effects on natural communities and covered species are expected to be very small or undetectable. Although less common, earthquakes of “light” (4.0 to 4.9) or “moderate” (5.0 to 5.9) magnitude are expected to have little to no effect on covered species or natural communities. These earthquakes may be large enough, however, to cause moderate ground shaking, which may trigger small to moderate-sized landslides. These landslides are a natural part of the ecosystems in the Plan Area. Damage to reserve system facilities from such minor to moderate earthquakes is expected to be low to none.

A large catastrophic earthquake is typically defined in planning documents and engineering projects as having a magnitude equal to or greater than 6.7 (U.S. Geological Survey 2012). Although there are several faults within the Plan Area, the only fault in the county that has been identified by the California Geological Survey to be active or potentially active and subject to surface rupture (i.e., delineated as an Alquist-Priolo Earthquake Fault Zone) is the Hunting Creek fault (sometimes referred to as the Hunting Creek-Berryessa fault). The Hunting Creek fault is an active fault in the extreme northwestern corner of the Plan Area, with only a very short section of the fault occurring within the Plan Area. The Hunting Creek fault is a right-lateral fault and has an average slip rate of six millimeters per year. The Dunnigan Hills fault is the only other potentially active fault within Yolo County. It is located west of Interstate 5, between Dunnigan and northwest Yolo in the unincorporated area of the county.

In addition to the Hunting Creek and Dunnigan Hills faults discussed above, major regional faults outside the Plan Area but in the Coast Ranges and the Sierra Nevada foothills are capable of producing ground shaking in the Plan Area. The April 19, 1892, Vacaville-Winters earthquake

measured approximately 6.9 on the Richter scale and caused severe damage in Winters and lesser damage in Davis, Woodland, and elsewhere in the Plan Area. The 1892 Vacaville-Winters earthquake was once attributed to a large regional feature, referred to as the Midland Fault, which extends into the Plan Area a short distance near Winters. The earthquake is now believed to have originated from a segment of a complex zone of faults, referred to as the Coast Range-Sierran Block Boundary (CRSBB), at the edge of the western side of the lower Sacramento Valley. The CRSBB forms the western geomorphic boundary of the Central Valley, with the Coast Ranges to the west. The CRSBB is currently recognized as a potential seismic source that is capable of generating moderate earthquakes that may affect the Plan Area. The faults within the CRSBB are considered capable of generating moderate to large earthquakes that may produce strong seismic shaking throughout the region, including the Plan Area. Eleven moderate earthquakes (magnitude 5.8 to 6.8) have been documented along the CRSBB zone during the last 150 years. The Coalinga earthquake (magnitude 6.7) occurred within the CRSBB zone in 1983. As recently as August 2014, a magnitude 6.0 earthquake occurred near the West Napa fault, with tremors extending into the Plan Area (U.S. Geological Survey 2014).

The maximum expected earthquake in the Plan Area at the Hunting Creek fault over the next 30 years is estimated to be magnitude 7.1 (U.S. Geological Survey 2014). This is the primary active fault in the Plan Area; therefore, any earthquake exceeding this magnitude is considered unforeseen for the purposes of this Plan.

The negative effects of a catastrophic earthquake are likely to manifest mostly as damage to reserve system infrastructure rather than damage to natural communities or species. Should any earthquake occur, the Conservancy will rebuild reserve system infrastructure and conduct post hoc monitoring of species or populations that are identified as being potentially negatively affected by the incident. Reserve system infrastructure will be repaired or rebuilt within two years. Remediation of enhancement, creation, and restoration sites within the reserve system that have been affected by earthquakes during the permit term (i.e., as a result of landslides) will be remediated within two years of the earthquake. Site-specific covered species and natural community monitoring will be conducted for three years after the event if covered species or their habitats are adversely affected.

Damage to reserve system infrastructure, natural communities, and covered species from any earthquake of magnitude 7.1 or less will be remediated by the Conservancy. On cultivated lands, the landowner or agricultural lessee will remediate infrastructure necessary to support agricultural activity.

7.7.1.2.8 Regional Loss of Swainson's Hawk Habitat

As described in *A Proposed Conservation Strategy for the Swainson's Hawk in Yolo County* (Estep 2015), the Swainson's hawk population in the Plan Area may have increased between the mid-1980s and early 1990s; it has remained stable through at least 2012. The analysis in this report of crop patterns in the Plan Area also shows that the amount of available foraging habitat in the Plan Area has remained relatively stable from 1988 through 2012 (see Figure 3 in Estep 2015). The report describes two key thresholds that are necessary to maintain the current population of Swainson's hawk in the Plan Area: the total amount of suitable foraging habitat acres in the Plan Area and the amount of high-value foraging habitat in the Plan Area. The analysis in the conceptual conservation strategy suggests that, to maintain the current population of Swainson's hawk in the Plan Area (estimated at 300 nesting pairs), the amount of foraging habitat in the Plan Area should consistently exceed 267,750 acres, and the amount of high-value foraging habitat should be at least 24,584 acres.

If either metric drops below these values, the risk goes up that the current population of Swainson's hawk cannot be sustained.

With full implementation, the Yolo HCP/NCCP will protect 55,366 acres of Swainson's hawk foraging habitat in Category 1 and 2 public and easement lands. This represents 23 percent of the amount of total foraging necessary to maintain the current population in the Plan Area (Table 5-6, *Covered Species Benefits and Net Effects*). This level of protection in the Yolo HCP/NCCP was determined as the amount needed to meet the Permit issuance criteria of the FESA (to mitigate the impacts of taking to the maximum extent practicable) and the NCCPA (provide for the conservation of the species in the Plan Area). This level of protection was also determined to be the maximum feasible based on the amount of activities covered by the Plan and what state and federal funding may be available to support Plan implementation for land acquisition.

In the past, foraging habitat for Swainson's hawk has been lost in Yolo County in two ways: from agricultural conversion to urban or rural development or from conversion by farmers to unsuitable or less suitable crop types. With the Yolo HCP/NCCP, all conversion to development will require payment of an HCP/NCCP fee to fund appropriate mitigation and conservation for Swainson's hawk (and other covered species). Agricultural conversion by farmers to crop types that are unsuitable or less suitable foraging habitat for Swainson's hawk is not a covered activity under the Yolo HCP/NCCP because the Permittees do not regulate crop conversion (i.e., farmers do not need a permit from the cities or the county to change crop types). Agricultural conversion will continue during the permit term. On a particular farm, crops may change from those that are suitable for Swainson's hawk foraging to those that are unsuitable and back again multiple times during the permit term. These cropping patterns are often driven by agricultural market forces that are difficult to predict and are outside the control of the Permittees.

The Conservancy recognizes the importance of crop patterns outside of the reserve system for the overall health of the Swainson's hawk population in Yolo County. Farming activities outside the reserve system are, however, outside of the direct control of the Permittees. To help inform conservation efforts in the region and provide the wildlife agencies with additional information with which to evaluate the status of the species throughout its range, the Conservancy will monitor the following, as described in Section 5.5, *Effects Analysis Approach and Methods* (these monitoring results will be reported in the Yolo HCP/NCCP annual report):

- Changes in crops and other agricultural land uses, with data from the annual reports of the Yolo County Department of Agriculture on crop types and amounts in the county;
- The distribution of crops and crop patterns every 5 years through updates of the GIS mapping program, which uses available aerial photography of the Plan Area; and
- The Swainson's hawk population in the Plan Area every 5 years, using the sampling approach described in Section 6.5, *Monitoring and Adaptive Management*.

If the amount of Swainson's hawk foraging habitat falls below 267,750 total acres or 24,560 high-value acres, the Conservancy will evaluate the effect on the nesting population in the Plan Area by applying the sampling methodology described in Section 6.5, *Monitoring and Adaptive Management*. Based on this analysis, if the Conservancy finds the nesting population has fallen below 240 breeding pairs, the Conservancy will meet and confer with the wildlife agencies within 30 days of the annual report to assess the need for further action. The wildlife agencies and the Conservancy will then develop and implement a mutually agreeable plan of action to try to increase Swainson's hawk populations in the Plan Area. Remedies may include, but not be limited to, the following:

- Planting nest trees in key locations, as determined by Swainson’s hawk experts, that have a deficit of nest trees. In some locations within the Plan Area, such as north of Cache Creek, the majority of nesting trees occur as isolated trees or roadside tree rows. This type of nesting habitat is unsustainable because of tree mortality and the lack of natural regeneration. A large segment of the nesting population occurs in this area and, in the future, may be at risk because of the lack of suitable nest trees. A program of tree planting, including the establishment of permanent hedgerows along field borders, would provide future nesting habitat for this population and help to offset future declines related to nesting habitat loss. A desirable location for planting nest trees would be in areas within the Yolo-Brentwood soil association between Cache and Putah Creek and the Sacramento River, to create “stepping stones” (discontinuous patches) of habitat between the larger habitat corridors (Greco 2017);
- Monitoring more frequently than every five years (if the Conservancy, wildlife agencies, and species experts determine that more frequent monitoring would be beneficial for assessing trends);
- Managing existing HCP/NCCP reserve lands to enhance foraging value for Swainson’s hawk (e.g., providing temporary incentive payments to reserve system landowners to change to high-value crops, beyond the requirements of the Plan);
- Implementing a landowner incentive program throughout Yolo County (i.e., on non-reserve lands) to increase the availability of high-value foraging habitat. This program could be designed to target areas that support or could support Swainson’s hawk territories that also have a deficit of suitable foraging habitat. Payments would be temporary and based on available HCP/NCCP and other external funding (see below); and
- Establishing a landowner incentive program to increase available suitable foraging habitat of any kind. The Conservancy could partner with willing landowners to remove unsuitable perennial crops (e.g., orchards and vineyards) and replace them with annual crops that provide suitable foraging habitat. By Year 5 of Plan implementation, the Conservancy will develop a framework that could be used for a landowner incentive program. This framework will also cite models that have been used by similar programs elsewhere (e.g., the federal Conservation Reserve Program). The framework would also quantify the range of habitat improvement possible, depending on funding levels.

Improved management and other remedial actions within the reserve system will be attempted first because they are more cost effective and can be implemented quickly. If these measures prove ineffective in reversing the observed trends, however, additional off-reserve measures will be implemented, either in addition to or instead of the reserve system measures. The remedial actions identified above would be funded, in part, by the Yolo HCP/NCCP through the funding set aside for this changed circumstance. At least \$110,000 will be set aside every five years to fund this program (\$10,000 reserved for plan design and preparation and \$100,000 for plan implementation), for a total of \$1.1 million. The Yolo HCP/NCCP funding, when combined with other funding sources, will be enough to initiate a substantive program of land use changes that will address this changed circumstance in the event that it occurs.

7.7.2 Federal No Surprises

The Secretary of Interior established the federal No Surprises Regulation on March 25, 1998. It provides assurances to Section 10 permit holders that no additional money, commitments, or

restrictions of land or water will be required should unforeseen circumstances that require additional mitigation arise once the Permit is in place. The No Surprises Regulation states that USFWS and/or the National Marine Fisheries Service (NMFS) will not require an additional commitment of resources, beyond that already specified in the HCP, if a Permittee is properly implementing an HCP that has been approved by these agencies.

The Permittees request regulatory assurances (No Surprises) for all covered species in the Yolo HCP/NCCP. In accordance with No Surprises, the Permittees will be responsible for implementing and funding remedial measures in response to any changed circumstances, as described in this chapter. The Permittees will not be obligated to address unforeseen circumstances but will work with the wildlife agencies to address such circumstances within the funding and other constraints of the Yolo HCP/NCCP should they occur.

The Permittees understand that No Surprises assurances are contingent on the proper implementation of the Permits, Implementing Agreement, and the Yolo HCP/NCCP. The Permittees also understand that USFWS may suspend or revoke the federal Permit, in whole or in part, in accordance with the federal regulations (50 CFR Sections 13.27 and 13.28 and other applicable laws and regulations) that are in force at the time of such suspension.

7.7.3 Federal Section 7 Consultations

USFWS will evaluate the direct, indirect, and cumulative effects of the covered activities in its internal biological opinion, which will be issued in connection with the Yolo HCP/NCCP and issuance of the Section 10(a)(1)(B) permit. Accordingly, in any consultation under FESA Section 7 that occurs after approval of the Yolo HCP/NCCP, USFWS will ensure that any biological opinion that is issued in connection with the proposed project that is the subject of the consultation is consistent with the HCP/NCCP's biological opinion. The proposed project must be consistent with the terms and conditions of the Yolo HCP/NCCP and the Implementing Agreement. Any reasonable and prudent measures included under the terms and conditions of a biological opinion that is issued subsequent to approval of the Yolo HCP/NCCP with regard to the covered species and covered activities will, to the maximum extent appropriate, be consistent with the measures of the Yolo HCP/NCCP and the Implementing Agreement. USFWS will not impose measures in excess of those that have been or will be required by the Permittees, pursuant to the Yolo HCP/NCCP, Section 10 permit, and Implementing Agreement.

7.7.4 State NCCP Assurances

Under the NCCPA, CDFW provides assurances to Permittees that are commensurate with the long-term conservation measures and associated actions that will be implemented under the NCCP. In its determination of the level and term of the assurances that are to be provided, CDFW takes into account the conditions that are specific to the NCCP, including such factors as the level and quality of information regarding covered species and natural communities, the sufficiency and use of the best available scientific information in the analysis of impacts on these resources, reliability of mitigation strategies, and appropriateness of monitoring techniques, including the use of centralized information to evaluate the effectiveness of the NCCP, the adequacy of funding assurances, the range of foreseeable circumstances that are addressed by the NCCP, and the size and duration of the NCCP.

The assurances provided under the NCCPA will, at a minimum, ensure that, if there are unforeseen circumstances, no additional financial obligations or restrictions on the use of resources will be required of the Permittees without their consent. Specifically, the NCCPA directs that “[i]f there are

unforeseen circumstances, additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources shall not be required without the consent of plan participants for a period of time specified in the implementation agreement, unless [CDFW] determines that the plan is not being implemented consistent with the substantive terms of the implementation agreement.” Similar to the provision in the FESA regulations, however, the NCCPA requires that CDFW suspend or revoke a permit, in whole or in part, if the continued take of a covered species would jeopardize its continued existence.

7.7.5 Conservation Contributions by State and Federal Agencies

It is anticipated that state and federal agencies, including USFWS and CDFW, will contribute to the conservation portion of the Plan. The Permittees recognize that state and federal funds cannot be guaranteed in advance of the approval of annual budgets, nor can agency staff members without the authority to commit these funds provide assurances of state and federal financial contributions. The Permittees seek assurance, however, that USFWS and CDFW will make every effort to assist the Conservancy in securing the funding outlined in Chapter 8, Cost and Funding, to contribute to species recovery and help implement the conservation portion of the Yolo HCP/NCCP (see also the discussion of funding contingencies in Chapter 8).

7.7.6 Staff Contributions by State and Federal Agencies

Successful implementation of the Yolo HCP/NCCP relies on the continued participation and feedback of representatives of USFWS and CDFW. As described in Chapter 7, *Plan Implementation*, USFWS and CDFW staff members are expected to participate in Conservancy meetings and subcommittees as needed to evaluate and provide advice and applicable consent on HCP/NCCP implementation. In particular, USFWS and CDFW participation is critical to the success of the adaptive management and monitoring program. The Permittees request that USFWS and CDFW make every effort, given budget and workload constraints, to provide staff members to serve on all appropriate committees and participate in discussions and meetings to ensure that implementation of the Yolo HCP/NCCP is consistent with any findings upon which the Permits are based.

7.7.7 Assurances for Private Landowners

Third parties may receive take authorization pursuant to Section 4.2, *Receiving Take Authorization under the Yolo HCP/NCCP*. Once take authorization has been provided to a third party, it will remain in effect for that covered activity as long as the Permits issued by CDFW and USFWS to the Permittees remain in effect. If USFWS or CDFW suspends or revokes its Permit, take authorization provided under the jurisdiction of the Permittees would also be suspended or revoked. In addition, if a local jurisdiction determines that one of its project proponents is in violation of the take permit (i.e., in violation of the conditions in Chapter 4, *Application Process and Conditions on Covered Activities*), the local jurisdiction will suspend or revoke take coverage that had been extended to the project proponent and report the violation to the Conservancy, USFWS, and CDFW.

7.7.7.1 Neighboring Landowner Protection Program

The Yolo HCP/NCCP requires development of a reserve system that may eventually encompass approximately 33,362 acres of lands in the Plan Area for mitigation and provide for conservation of

species and natural communities (Tables 6-1(b), *Reserve System Land Types*, and 6-2(b), *Pre-permit Reserve Lands*). The Conservancy will protect, restore, enhance, and manage natural communities on these reserve lands for the benefit of ecosystem functions, natural communities, and covered species. HCP/NCCP implementation is expected to result in the expansion of populations of covered species. Individuals or populations of these species may move to and colonize adjacent lands that are not within the reserve system as an inadvertent result of HCP/NCCP implementation. In recognition of this potential, the Yolo HCP/NCCP includes a process by which neighboring landowners may receive assurances through certificates of inclusion under FESA Section 10 and NCCPA Section 2835 permits, to provide coverage for take of covered species that may enter property from adjacent reserve system lands. The neighboring landowner protection program provides the following benefits to landowners with actively farmed properties.

- A voluntary program, administered locally.
- Provides protection against enforcement actions related to the take of endangered species above baseline populations.
- Provides “no surprises” assurances to landowners, creating an “insurance policy” for the Endangered Species Act compliance.

With respect to take, the process for neighboring landowner assurances provides for incremental increases in the number of individuals or populations of covered species, above baseline conditions, on neighboring lands. The assurances do not provide for take of existing populations or occupied habitat prior to the establishment of adjacent reserve lands and, therefore, will not result in impacts relative to baseline conditions.

The Conservancy will provide certificates of inclusion for incidental take by neighboring landowners who are engaged in agricultural and rangeland activities and agree to participate (i.e., “opt-in”). Landowners who do not wish to participate would not be required to participate.

Landowners who wish to voluntarily enroll their working lands into the Yolo HCP/NCCP and receive take authorization for the covered activities described in Chapter 3, *Covered Activities*, must follow the steps below to prepare an HCP/NCCP enrollment application package.

1. **Conduct Baseline Surveys.** The landowner will contract with a qualified biologist to conduct surveys for all covered species with neighboring landowner assurances and their habitat (i.e., natural habitat that may be present between agricultural fields and not the actively cropped fields themselves that may provide habitat) and identify all occurrences of species and habitat on the property on a map. The landowner is responsible for contracting with the qualified biologist but also may contract with, and fund, the Conservancy to conduct these surveys. A baseline survey report, including maps of locations, will be provided to the Conservancy. The report will describe the location and quality of occupied habitat, identify the locations of occurrences, and estimate the number of individuals within each occurrence for all covered species on the property;
2. **Identify Covered Practices.** The landowner will provide to the Conservancy a written description of the ongoing and expected future agricultural practices on the property; and
3. **Pay Fees.** Pay a fee to cover Conservancy’s enrollment cost.

The Conservancy will review the enrollment application and determine if it meets all requirements of the Yolo HCP/NCCP, specifically, the covered activities and the required avoidance and

minimization provisions regarding take of covered species, as described in Section 4.3, *Avoidance and Minimization Measures*.

If approved, the Conservancy will authorize take through a certificate of inclusion specifically for agricultural practices. Authorized take may not result in the property falling below the baseline conditions for covered species with respect to occurrences and habitat. The Conservancy may add conditions, as appropriate to the Yolo HCP/NCCP, to the certificate of inclusion to ensure that HCP/NCCP goals and objectives are met.

There is no requirement under the Yolo HCP/NCCP that farmers and ranchers enroll in the HCP/NCCP or request certificates of inclusion. It is a voluntary opt-in program. The Conservancy will maintain a record of all applications provided by and certificates of inclusion provided to farmers and ranchers who are under this program as well as any signed certificates of inclusion that are returned by landowners. The Conservancy will set the administrative fee for participation in this program during Plan implementation. The Conservancy will notify USFWS and CDFW annually of the number, location, and size of the lands that are covered under certificates of inclusion. The Conservancy will provide copies of the certificates of inclusion to USFWS and CDFW upon request. Certificates of inclusion do not transfer with the property.

7.8 Modifications to the Plan

The Yolo HCP/NCCP or incidental take permits can be modified in accordance with USFWS and CDFW regulations and the terms of the Implementing Agreement and the Permits. Plan modifications are not anticipated on a regular basis. A Permittee or the permitting agencies may request modifications. The categories of modification that are recognized, in order of significance, are administrative changes, minor modifications, and amendments, each of which is described below.

7.8.1 Administrative Changes

The administration and implementation of the Yolo HCP/NCCP will require frequent and ongoing interpretation of the provisions of the HCP/NCCP. Actions taken on the basis of these interpretations that do not substantively change the purpose or intent of the Yolo HCP/NCCP's provisions will not require modification or amendment of the Yolo HCP/NCCP or its associated authorizations. These administrative changes will not trigger a new National Environmental Policy Act (NEPA) or California Environmental Quality Act (CEQA) analysis. Such actions related to the ordinary Conservancy administration and implementation of the Yolo HCP/NCCP may include, but are not limited to, the following:

- Clerical corrections to typographical, grammatical, and similar editing errors that do not change the intended meaning or changes to maps or other exhibits to address insignificant errors;
- Modifications to habitat management strategies developed through and consistent with the adaptive management strategy described in Section 6.5, *Monitoring and Adaptive Management*;
- Variations in the day-to-day management of HCP/NCCP reserve lands, such as adjusting habitat management techniques and timing on the basis of observed changes in conditions in response to prior management actions;
- Annual adjustments to HCP/NCCP fees, consistent with Chapter 8, *Cost and Funding*;

- Adjustments to monitoring or research protocols to incorporate new protocols that are approved by USFWS and CDFW; and
- Other changes requested by the Conservancy that are determined to be administrative by the wildlife agencies.

7.8.2 Minor Modifications

As part of the process of HCP/NCCP implementation, the Conservancy will most likely need to make minor modifications to the Yolo HCP/NCCP from time to time to respond appropriately to new information, scientific understanding, technological advances, and other such circumstances. Minor modifications will not involve changes that would adversely affect covered species, the level of take, or the obligations of Permittees; therefore, these modifications do not trigger a new NEPA or CEQA analysis.

Minor modifications may include, but are not limited to, the following circumstances:

- Minor corrections to land ownership descriptions;
- Changes to survey, monitoring, reporting, and/or management protocols for HCP/NCCP effectiveness, beyond those in response to changes in standardized protocols;
- Transfers of targeted habitat acreages among HCP/NCCP planning areas, provided such change does not preclude meeting reserve assembly requirements, significantly increase the cost of land management, or preclude achieving covered species and natural community goals and objectives;
- All project-level adaptive management actions;
- Revisions to avoidance and minimization measures;
- Plan-level adaptive management actions that do not involve major changes in HCP/NCCP commitments and require a formal amendment to implement;
- Modification of existing or adoption of additional conservation measures that improve the likelihood of achieving covered species objectives, as long as the effects of implementation are consistent with the effects analysis of this Plan;
- Discontinuation of ineffective conservation measures;
- Minor changes to the biological objectives in response to adaptive management;
- Minor updates to the conservation easement template (Appendix K) that would not result in adverse effects or take of covered species beyond what this HCP/NCCP provides;
- Modifications or updates to the reserve unit management plans;
- Modifications or updates to the STAC evaluation criteria (Appendix F) that are consistent with the HCP/NCCP conservation strategy;
- Updates/corrections to the land cover or other resource maps and/or species occurrence data;
- Minor changes to the reporting protocol; and
- Other proposed changes to the Yolo HCP/NCCP that have been determined to be insubstantial and appropriate for implementation as a minor modification.

7.8.2.1 Minor Modification Process

The Conservancy, USFWS, or CDFW may propose minor modifications to the Yolo HCP/NCCP (as applied to both the federal and state Permit) by providing written notice to the Conservancy, Permittees, USFWS, and CDFW. Such notice will include a description of the proposed minor modifications; an explanation of the reason for the proposed minor modifications; an analysis of its environmental effects, including any impacts on covered species; and an explanation of why that party believes the effects of the proposed minor modifications would not:

- Significantly differ from, and would be biologically equivalent to, the effects described in the Plan, as originally adopted;
- Conflict with the terms and conditions of the Plan, as originally adopted; and
- Significantly impair implementation of the Yolo HCP/NCCP Conservation Strategy.

USFWS, CDFW, and the Conservancy may submit comments on the proposed minor modification in writing within 60 days of receipt of notice. If any party does not concur with the proposed minor modification for any reason, the minor modification will not be incorporated into the Yolo HCP/NCCP. If USFWS and CDFW do not concur that the proposed minor modification meets the requirements for a minor modification, the proposal must be approved according to the amendment process (see Section 7.8.3, *Amendments*). The Permittees, Conservancy, USFWS, and CDFW may utilize the informal dispute resolution process set forth in the Yolo HCP/NCCP Implementing Agreement (Appendix F, *Implementing Agreement*) to resolve disagreements concerning proposed minor modifications.

If the Conservancy is in agreement regarding the proposed minor modification, and USFWS and CDFW concur that the requirements for a minor modification have been met and the modification should be incorporated into the Yolo HCP/NCCP, the HCP/NCCP will be modified accordingly.

7.8.3 Amendments

Under some circumstances, it may be necessary to make changes to the Yolo HCP/NCCP that are more significant than administrative actions or the minor modifications described above. Any proposed changes to the Yolo HCP/NCCP that do not qualify for treatment as administrative actions or minor modification, as defined above, will require an amendment to the Yolo HCP/NCCP. Amendment to the Yolo HCP/NCCP will also require corresponding amendment to the Permits, in accordance with applicable laws and regulations regarding Permit amendments. The Conservancy will be responsible for submitting any proposed amendments to USFWS and CDFW.

Amendments to the Yolo HCP/NCCP will most likely occur very infrequently or may not occur at all. The process for amendments is described below for each Permit. Amendments include, but are not limited to, the following:

- Substantive changes to the boundary of the Plan Area, Permit area, or reserve area;
- Additions to or deletions from the covered species list;
- Increasing the allowable take limit of covered activities;
- Adding substantial new covered activities to the Plan;
- Modifications of any important action or component of the conservation strategy, including funding, that may substantially affect levels of authorized take, effects of the covered activities,

or the nature or scope of the conservation program. This includes a reduction in the conservation strategy in the event that covered activities and fee funding do not occur as projected; and

- A change in the Permit duration.

7.8.3.1 Amendment Process for the FESA Permit

To amend the Section 10(a)(1)(B) permit, the Conservancy Board will submit a formal application to USFWS. This application must include a revised HCP/NCCP, a Permit application form, any required fees, a revised implementing agreement, and the required compliance document under NEPA. The appropriate NEPA compliance process and document will depend on the nature of the amendment being proposed. A new scoping process may be required, dependent upon the nature of the amendment. If additional scoping is deemed appropriate and necessary, USFWS and/or NMFS will publish a notice of intent in the *Federal Register* to initiate the scoping process. Upon submission of a completed application package, USFWS and/or NMFS will publish a notice of the proposed application in the *Federal Register*, initiating the NEPA and HCP amendment review process. After public comment, USFWS or NMFS may approve or deny the Permit amendment application.

7.8.3.2 Amendment Process for the NCCP Permit

Procedures for applying for an amendment to the NCCP Permit are included in the implementing agreement and will be processed in accordance with applicable NCCPA requirements. The NCCP Permit amendment will be subject to the requirements of CEQA. Following compliance with CEQA, CDFW will either approve or deny the Permit amendment. To approve the Permit amendment, CDFW must make appropriate NCCPA and CEQA findings.

7.9 Data Tracking and Reporting

7.9.1 Reporting

The Conservancy will prepare annual reports to provide an accounting of compliance with the Yolo HCP/NCCP and its associated authorizations and facilitate interagency coordination, scientific exchange, and public outreach. The FESA requires habitat conservation plans to establish monitoring programs to assess the effects of plan implementation on covered species. In addition, the USFWS Five-Point Policy recommends that such plans provide for annual reporting on matters related to compliance with permit terms and conditions. Similarly, the NCCPA requires that implementing agreements include “provisions for periodic reporting to USFWS and [CDFW] and the public for purposes of information and evaluation of plan progress.” The Conservancy will, over the term of the Yolo HCP/NCCP, submit annual reports to USFWS and CDFW that serve the following purposes:

- Provide the necessary data and information to demonstrate that the Yolo HCP/NCCP is being properly implemented;
- Identify the effect of plan implementation on covered species and on the effectiveness of the conservation strategy at advancing the Yolo HCP/NCCP’s biological goals and objectives;

- Document actions taken under the adaptive management program (e.g., process, decisions, changes, results, corrective actions); and
- Describe schedules and costs related to the implementation of actions over one-year timeframes.

Throughout the course of plan implementation, the Conservancy will prepare the following documents:

- Annual work plan and budget, and
- Ten-year comprehensive review.

These documents will provide the information necessary to enable USFWS, CDFW, other state and federal agencies, local agencies, stakeholders, and the general public to assess on an ongoing basis the progress and performance of the Plan toward meeting its biological goals and objectives and make informed recommendations to the Conservancy regarding Plan implementation. To accommodate access to this information, these reports will be available to the public and posted on the Conservancy web site.

7.9.2 Annual Reports

The Conservancy will prepare an annual report to provide a summary of the activities that were carried out during the previous implementation year. The Conservancy will complete an annual report within three months of the close of each reporting year to provide sufficient time to compile data and complete analyses of monitoring data. The Conservancy will develop a standardized format for annual reports. Final annual reports will be maintained in the Yolo HCP/NCCP implementation database (see Section 7.9.1, *Reporting*). The Conservancy staff will present these reports annually to the Conservancy Board at a public meeting, and will submit them annually to the wildlife agencies.

Each annual report will provide the following information:

- Documentation of the implementation of habitat conservation measures (protection/enhancement/restoration), including the following information:
 - A summary of the completed or in-progress habitat conservation actions, including information related to type, extent, and location of restored, enhanced, and existing protected habitats and natural communities. The report will document, on an annual and cumulative basis, the habitat conservation actions completed by the Conservancy and its partners;
 - A summary of all land management activities undertaken on HCP/NCCP reserve lands and a discussion of overall and site-specific management issues encountered by the Conservancy;
 - Identification of habitat protection, restoration, or enhancement actions that have not been implemented in accordance with the implementation schedule (i.e., behind or ahead of schedule) and an explanation for the deviation from the schedule;
- An assessment of the nature and extent of the impacts of covered activities on natural communities and covered species, including the following information:
 - A description of each covered activity conducted, the entity responsible for the covered activity, and the location of habitat permanently or temporarily removed or disturbed by the covered activity;

- A cumulative summary of all impacts of HCP/NCCP covered activities on covered natural communities and covered species habitats, habitat mitigation implemented to address these impacts, and a description of how implementation of conservation measures is roughly proportional in time and extent to the impacts on covered species and their habitats;
- Amount of authorized take of species habitat and reporting of any observed harassment or mortality of covered species;
- The status of the Yolo HCP/NCCP reserve system assembly with respect to authorized take/habitat loss;
- An evaluation of the results of monitoring and directed studies, including the following:
 - A description of monitoring activities undertaken during the reporting period and a summary of monitoring results, data analysis results, and the knowledge gained from monitoring that is valuable to adaptive management;
 - A description of all HCP/NCCP directed studies conducted during the reporting period, a summary of study results to date, and a description of how these results were or will be integrated into implementation;
- A description of adaptive management activities, including the following:
 - A description of the adaptive management decisions made during the reporting period, including how existing information was used to guide these decisions and the rationale for the actions;
 - A description of the use of independent scientists or other experts in the adaptive management decision-making processes;
 - A description of adopted and recommended changes to the conservation measures, avoidance and minimization measures, and monitoring plan (e.g., monitoring protocols, variables, analytical methods) through the adaptive management process based on interpretation of monitoring results and research findings;
- A financial report describing the following:
 - Funds provided to the Conservancy and the source of those funds;
 - Annual and cumulative expenditures by major cost category;
 - Deviations in expenditures from the annual budget and other relevant information as appropriate;
- A description of implemented actions to respond to changed circumstances, including the following:
 - A description of the changed circumstance and its effects on covered species and natural communities;
 - A description of the actions taken to address the changed circumstance and the effectiveness of those actions, including the outcomes of actions to address changed circumstances from earlier years;
 - A description of any unforeseen circumstances occurrences and the process taken to address them; and

- A summary of any administrative changes, minor modifications and revisions, or formal amendments to the Plan proposed or approved during the reporting period.

7.9.3 Ten-Year Comprehensive Review

The Yolo HCP/NCCP adaptive management plan requires 10-year reviews of HCP/NCCP implementation to provide the Conservancy with a longer term and methodical process and periodically evaluate its progress toward achieving the biological goals and objectives and assessing its implementation procedures. The Conservancy will prepare a ten-year comprehensive review document and make it available to USFWS, CDFW, and the Advisory Committee within six months following the end of each HCP/NCCP 10-year implementation period.

The primary purpose of the ten-year comprehensive review is to provide a periodic program-level assessment of the progress made under the Yolo HCP/NCCP toward achieving the biological goals and objectives. As such, the review will be focused on identifying and evaluating broad ecological trends within the Plan Area, including covered species abundance, distribution, and population growth rate; ecological processes and stressors; natural community distribution, function, and diversity; habitat restoration extent and functionality; and other relevant measures.

The objectives of the Ten-Year Comprehensive Review are:

- To provide an overview of the status of HCP/NCCP implementation, including implementation of conservation measures and the progress made toward achieving biological goals and objectives;
- To assess covered species trends and habitat conditions associated with HCP/NCCP implementation relative to overall trends and conditions for covered species and natural communities based on all relevant information (i.e., not limited to HCP/NCCP data and reports);
- To evaluate the relevance of the various monitoring actions, directed studies, and outside research to the implementation of conservation measures; and
- To evaluate changes that have been made in implementation of the Yolo HCP/NCCP and set out potential modifications that may be advisable in the future based on new information and lessons learned.

The Ten-Year Comprehensive Review will look back over the entire implementation period (not just the prior 10 years since the last review) to build on cumulative data and knowledge. Ten-Year Comprehensive Reviews will include critical evaluations of the information and assumptions upon which the Yolo HCP/NCCP has been based and the efficacy of the conservation measures in light of monitoring data and the analysis and synthesis of information through the adaptive management process.

The Ten-Year Comprehensive Review will also include an evaluation of the Plan's monitoring program, assessing such issues as the program's capacity to adequately measure the HCP/NCCP's progress toward achieving biological goals and objectives. The review will discuss the lessons that have been learned during the course of implementation and reach conclusions regarding how best to approach monitoring into the future. The review will also afford an opportunity to evaluate the Yolo HCP/NCCP biological goals and objectives and assess their continued relevance in light of new information that has become available.

The Conservancy will post the Ten-Year Comprehensive Review on the Conservancy web site and include a summary of the review to assist stakeholders and the public in their understanding of the report.

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