Chapter 6
Conditions on Covered Activities

6.1 Introduction

Mandatory conditions on covered activities are necessary to meet state and federal permit issuance criteria and to meet regional conservation goals.

The PCCP establishes a regional conservation program as part of the permit for incidental take of covered species and natural communities. The regional program as a whole accomplishes mitigation for incidental take resulting from covered activities. As required by ESA (Section 10[a][2][A][ii] and Fish and Game Code Sections 2820 (a)(6) and 2820 (f), this plan also includes measures to avoid and minimize take of covered species.

Take avoidance, minimization, and mitigation are accomplished in six ways:

1. **Program Participation: Receiving Take Authorization under the Plan**: Ensuring that activities covered under the permit comply with the programmatic requirements of the PCCP for site evaluation, computation of take, and completion of Plan required mitigation, including paying fees.

2. **Land Conversion**: **Conditions to Mitigate for Take of Natural Communities**: Where covered activities result in irreversible conversion from non-urban to urban use, conditions require protection of natural and semi-natural land to mitigate loss of habitat for covered species.

3. **General Conditions for Covered Activities**: Specific minimization conditions may apply in addition to land conversion mitigation.

4. **Stream System: Conditions for the County Aquatic Protection Program (CARP):** The CARP (Appendix M) describes specific requirements to protect stream and riparian

systems to maintain and enhance connectivity between natural communities and habitat for covered species.

5. **Best Management Practices**: Permittees have defined Best Management Practices (BMP) to make standard a wide range of conditions on activities to reduce potential effects on covered species and natural communities.

6. **Conditions to Minimize Impacts on Covered Species**: In some instances activities may affect individual covered species or certain natural communities and potential for take can be avoided or reduced through specific actions such as appropriate species surveys, application of BMPs, seasonal restrictions, or protective setbacks. The Plan also specifies conditions to prevent take of individuals of fully protected species.

As an HCP/NCCP, the PCCP allows mitigation of individual projects to be implemented systematically on a regional scale. This enables a more comprehensive approach to conservation of natural resources by concentrating protection where it has the greatest long term value. By protecting wetlands and other high quality habitats in the Reserve Acquisition Area (RAA) and restricting covered activities in areas of higher biological value such as in stream systems, regional avoidance and minimization goals are supported.

Regional scale avoidance and minimization reduces the need for individual projects to avoid and minimize impacts at the project scale and allows streamlining of regulatory requirements. This Plan assumes that take will result from individual covered activities and that this take will be mitigated through implementation of the conservation strategy (Chapter 5) as well as project-specific measures described in this Chapter.

The PCCP anticipates that circumstances, regulations, or scientific understanding may change over the 50-year permit term. The Plan intends that there will be changes in survey protocols, BMPs, and other programs such as Low Impact Development (LID) standards. These measures may be refined throughout the life of the PCCP, pursuant to the adoption of new measures by the agencies and in accordance with adaptive management. Such changes will be subject to administrative concurrence by the permitting Resource Agencies, but will <u>not</u> require amendment of the PCCP so long as the stated goals and objectives are still met.

The conditions described in this chapter are designed to ensure that Covered Activities are consistent with the PCCP's goals and objectives and to provide standard and predictable requirements for project applicants. The Permittees will evaluate all projects

that they implement or approve to ensure that all applicable conditions described in this chapter have been incorporated into the project prior to extending take coverage under the Plan. Chapter 8 describes applicant responsibilities in the application process.

6.2 Exemptions from Conditions

6.2.1 Non-covered Activities

Chapter 2 (Section 2.4, Projects and Activities Not Covered by this Plan) identifies some activities that may take place in the Plan area that are not covered under the PCCP.

Activities or projects listed in Chapter 2, Section 2.4, are specifically excluded from coverage under this Plan and therefore cannot receive take authorization, are not subject to the conditions in this chapter, and do not pay PCCP fees. These include:

1) Routine and ongoing agricultural activities that do not require discretionary approval or permitting by the local jurisdiction.

2) Expansion or conversion of cultivated agriculture that does not require a permit from the Permittees.

3) Pesticide application in conjunction with routine agricultural practices in accordance with regulations. Pesticide application is not covered under this Plan by the federal permits but is covered under the state permit.

4) Timber harvest operations subject to an approved Timber Harvest Plan.

5) Quarries and other mining (except as otherwise noted in the PCCP).

6) Pacific Gas & Electric, Northern California Power Agency, and Sacramento Municipal Utility District activities for power generation and transmission.

Inclusion of any of these non-covered activities would require amendment to the PCCP.

6.3 Program Participation: Receiving Take Authorization under the Plan

Take authorization will be provided by the Plan for three broad categories of covered activities:

1) Public projects undertaken by a Permittee;

2) Private projects under the jurisdiction of one or more of the Permittees; and

3) Public projects by non-Permittees in the Plan area that are approved for inclusion by the PCA.

6.3.1 Evaluation Process for Permittee Projects

Permittees will have take authorization for their activities along with the authority to approve covered activities complying with the terms of the Plan. If a Permittee undertakes a covered activity (see Chapter 2), the Permittee must document compliance with the PCCP and provide a copy of this documentation to the PCA for tracking purposes (i.e., to track the amount of take coverage granted) before the Permittee take authorization may be exercised. Within the first 18 months of permit issuance, the Permittees will submit a standardized template to the Resource Agencies for approval. It is expected that the documentation will be similar to the PCCP application package required of applicants for covered private discretionary projects under CEQA (PCCP participation package is described in detail in Section 6.4, below).

CEQA Review for Permittee Projects

Many covered activities are expected to be subject to CEQA. Permittee covered activities that may not be subject to CEQA include operations and maintenance activities or actions that are exempt under CEQA. Projects exempt from CEQA may still be covered activities under this Plan and will still require compliance with the conditions of this Plan as described in this chapter.

When Permittees initiate projects that are also subject to CEQA, compliance with the terms of the Plan will generally be undertaken concurrently with the CEQA environmental review process. To facilitate CEQA coordination, the Permittee will begin preparation of the PCCP participation package (or equivalent material) at the earliest stage of project planning. The completed package will be evaluated concurrently with the CEQA documents prepared for

the review of the totality of the project's impacts and will be subject to the same statutory timelines for agency review.

Receiving Take Authorization for Permittee Projects

Any take associated with covered activities proposed by the Permittees is authorized under the permits issued for the Plan. These projects are therefore "preapproved" for take authorization by the Resource Agencies as long as they meet the conditions of the Plan and pay the appropriate fees, if applicable. Each Permittee is responsible for ensuring that its covered activities comply with the conditions described in this chapter. Take authorization will be in effect once the Permittee documents consistency with the Plan.

6.3.2 Application Process for Private Projects

Permittees will have take authorization to approve covered activities undertaken by private parties complying with the terms of the Plan. Private applicants seeking coverage under the Plan will apply to their local jurisdiction (i.e., the County or the City of Lincoln) by submitting a PCCP participation package as described in Section 6.4. This process is similar to current project application procedures, but will include specific information required by the PCCP. A checklist for evaluating these applications will be developed by the Permittees within the first six months after permit issuance.

Upon receipt of a participation package, the local jurisdiction will review it for completeness in accordance with the checklist. If the PCCP participation package is not complete, it will be returned to the project proponent with an explanation and a request for additional information. If the PCCP participation package is complete, the local jurisdiction will calculate the required fees and/or in-lieu dedication requirements based upon the procedures described in Chapter 9 and consistent with the local ordinance implementing the Plan.

Determination of a complete PCCP participation package rests with the local jurisdiction and will be coordinated with a determination of completeness for the CEQA analysis. If they choose, local jurisdictions may request technical assistance from PCA staff in their review. If the project applicant requests to contribute land in lieu of fees or requests special project conditions, such requests must be reviewed and approved by the PCA.

Local agencies reviewing the PCCP participation package will be subject to the processing time and other requirements of the Permit Streamlining Act (Section 65920 et seq.), which requires public agencies to follow standardized time limits and procedures when making specific types of land use decisions.

CEQA Review for Private Projects

Many private covered activities will be subject to CEQA. For such covered activities, review of applications for take authorization will generally be undertaken concurrently with CEQA environmental review, but are not required to be. To facilitate a concurrent approach, the local jurisdiction will generally request that project applicants submit the PCCP participation package at the same time as the application for the first discretionary action needed for the covered activity. Upon receipt of the permit application and the PCCP participation package, the local jurisdiction will determine the completeness of the PCCP participation package while reviewing the adequacy of the application for the discretionary permit. However, CEQA review for the covered activity may commence and be completed prior to the information in the PCCP participation package being submitted and considered. If a project changes its design or operations during the project review process, the Permittee is responsible for ensuring that the adopted project complies fully with the terms of the PCCP, including amending or supplementing the CEQA document and PCCP participation package, if necessary.

Granting Take Authorization for Private Projects

Proponents of private projects that are covered by the Plan and are not exempt (see Section 6.2) will be required to comply with all terms and conditions of the Implementing Agreement, the Plan, and the state and federal permits that apply to the project prior to the local jurisdiction issuing take authorization. One way to achieve this is for the Permittee to impose terms and conditions on project approval. Such terms and conditions include, but are not limited to, the following:

- Compliance with all relevant avoidance, minimization, surveys, monitoring, and conservation measures determined by the local jurisdiction to apply to the project as required by the Plan.
- The right for the Permittee to monitor the applicant's compliance with all applicable conditions of this Plan.
- The right for the Resource Agencies to monitor the applicant's compliance with all applicable conditions of this Plan.

- Imposition of a fee or dedication of land in lieu of the fee as described in Chapter 9 and in the local Implementing Ordinance.

Before take authorization is granted, Permittees must prepare a written determination of the project's consistency with the Plan. Once the PCCP participation package is deemed complete, the conditions of approval have been established and imposed, and the required fees (if applicable) have been paid, the project proponent will be granted take authorization by the appropriate Permittee (see Chapter 9 for required fees and payment times). At this point, the project proponent will be allowed to proceed with the project consistent with other applicable local, state, and federal laws and local entitlements. Take authorization for impacts on covered species will be provided by the applicable Permittee consistent with the state and federal permits issued to all Permittees.

Typically all fees, dedications or evidence of the purchase of mitigation credits will be required before any land disturbance activity. For projects where land disturbance is not anticipated, all mitigation requirements must be satisfied prior to occupancy of the site and/or initiation of the use. For multi-phase projects, mitigation requirements are to be satisfied proportionate to the area disturbed or occupied (including consideration for indirect effects). Fee and mitigation requirements will be assessed and collected/dedicated based on the fees that are in effect at the time the permit is issued.

If a project does not proceed and is abandoned or permission to proceed is revoked, Permittees will notify the PCA that take authorization is also revoked.

When PCCP participation packages are completed, each Permittee must provide a copy of the application material to the PCA for entry into the PCCP database (described in Chapter 8).

6.3.3 Application Process for Non-Permittee Public Projects

The list and evaluation of covered activities in Chapter 2 provides for projects that will be proposed by public entities that are not Permittees. For example, a special district or local school district may propose to build a project in the City of Lincoln or the unincorporated County. Although the special district or school district is not subject to the land use jurisdiction of the Permittees, the impacts of its project have been covered by the Plan and evaluated as part of the potential future growth within the jurisdiction.

For projects proposed by a public agency that is neither a Permittee nor subject to the land use authority of a Permittee to receive coverage under the Plan, the project proponent must apply directly to the PCA as a Participating Special Entity. The Participating Special Entity will provide the same PCCP participation package as private entities seeking coverage. See Chapter 8 for details on the process by which Participating Special Entities receive take authorization under the Plan.

Typically all fees, dedications or evidence of the purchase of mitigation credits will be required before any land disturbance activity. For projects where land disturbance is not anticipated, all mitigation requirements must be satisfied prior to occupancy of the site and/or initiation of the use. For multi-phase projects, mitigation requirements are to be satisfied proportionate to the area disturbed or occupied (including consideration for indirect effects).

6.4 PCCP Participation Package

All three categories of activities described above (Permittee projects, private projects, and non-Permittee public projects) must follow the requirements of CEQA for environmental review. The process of initiating participation in the PCCP will be integrated into the Permittees' normal CEQA procedures. The PCCP participation package described here is an extension of the information normally required by a public or private project proponent when completing the project review and CEQA process.

Private project proponents that are covered by the Plan and not exempt must submit a PCCP participation package to the appropriate Permittee for review and approval in order to receive coverage under the Plan. The project proponent is responsible for preparing the PCCP participation package and paying for any necessary field surveys, if required. The Permittee will determine what information is needed to complete the project review as well as provide the applicant with any information in its possession that would assist the applicant.

The PCCP participation package will be submitted to the Permittees. In addition to pertinent information regarding authorization under the PCCP, these packages will also include a complete project description. Relative to the CEQA process for the project, independent of (or concurrent with) the PCCP participation package information, once appropriate project information is obtained, and if necessary, additional information for environmental analysis is provided through a separate environmental questionnaire, staff will make a determination of the

appropriate CEQA document through the preparation of an Initial Study. Additional determinations may be made about aquatic resource permits that may require additional approval from Army Corps of Engineers (See Section 6.4.5).

When completed, Permittees must include the PCCP participation package as part of its project documentation and send it to the PCA. Permittees must send the PCA a notice of their action on a proposed project and forward the appropriate fees. For their own projects, Permittees must prepare the same package, submit it to the PCA for tracking purposes, and pay the appropriate fee.

The PCCP participation package must contain the following items, if applicable, each of which is described in detail in this section.

Item 1: Initial Project Application (IPA) Form. This is a standardized form providing basic contact information, zoning, land use and other pertinent information for coverage under the Plan.

Item 2: Site map. This is a comprehensive description and map of the project.

Item 3: Land-Cover Types on Site. Documentation of land-cover types on site based on the most recent land-cover information provided by the PCA and other applicable biological surveys.

Item 4: Biological Resources Impact Assessment. Determination of project impacts to biological resources as identified by a qualified biologist (from information obtained for Items 3, and 5 if applicable).

Item 5: Stream Systems, Waters of Placer County, and Other Wetlands. Identification of any part of the project site that falls within the Stream System or 100-year flood limit, whichever is greater and wetland delineation if waters of the County or other jurisdictional waters are present on the project site.

Item 6: Results of Applicable Species Surveys and Monitoring.

Item 7: Proposed Land Dedication Assessment. If the project includes land intended to serve as mitigation land, including land offered for dedication in lieu of fees, there must be an initial assessment by the PCA of how the land considered for dedication satisfies the PCCP Reserve Acquisition Criteria.

Item 8: Applicable Avoidance and Minimization Requirements. There must be documentation of any additional and applicable avoidance and minimization requirements that will be implemented.

Each item in the PCCP participation package builds on the previous item. For example, surveys for certain covered wildlife and plants (Item 6) are required only if specific land-cover types are documented on the site (Items 3 and 5). Many covered activities will be able to comply with the PCCP by only completing Items 1 through 4 of the PCCP participation package. For others, field surveys are limited to only the highest-value biological resources.

Templates for PCCP participation package items will be provided by the PCA to the Permittees. These templates will also be posted on Permittees' web site for use by private applicants. Use of the templates will streamline the review and approval process by local jurisdictions. The Permittees may adjust the required components of the PCCP participation package over time, consistent with the requirements of the Plan. To recover the costs of reviewing and processing these PCCP participation packages, the Permittees may charge a fee associated with the application (see Chapter 9 for details).

The PCCP participation package, survey requirements, and conditions of approval have been designed with the following principles in mind.

- Provide the necessary data to track impacts from covered activities to allow the PCA to meet Plan requirements (e.g., land acquisition, stay-ahead provisions, and vernal pool restoration).
- Simplify and reduce pre-project survey requirements relative to current and future environmental regulations.
- Avoid and minimize impacts on covered species and natural and semi-natural land-cover types to the maximum extent practicable on a regional scale, in compliance with federal and state endangered species laws.
- Ensure that survey requirements are proportional to impacts—the survey burden is lower on low-quality habitat than on high-quality habitat.

Each of the required application components is described below.

6.4.1 Item 1: Initial Project Application Form

The Placer County Initial Project Application (IPA) form or similar form prepared by the City of Lincoln will contain basic information about the applicant and the project. Each Permittee will use a simple one or two page form. The form may be the same as an existing project information form with the addition of specific

information relevant to the PCCP. Required forms will be available through the Permittees.

6.4.2 Item 2: Project Description and Map

The PCCP participation package will include a comprehensive description of the location, construction activity or maintenance methods, and timing of the project or activity. The project description will include a site map showing what area will be affected and be sufficient to document that it is a covered activity in the Plan (see Chapter 2) and include information on the totality of all actions requested from the Permittees. A legible vicinity map of the project site and the approximately one-mile surrounding area will show where the project is within the Plan area. The vicinity map will indicate streams or water bodies. A project detail map will be included that shows any relevant landforms, roads, water bodies, and existing and proposed structures consistent with current requirements.

6.4.3 Item 3: Land-Cover Types on Site, Baseline Consistency

Almost all impacts under the Plan are tracked by land-cover type and extent of wetland area. As described in Chapter 3, Physical and Biological Resources, a regional land-cover map was developed for this Plan. This land-cover map was used to estimate impacts of the covered activities (Chapter 4) and to develop the conservation strategy (Chapter 5). It is referred to as the “baseline land-cover map”. The baseline map and updates will be maintained by the PCA and made available to the public for planning purposes.

The baseline land-cover map will give a preliminary indication of conditions on the project site, but due to limitations of mapping land-cover types at a large scale and the potential for land-cover to change over time, land-cover must be verified at the time applications are submitted.

The PCCP participation package requires a map of the site and the approximately one-quarter-mile immediate surrounding area showing current land-cover. The map should show all land-cover types present using the same CDFG Wildlife Habitat Relationship (WHR) classification system that has been modified for the PCCP, see Chapter 3. Mapping for the project parcel will allow determination of land-cover extent to an accuracy of 0.1 acre. Mapping in the surrounding area off-site can be less accurate and can be based on an air photo and will not require ground-truthing. The map will include a table indicating the amount of each land-

cover type on-site to the nearest 0.1 acre and the linear feet of riverine habitat or other lineal water feature.

For the purposes of this Plan, baseline land-cover will be determined using the best information and data available from the PCA and should reference the following resources:

1. 2009 Placer WHR coverage.
2. Placer County spring 2011 aerial photograph of the Valley.

For the purposes of this Plan, baseline wetland cover will be determined using the best information and data available from the PCA and should reference the following resources:

1. Placer County historic aerial photograph
2. 2008 Department of Water Resources LiDAR data "depressional index"
3. Placer County GIS Vegetative Mapping
4. Placer County Spring 2011 aerial photograph of the Valley
5. Any other information the land owner voluntarily provides.

These resources would collectively serve as the baseline upon which "significant" change would be measured. Upon receipt of a Participation Package, the Permittee, in coordination with the PCA will make a baseline consistency finding. The baseline consistency finding process is described in detail in Section 6.5.1. When land-cover on the site is found to differ significantly from the baseline conditions, documentation of the extent of change to the baseline land-cover type and the type of activity that caused the change must be submitted.

For sites outside urban or suburban areas that have a large component of natural and semi-natural land-cover types, a qualified biologist may need to verify types of land-cover present. If the project site supports or may support any vernal pools or other wetlands (e.g., those identified in the CARP), a qualified biologist must be retained (see Item 5).

All land-cover determinations will be field verified by PCA Biological staff and will be used to calculate any required fees (Chapter 9). Land-cover mapping is not required for routine operations and maintenance activities conducted by Permittees. For other covered activities that result in temporary impacts, in lieu of land-cover mapping the applicants may have the option of assuming that the entire footprint of the covered activity affects natural and semi-natural land-cover types (and therefore pays a fee on these impacts as described in Chapter 9). This option is available for temporary impacts because the footprint of many of these activities is expected to be relatively small and the expense of the mapping may be greater than the fees paid.

6.4.4 Item 4: Biological Resources Impact Assessment

The PCCP participation package will include a project specific Biological Resources impact assessment. At a minimum, this will be a comparison of project plan and the land-cover types present on the project site (Item 3). This will be used to determine potential direct and indirect impacts.

Additional information may be necessary if individuals of covered species or aquatic resources are potentially impacted. Conditions to Minimize Impacts to Covered Species (Section 6.12), identifies certain land-cover types and potential species locations that may trigger the need for additional assessments for specific covered species. For example, if annual grassland identified by the PCA as likely nesting habitat for tricolored blackbird is present on the site of the proposed project (see species accounts, Appendix D for modeled habitat for covered species), a qualified biologist must survey the site to establish the presence or absence of breeding tricolored blackbirds on the site. If a tricolored blackbird nesting colony is found on the site, certain restrictions on activities will apply (see Species Condition 8).

6.4.5 Item 5: Stream Systems, Waters of Placer County, and Other Wetlands

The PCCP participation package will identify any part of the Stream System and wetlands that maybe present on-site or in the immediate one-quarter mile vicinity. If a qualified wetland biologist determines a project site has no aquatic resources, then no wetland delineation or Stream System map will be required.

If wetlands are present on the project site, a biologist must evaluate whether they fall under the jurisdiction of the Corps and/or the state and applicants must submit a wetland delineation and/or stream zone map, which will be verified by the Army Corps of Engineers. That information will be included in the PCCP participation package on a drawing showing the location and extent of impacts based on the site plan and verified wetland delineation. For the purposes of the PCCP, vernal pool wetland habitat includes seasonal depressional wetlands, which is the principal habitat of covered vernal pool invertebrates; this includes vernal pools and depressional areas within vernal swales, ephemeral drainages, and other seasonal wetlands.

A component of the PCCP is the County's Aquatic Resources Program (CARP) which describes the aquatic resources that are

regulated in western Placer County and provides a process for regulatory compliance; see Appendix M, CARP. The aquatic resources addressed in the CARP include Waters of Placer County and the Stream System; see specific definition in Glossary. The CARP describes the information applicants must provide to the Permitees for issuance of a permit for activities that affect aquatic resources.

6.4.6 Item 6: Results of Applicable Species Surveys and Monitoring

Generally, impacts on covered species are assumed to occur on all project sites and species surveys are not required; surveys are required in specific cases, however. As described in Items 3 and 4, the presence of certain land-cover types on the project site triggers focused surveys for selected covered species. If the proposed project site occurs on modeled habitat for these select species (see Section 6.13 for Conditions to Minimize Impacts to Covered Species), preconstruction surveys may be needed to determine which defined conditions will apply to the project. Compliance during construction will be monitored by a qualified biologist (i.e., construction monitoring), when required.

The purpose of these surveys is to comply with the avoidance and minimization requirements of ESA and CESA. If surveys are planned far enough in advance (typically 6–8 months), it is expected that in most cases identification of selected occupied habitat will not change the project design or schedule. These survey requirements and avoidance measures are designed to avoid or minimize take of individuals (as required by law) and to document key resources for tracking purposes.

If the results of the species survey documents a large or important population of a covered species that was not anticipated by the Plan, the local agency reviewing or proposing the project must consult the PCA for advice on species avoidance and minimization measures that may be appropriate. The PCA will also contact the Resource Agencies for technical advice. Protocol-level surveys to document species presence or absence are not required for the PCCP because the Plan assumes species are present.

6.4.7 Item 7: Proposed Land Dedication Assessment

If the proposed project includes land intended to serve as mitigation land, or lands that contribute to the recovery of covered

species, including land offered for dedication in lieu of fees, there must be an initial assessment of how the proposed land dedication satisfies the PCCP Reserve Acquisition Criteria. Additional information may be required before the PCA can determine acceptability. If land dedication is requested, the PCA's determination must be complete before any land development permit is issued for the project associated with the land dedication.

6.4.8 Item 8: Applicable Avoidance and Minimization Requirements

If conditions to minimize impacts to natural communities or covered species apply to the project site, the package must describe these, state how and when they will be applied and identify the persons responsible for the additional conditions being carried out. See Sections 6.12 and 6.13 for conditions that apply to natural and semi-natural communities and covered species, respectively.

6.5 Conditions to Minimize Impacts on Natural Communities

The covered activities are expected to result in substantial, irreversible conversion of the existing natural and semi-natural landscape to urban and suburban use. Although elements of the existing landscape show varying degrees of disturbance and are no longer functioning as a natural ecosystem, the mosaic of open lands in the Plan area cumulatively provides habitat and connectivity for covered species. Even loss of intensively farmed land will diminish these regional values.

The Plan attempts to limit irreversible land conversion to the Potential Future Growth (PFG) area and leave the Reserve Acquisition Area (RAA) as a regionally important expanse of contiguous private and public land that will continue to meet species needs during and after implementation. The regional approach to conservation is described in Chapter 5. The conditions described in this chapter are intended to minimize cumulative impacts of covered activities over the 50 year term of the permit. This entails focusing conservation on large tracts of land in the RAA and largely exempting covered activities in the PFG from site-specific minimization or avoidance and emphasizing off-site mitigation instead.

Conservation of natural communities within a landscape-scale Reserve System is the main conservation strategy of the PCCP. The conditions to minimize impacts on natural communities

described here are intended to allow the PCA to progressively implement the regional conservation strategy by applying a consistent set of conditions to individual covered activities on a case-by-case basis as they occur. Conditions to minimize impacts to natural and semi-natural communities fall into three categories:

1. **Mitigation Ratios for Land Area**. Off-site mitigation is accomplished mainly through mitigation ratios requiring preservation or restoration of a set amount of land calculated as a proportion of take. These mitigation ratios apply to covered activities everywhere and, when applied cumulatively to the level of take projected in Chapter 4, they are expected to result in implementation of the conservation strategy.

2. **Mitigation Ratios for Wetland Area**. Because of their particular regulatory status and their biological importance, wetlands are accounted for separately from land area. Conditions establish mitigation ratios requiring preservation and/or restoration of a set amount of wetted area calculated as a proportion of take. These wetland mitigation ratios apply to covered activities everywhere and, when applied cumulatively, they will result in no net loss of wetlands in the Plan area.

3. **Site-specific Avoidance and Minimization**. Protection of existing resources is important in the RAA or in the Stream System; certain site-specific avoidance and minimization conditions will apply to covered activities there.

6.5.1 Community Condition 1. Mitigation Ratios for Land Conversion

Chapter 3 describes the current landscape of western Placer County and the relationship between covered species and the existing pattern of agricultural and other remaining open lands (also see Appendix D, Species Accounts for a description of the relationships between covered species, habitats, and land uses). Most of the land within the Reserve Acquisition Area is oak woodlands, grasslands, irrigated pasture lands and other agricultural lands – all of which provide habitat for wildlife and several of the PCCP's covered species.

Cumulatively, the agricultural and open lands remaining in the Plan area support the majority of biological resources now present. Preservation and, where feasible, restoration of these lands would further enhance the long term survival of populations of covered species. Conversion of agricultural and open land remaining in the Plan area represents a loss of existing habitat for many of the covered species and would impact the opportunity to recover or restore habitat values.

Covered activities that would result in permanent conversion from natural or semi-natural land-cover to disturbed, urban or suburban land-cover must pay fees or otherwise contribute to successful acquisition (see Chapter 8, Section 8.7, Land Acquisition for discussion of the PCCP land acquisition process) and long-term management of a similar or higher quality land at a ratio of at least one acre acquired for every acre that is impacted.

The type of land-cover and the magnitude of impact will determine the extent of mitigation required. The biological issues addressed in the PCCP divide along the Valley-Foothill line, which marks the edge of the transition from the Sacramento Valley to the Sierra Nevada. The environmental setting and projected future growth patterns in the Valley and Foothill sub-areas of the Plan area are different: higher density urban and suburban growth is mainly in the Valley with a portion along the I-80 and Highway 65 corridors, while lower density rural residential development is mainly within the Foothills. The conditions on land conversion will be applied somewhat differently – primarily as they are determined by parcel size. In general:

- Land conversion impacts are measured by the area within the project footprint and by the remnant area of the parcel that may be indirectly affected by the project.
- Direct impact is defined the direct removal of land cover, calculated as the actual area subject to grading, paving, or any project-related disturbance, including landscaping.
- Secondary or indirect impacts may result where land cover is not directly altered, but where the adjacency to and changes resulting from a project affect long term biological values.
- Different mitigation ratios and different mitigation land types will be required depending on what land-cover is affected.
- Because the Valley-Foothill divide represents a sharp change in habitat types, the Plan generally requires that mitigation for land conversion occur in the respective sub-area i.e., Valley impacts will be mitigated by Valley land preservation and visa versa.
- Any reference to parcel size here means parcel size at the time the Plan is first permitted.

Urban and Suburban and Other Land Conversion in the Valley

Urban and Suburban future growth in the Valley is estimated to result in take of vernal pool grasslands and other natural communities as addressed in Chapter 4. The impact can be

mitigated by establishing large, contiguous reserves and managing land for preservation and restoration of biological values. As detailed in Chapter 5, the conservation strategy for the Valley identifies a 47,000 acre RAA on the West and North including approximately 10,000 acres of existing reserves. Future acquisitions of 10,000 to 25,000 acres in the RAA would create the Valley component of the Reserve System.

Mitigation. To implement the Valley conservation strategy, a mitigation ratio is applied to direct and indirect land impacts to cumulatively offset effects on natural communities. The ratios are listed in Table 6-1.

Determining Land-cover Type. The type of land-cover affected determines the mitigation ratio and character of mitigation land required. The type categories are broad and do not rely on detailed assessment. As described in PCCP participation package Item 3, determination and interpretation are subject to approval by the PCA. The land-cover types in Table 6-1 include the individual wildlife habitat relationship types described in Chapter 3, Table 3-2, Natural Communities and Land-Cover Types.

Land-Cover Type Baseline Consistency Finding. Upon receipt of a Participation Package, the Permittee will make a baseline land cover type consistency finding. Baseline conditions are described in Chapter 3 and Section 6.4.3. The baseline consistency finding requires all of the following:

a. Property land uses are essentially the same property land uses present in 2009/11 as determined by available data.
b. There is no evidence that the property has been mass graded without proper authorization.
c. The micro-topography and hydrology of the property are substantially unchanged from 2009/2010 conditions.
    i. Creeks, swales and other drainage in same location (within 100 feet).
    ii. At least 70 percent of ponded water and/or other wetlands are still present on the property.
    iii. The proportion of parcel area in a topographic depression (“depressional index”) has not been diminished by more than 20 percent from the 2009/2010 index.
    iv. The entire tree canopy, which includes riparian vegetation, has not been diminished by more than 20 percent. For purposes of this criterion, a

woodland tree canopy is assumed to be present if 10 percent or more of the land cover community is trees or shrubs.

The baseline consistency finding establishes a comparison of resources. A finding of non-consistency does not establish responsibility for changes to the land-cover type. Foreseeable changes such as drought, arson fire or flood may result in non-consistency. These types of changes are described in Chapter 3 and in Chapter 10. However, if an apparent significant change in baseline land-cover is detected, the Permittee will review the changes to determine if baseline land-cover information was inaccurate in 2009/10 or if land-cover conditions have in fact changed significantly. If land-cover conditions have changed significantly, the baseline land-cover conditions will be used as the basis for determining PCCP mitigation requirements. If a mapping error occurred, then mitigation will be based on existing land cover type at the time the consistency finding was requested.

Calculating Direct Impact. The direct impact zone is the actual area subject to grading, paving, or any project-related disturbance, including landscaping or temporary disturbance.

Calculating Indirect Impact. In the Valley, the past trend toward large projects is expected to continue. There, large tracts of open land of 100 acres or more are converted to fairly dense urban or suburban use. Open space areas may be left within the project site, but these serve mainly aesthetic or recreational purposes rather than biological conservation. Such small avoided areas are subject to secondary or indirect impact. For this reason, on project sites of 20 acres or greater in the Valley, any project-included open space measuring less than 200 acres of contiguous natural or semi-natural area is considered part of the indirect project impact and is not exempted from the Plan mitigation requirements.

Avoidance. In most circumstances, to qualify for avoidance (and not be assessed mitigation for take), certain conditions must be met. To qualify as “avoided” land within the Potential Future Growth area must be a minimum of 200 acres, or, if less than 200 acres, the avoided area must be either 1) in or adjacent to the RAA, 2) adjacent to an existing reserve that together total 200 acres (either a PCCP reserve or a non-PCCP reserve protected in perpetuity), 3) in or adjacent to a Stream System, or 4) must contribute to meeting the goals and objectives of the Plan as described in Chapter 5 as deemed by the PCA.

The preliminary determination of effective reduction of indirect effect will be made by the planning jurisdiction and will take into account such factors as relationship to existing or potential

reserves and enhanced stream setbacks. Effective reduction is subject to final acceptance by the PCA.

Indirect impact area is automatically reduced to exclude any area on a project site that is required for avoidance by a permitting agency.

Any part of a project site which is excluded from take calculations by design or regulatory requirements is deemed to have avoided take and is not subject to the application of mitigation ratios as shown. That avoidance does not necessarily mean that the excluded land is suitable to be credited as mitigation. Only where the PCA is able to actually integrate excluded land into a reserve may it apply that land area as mitigation, or if such land is determined by the PCA to have high biological function and/or high biological value such that the avoided area merits inclusion into mitigation acreage.

Exempt. In the Valley, existing urban land and pre-existing parcels less than 1 acre are exempt from general land conversion mitigation, but are not exempt from conditions on wetlands, stream system, or individual tree protection requirements for valley oak.

Pre-existing parcels less than 20 acres are exempt from mitigation of indirect effects.

Land Type Required as Mitigation. With limited exceptions, affected land types must be mitigated in-kind with the same general land type (Table 6-1). Lands impacted in the Valley must be mitigated with land in the Valley, except in the case of oak woodland types (located mostly east of Lincoln). Impacted oak woodland (except valley oak woodland) in the Valley may be mitigated with oak woodland in the Foothills.

The grassland vernal pool land type is mitigated by any grassland vernal pool land without regard to wetted area density. Actual wetted area is accounted for by the separate requirement for wetland mitigation. The wetland mitigation described below can only be carried out if in fact much of the grassland acquired to mitigate land conversion does in fact have a high density of preserved and restored vernal pool. Application of the two measures – land area and wetland area – will jointly provide for conservation of wetland dependent natural communities.

Mitigation will generally be achieved through preservation of existing land. Land may be provided for restoration subject to specific conditions.

Table 6-1. Valley: Impact and Mitigation Ratio by Community Type		
Affected Land-Cover Type	**Valley Mitigation Ratio Direct or Indirect**	**Mitigation Community Type**
Oak Woodland Community		
Mixed oak woodland	1.35:1	Oak woodland
Blue oak woodland	1.35:1	Oak woodland
Interior live oak woodland	1.35:1	Oak woodland
Valley oak woodland	3:1	Valley oak woodland
Oak woodland savanna	1.35:1	Oak woodland
Grassland and Vernal Pool Complex Community		
Annual grassland	1.35:1	Grassland
Vernal pool grassland complex	1.35:1	Grassland
Pasture	1.35:1	Grassland
Riverine and Riparian Forest Community – Stream System		
Riverine	2:1	Riverine or riparian forest
Valley foothill riparian	2:1	Valley foothill riparian
Any other natural or semi-natural land in the Stream System	2:1	Any natural or semi-natural land located in the Stream System
Chaparral/ Barren Community		
Foothill chaparral / Barren	1.35:1	Oak Woodland, Grassland, Wetland, Riverine, Chaparral or Riparian Forest
Agriculture Community		
All Agriculture Community Land Cover Types	1.35:1	Any natural or semi-natural land (1)
Rural Residential/Small Parcel		
Parcels greater than 1 acre and less than 20 acres	1.35:1 Direct Impact only	Community affected (as above)
Urban/Suburban Community and Disturbed Lands		
All Urban/ Suburban and Disturbed lands, Parcels less than 1 acre	Exempt (2)	NA

1) Any natural or semi-natural land includes oak woodland, grassland, open water, wetland, riverine and riparian forest, chaparral, or any agricultural communities, including eucalyptus.
2) Urban lands and pre-existing parcels less than 1 acre are exempt from general land conversion mitigation, but are not exempt from conditions on wetlands, stream system, or individual tree protection requirements for valley oak or compliance with the tree ordinance of the jurisdiction.

Rural Residential and Other Land Conversion in the Foothills

Take of oak woodlands and other natural communities addressed in Chapter 4 is based on estimates of:

- a direct loss where land is cleared on a building site,
- secondary loss where land is not cleared but is altered due to increased human presence, and
- fragmentation effects where development is introduced into largely undeveloped areas.

All types of impacts can be mitigated at least in part by establishing large, contiguous reserves. The conservation strategy for the Foothills identifies a 25,000 acre RAA on the North, within the Bear and Coon Creek watersheds. Existing reserves total 3400 acres; future acquisitions of 8,000 to 13,000 acres would create the Foothills component of the Reserve System. While rural residential use has been determined to have some residual value as wildlife habitat, it will not play a significant beneficial role in the regional conservation strategy.

Mitigation. To implement the Foothills conservation strategy, a mitigation ratio is applied to direct and indirect land impacts to cumulatively offset impacts on natural communities. The ratios are listed in Table 6-2.

Determining Land-cover Type. The land-cover type affected determines the mitigation ratio and character of mitigation land required. The type categories are broadly defined. As described in PCCP participation package, Item 3: Land-Cover Types on site, determination and interpretation is subject to approval by the PCA. The land-cover types in Table 6-2 are individual wildlife habitat relationship types described in Chapter 3, Table 3-2, Natural Communities and Land-Cover Types.

Rural Residential land cover pertains to any parcel size from 1 acre to 10 acres and is considered to be grassland or oak woodland depending on conditions present on the undeveloped parcel.

Calculating Direct Impact. The direct impacts of development are the project footprint, calculated as the actual area subject to grading, paving, or any project-related disturbance, including landscaping.

Calculating Indirect Impact. Where a large parcel is subdivided into smaller parcels, there are indirect effects subject to an additional mitigation requirement for any oak woodland or

grassland present. Indirect effects generally include secondary and fragmentation effects. The threshold at which these effects occur is considered to be whenever a parcel larger than 10 acres is subdivided for residential or other development.

Mitigation for indirect effects nominally applies to the balance of any affected land, meaning the entire parcel area minus the area of direct project footprint. For example, if a parcel of 40 acres is subdivided into four 10-acre parcels, and these are determined to have a total direct impact area of 12 acres, then the indirect impact area is the 28-acre balance of the parcel.

Avoidance. In most circumstances, to qualify for avoidance (and not be assessed mitigation for take), certain conditions must be met. Avoidance will be determined by an assessment of the factors that reduce indirect effects. Land development design can reduce indirect effect and hence mitigation requirements by applying the principles of Condition 10, Rural Development Design and Construction Requirements. The preliminary determination of effective reduction of indirect effect will be made by the planning jurisdiction and will take into account such factors as retention of wildlife corridors and enhanced stream setbacks. Effective reduction is subject to final acceptance by the PCA.

Indirect impact area is automatically reduced to exclude any area on a project site which is required for avoidance by a permitting agency.

Exempt. In the Foothills, existing intensive agriculture, urban land use and pre-existing parcels less than 1 acre are exempt from general land conversion mitigation, but are not exempt from conditions on wetlands, stream system, or individual tree protection requirements. Agriculture includes intensive agriculture such as orchards or crops normally irrigated in Placer County. It excludes extensive agriculture such as rangeland or non-irrigated pasture, which are considered grassland.

Table 6-2. Foothill: Impact and Mitigation Ratio by Community Type

Affected Land-Cover Type	Foothill Mitigation Ratio (Direct/Indirect)[1]	Mitigation Community Type
Oak Woodland Community		
Mixed oak woodland	1:1 / 0.1:1	Oak woodland
Blue oak woodland	1:1 / 0.1:1	Oak woodland
Interior live oak woodland	1:1 / 0.1:1	Oak woodland
Valley oak woodland	3:1 / 0.1:1	Valley oak woodland
Oak-foothill pine woodland	1:1 / 0.1:1	Oak woodland
Oak woodland savanna	1:1 / 0.1:1	Oak woodland
Grassland and Vernal Pool Complex Community		
Annual grassland	1:1 / 0.1:1	Oak Woodland or Grassland
Pasture	1:1 / 0.1:1	Oak Woodland or Grassland
Riverine and Riparian Forest Community – Stream System		
Riverine	2:1 / 0.1:1	Riverine or Riparian Forest
Valley foothill riparian	2:1 / 0.1:1	Valley foothill riparian
Any other natural or semi-natural land in the Stream System	2:1 / 0.1:1	Any natural or semi-natural land located in the Stream System (2)
Chaparral/ Barren Community		
Foothill chaparral / Barren	1:1 / 0.1:1	Oak Woodland, Grassland, Wetland, Riverine, Chaparral and Riparian Forest
Agriculture Community		
All Agriculture Community Land Cover Types	Exempt (3)	NA
Rural Residential		
Parcels greater than 1 acre and less than 10 acres	1:1 Direct Impact only	Community affected (as above)
Urban/Suburban Community and Disturbed Lands		
All Urban/ Suburban and Disturbed lands, Parcels less than 1 acre	Exempt (3)	NA

1) Mitigation ratios are not additive; see text for determination of impact area.
2) Any natural or semi-natural land includes oak woodland, grassland, open water, wetland, riverine and riparian forest, chaparral, or agriculture communities.
3) Intensive agriculture in the Foothills, urban lands and pre-existing parcels less than 1 acre are exempt from general land conversion mitigation, but are not exempt from conditions on wetlands, stream system, or individual oak tree protection requirements.

6.5.2 Community Condition 2. Mitigation Ratios for Wetland Area

Wetland area take is calculated and mitigated separately from land-cover take. Wetland is delineated and classified according to US Army Corps of Engineers protocol. In practice, certain wetland types are not easily distinguished and often intergrade. The PCCP minimizes the effect of field interpretation by applying the same ratios for all wetland types and by allowing broad latitude for out-of-kind mitigation. For the purposes of applying mitigation requirements, the definition of vernal pool wetland habitat includes vernal pools and depressional areas within vernal swales, ephemeral drainages, and other seasonal wetlands.

Wetland area take is calculated for all wetland area that falls in either the direct or indirect impact zone of a project. Direct and indirect zones are as defined for land-cover: direct impact is the project graded area; indirect impact is adjacent or included land left undisturbed, but less than a set size threshold. Appendix P, Project-specific Take and Mitigation Assessment Example provides examples applying take and mitigation criteria to projects that impact wetted area and the stream zone.

Wetland area in both Valley and Foothills is subject to the same mitigation ratios, as listed in Table 6-3. Preservation and restoration will meet standards description in Chapter 5.

Table 6-3. Mitigation Ratios for Impacts to Wetlands: Valley and Foothills.

	Preservation Ratio	Restoration Ratio	Mitigation Community Type
Vernal Pool (1)	1:1	1.25:1	Preservation: All vernal pool Restoration: 0.75 minimum vernal pool up to 0.50 may be any wetland
Open Water	1:1	1.25:1	Open-water or Any wetland type
Fresh emergent wetland	1:1	1.25:1	Any wetland (2)
Other seasonal wetland Spring and seep	1:1	1.25:1	Any wetland

1) Vernal pools include seasonal depressional wetland.
2) California Black rail habitat must be mitigated in-kind where it occurs.

6.5.3 Community Condition 3. Site-specific Avoidance, Minimization, and Mitigation for Natural Communities

The conservation strategy outlined in Chapter 5 provides programmatic, landscape-level conservation of natural communities occurring in the RAA and Stream System. Certain natural communities have requirements in addition to the general requirements that apply to land conversion. These natural communities are relatively rare in the Plan area and/or have particular ecological value or serve as habitat for covered species. Additional avoidance and minimization requirements apply to the following natural communities within the Plan area

- Vernal pools;
- Other wetlands;
- Riverine and riparian areas;
- Valley oak woodlands and individual oak trees; and
- Oak woodlands and individual oak trees.

Some components of Site-specific Avoidance, Minimization, and Mitigation for Natural Communities apply only to the portion of the Plan area designated as RAA or stream system and other components apply only in the area designated as PFG.

Several conditions to minimize impacts to covered species (see Section 6.12, Conditions to Minimize Impacts on Covered Species) will apply to activities in the PFG.

Community Condition 3.1. Stream and Riparian Setbacks

The PCCP addresses stream and riparian buffer setbacks through the CARP (see General Condition 3, Stream System Avoidance, below). These requirements apply everywhere in the Plan area.

Community Condition 3.2. Vernal Pool, Wetland and Pond Avoidance and Minimization

Under the PCCP, impacts to vernal pools, ponds, and other wetland types and their associated species are anticipated and will occur primarily in the PFG. Avoidance of a valuable resource such as vernal pools must be placed in context of how the pools depend on upland areas as a source of water, pollinators, to buffer

against disturbance, and to provide other ecological functions. Thus, vernal pool grassland complex areas smaller than 200 acres enclosed and encroached upon by urban land use are considered to have diminished value and reduced long term capability of retaining species diversity and supporting sustainable populations of dependent species.

In keeping with the guiding principles of the conservation strategy, the PCCP does not propose to create small, isolated wetland mitigation sites. Rather, the intent of the Plan is to concentrate mitigation for lost off-stream aquatic features in areas away from urban development and within large reserves that are linked to existing protected areas (in-stream aquatic resources will be preserved and enhanced on-site). Larger reserves will be more effective for protecting, enhancing, and restoring wetlands.

Under limited circumstances, high quality wetland sites in the PFG (e.g., vernal pools occupied by Conservancy fairy shrimp or sites that support other extremely rare occurrences of covered species) may be credited as avoided at the discretion of the PCA, with approval from the Wildlife Agencies. If the Wildlife Agencies do not respond to a written request from the PCA to evaluate project-specific avoidance within 30 days of receipt of the written request, the avoidance will be considered approved by the Wildlife Agencies.

Covered projects that retain avoided wetlands on site must comply with the following conditions to receive credit for avoidance:

- Any project not covered by the CARP which requires a permit from the Corps, Regional Board, or CDFG for impacts on wetlands and other aquatic areas may be subject to avoidance and minimization requirements. Those requirements may differ from the avoidance and minimization requirements in this Plan.
- Applicants with streams on-site must follow the stream setback requirements in General Condition 3, Stream System Avoidance.
- Adhere to the requirements and guidelines in General Condition 2, Maintain Hydrological Conditions and Protect Water Quality, to minimize the effects of development on downstream hydrology, streams, and wetlands.
- If the wetland or pond will be retained on-site because the aquatic resource is of high quality or adjacent to an existing reserve, the RAA, or stream zone, appropriate buffer zones will be established between the aquatic resource and development. Required setbacks for streams are described in General Condition 3.

- All wetlands and ponds to be avoided by covered activities will be temporarily staked in the field by a qualified biologist to ensure that construction equipment and personnel avoid these features.
- Fencing will be erected between the outer edge of the zone of indirect impact and the project area. The type of fencing will match the activity and impact types. For example, projects that have the potential to cause erosion will require erosion control barriers, and projects that may bring more household pets to a site will be fenced to exclude pets. The temporal requirements for fencing also depend on the activity and impact type. For example, fencing to minimize permanent impacts will be permanent, and fencing to minimize short-term impacts will be removed after the activity is completed. Permanent fencing should be installed after grading or other construction activities in the area have been completed.

Note, however, that not all avoidance can be credited for on-site mitigation. In order for avoided vernal pool land to be considered as on-site mitigation for take, it must

- Meet the above avoidance criteria;
- Meet PCA requirements for incorporation in a reserve as described in Chapter 8;
- Contribute to meeting the goals and objectives of the Plan as described in Chapter 5; and
- Be offered to the PCA for acquisition ("willing seller").

If a project cannot avoid impacts, in addition to mitigating for take of wetted area and terrestrial area, mitigation fees will include payment for the collection, drying, and storage of seeds, cysts, eggs, spores, and similar inocula for take of seasonal depressional wetlands. The amount collected will be at the discretion of the PCA. Collection must when the vernal pool is dry (typically June 15 to October 15), and before or concurrent with impacts to areas within the vernal pool setbacks occur (see Chapter 5.3.3, Grassland and Vernal Pool Complex Conservation and Management, for more details).

Projects that impact wetlands must also adhere to the following Species Conditions to minimize impacts on certain covered species that occur in wetlands:

- Species Condition 5. California Black Rail.
- Species Condition 8. Tricolored Blackbird.
- Species Condition 9. Giant Garter Snake.

- Species Condition 11. Western Spadefoot Toad.
- Species Condition 12. California Red-legged frog.

Community Condition 3.3. Valley Oak Woodland and Individual Oak Tree Avoidance, Minimization, and Mitigation

Valley oak woodland was once extensive along the edge of the Sacramento Valley but it is now found in limited locations. Because of its rarity, valley oak woodland is afforded a high degree of protection under the PCCP. This Community Condition addresses remaining valley oak woodlands and individual oak trees (i.e., valley oak and all other native oak trees).

Avoidance and mitigation requirements differ between valley oak woodland and individual oak trees (including valley oaks). Take of valley oak woodland will be mitigated by preserving and restoring valley oak woodland land-cover at a ratio of three acres of valley oak woodland preserved to one acre impacted (see Section 6.5.1 for methods to assess impacts and mitigation requirements). Two-thirds of mitigation can be in the form of restoration of valley oak woodland, with the remaining third as preservation. Impacts to individual oak trees will be mitigated through replacement of individual trees (see below).

All covered activities will implement the following actions to avoid or minimize impacts on valley oak woodland.

Valley Oak Woodland

Valley oak woodland is defined as a clump of valley oaks greater than one acre (measured from the outer canopy) in size, where tree canopy is greater than 10 percent/acre, and valley oaks comprise more than 50 percent of the tree canopy. Because valley oak woodlands are rare, impacts should be avoided or minimized, where feasible. Therefore, any valley oak woodland greater than five acres (plus buffer, described below) can be credited as avoided if the project does not:

- Modify any area within the outer edge of a buffer that extends 50 feet outward from the outermost bounds of the valley oak woodland; and
- Irrigate in and around valley oak woodland or otherwise alter the hydrology of the site, including location of septic leach fields, such that valley oak woodland receives more water than under pre-project conditions.

If a project can avoid impacts to valley oak woodland, no additional conditions related to valley oak woodland are necessary.

Not all avoidance can be credited for on-site mitigation. In order for avoided valley oak woodland to be considered as on-site mitigation for take, it must

- Meet the above avoidance criteria;
- Meet PCA requirements for incorporation in a reserve as described in Chapter 8;
- Contribute to meeting the goals and objectives of the Plan as described in Chapter 5; and
- Be offered to the PCA for acquisition ("willing seller").

If a project cannot completely avoid impacts to valley oak woodland, then the project must provide for mitigation as described above in Section 6.5.1, Community Condition 1. Mitigation Ratios for Land Conversion.

Individual Oak Trees

Projects that are not assessed for take of oak woodland, but impact individual oak trees (of species native to the Plan area), must adhere to this condition.

Although individual oak trees may not perform ecological functions at the landscape-scale, they are nonetheless still important elements of the natural and urban landscapes and provide nesting sites, cover, and food for birds and other species. Projects that impact individual native oak trees on less than an acre will be subject to the County Tree Preservation Ordinance (as opposed to projects that impact more than one acre of oak woodland or valley oak woodland, which will be subject to the land conversion requirements described in Section 6.5.1).

Project applicants will be required to implement measures that will protect remaining oaks on a project site. These measures will include provisions for protecting trees and their environments from both short-term, construction-related impacts as well as long-term effects.

The oak root protection zone is defined as a distance extending from the trunk of the tree out to 1.5 times the distance to the edge of an oak's outermost branches, or to the edge of the roots (whichever is greater) and extending to a depth of three feet below the ground level. This zone definition is applicable to oaks of all sizes, even saplings.

Avoidance: In order for a project to avoid impacts, the project must not

- Change the hydrology within any oak root protection zone. This means not increasing or decreasing the amount of water

that reaches the root protection zone, nor the timing of when water reaches the root protection zone;

- Create ground disturbance within any oak root protection zone. Because root protection zones extend to three feet below the ground, utility installation via boring must occur more than three feet below ground level;
- Prune the branches of any oak trees to an extent that could damage the tree;
- Install impervious paths or roadways within any oak root protection zone; or
- Remove any oak trees.

If a project cannot completely avoid impacts described above, then the project must mitigate for impacts to individual trees greater than five inches diameter at breast height (dbh). Trees will be replaced inch for inch or in payment of $100/inch to replace the number of inches lost.

Mitigation for impacts to individual oak trees may occur at the above specified replacement ratio through an in-lieu fee payment to have the PCA plant and maintain the appropriate amount of replacement trees on an ecologically appropriate site on a PCCP reserve. The suitability of on-site replacement will be determined by the Permittees. On-site compensatory replacement will be prohibited because frequently, on-site replacement trees are not adequately maintained. The PCA will plant replacement trees as part of oak woodland restoration projects on the Reserve System.

Impacts to individual oak trees or significant oak trees (discussed below) that also support a Swainson's hawk nest , as identified in on-site biological assessment, in the California Natural Diversity Database, or PCA database, must adhere to Species Condition 3. If the inactive Swainson's hawk nest tree is a native oak and it is removed, the tree replacement mitigation requirements specified in Species Condition 3 apply instead of the individual or significant oak tree replacement mitigation requirements specified in this condition.

Significant Oak Trees

Significant oak trees are defined as native oak trees greater than 24 inches dbh, or with clumps of stems greater than 72 inches in diameter, measured at ground level. Smaller trees may be classified as significant oak trees by the County or City if they are deemed to have special value due to their aesthetic qualities, wildlife value, or ecological functions such as soil stabilization.

To the degree possible, significant oak trees identified within the development footprint shall be preserved and impacts avoided. To avoid impacts to significant oak trees, the project must not

- Change the hydrology within any oak root protection zone (root protection zone as defined above). This means not increasing or decreasing the amount of water that reaches the root protection zone, nor the timing of when water reaches the root protection zone;
- Create ground disturbance within any oak root protection zone. Because root protection zones extend to three feet below the ground, utility installation via boring must occur more than three feet below ground level;
- Prune the branches of any oak trees to an extent that could damage the tree;
- Install impervious paths or roadways within any oak root protection zone; or
- Remove any oak trees.

Projects that impact significant oak trees must mitigate for impacts by replacing the significant oak tree inch for inch or in payment of $100/inch to replace the number of inches lost. This payment is in addition to mitigation for conversion of oak or valley oak woodland land-cover as described in Section 6.5.1. For example, if a covered project takes two acres of valley oak woodland, and those two acres include five significant valley oak trees, the project proponent will mitigate for take of the two acres plus the five significant trees. The project proponent will not be charged to mitigate for impacts to significant trees if he/she avoids impacts as described above.

Mitigation for impacts to significant oak trees may occur at the above specified replacement ratio on-site. On-site replacement will only be considered viable when function and value can be replaced, as approved by a professional biologist and/or forester and managed in perpetuity. The suitability of on-site replacement will be determined by the Permittees. Because on-site replacement is typically not a viable option, an in-lieu fee payment will be made to the PCA to have the PCA plant and maintain the appropriate amount of replacement trees on an ecologically appropriate site on a PCCP reserve. Replacement trees must be maintained and irrigated for three years after planting. Any trees that do not survive the initial three years must be replaced and maintained and irrigated for three years. The PCA will plant replacement trees as part of oak woodland restoration projects on the Reserve System.

6.6 General Conditions on Covered Activities

The conditions below are categorized and described in several ways: by activity type, by natural community, and by species. Collectively they provide regional and site-specific avoidance and minimization of impacts on covered species and sensitive land-cover types. It is the responsibility of the project proponents to design and implement their projects in compliance with these conditions.

Conditions on covered activities, including BMPs identified for certain covered activities, may be revised over the course of the permit term based on results of implementation through the adaptive management process. Allowing such revisions will ensure that out-of-date or unsuccessful management techniques do not persist and that best available science can be incorporated into the conditions as appropriate for the Plan. This is especially true for stormwater management BMPs, as new regulatory requirements are currently being considered.

Chapter 2 describes six general categories of covered activities; urban development, in-stream projects, capital projects, operations and maintenance, rural development, and Conservation Strategy Implementation and other Placer County Conservation Programs. General Conditions 1–12 pertain to these six categories of covered activities. In general, each condition identifies and addresses a certain type of impact from a covered activity and then specifies requirements to minimize and/or avoid these impacts.

6.6.1 Urban Development

There are two Conditions on new urban development. These conditions focus on two general situations; developing within the urban fringe and minimizing impacts of urban/suburban development on hydrological conditions and water quality.

6.6.2 General Condition 1. Reserve Acquisition Area (RAA) Interface Design Requirements

Urban and suburban development has the potential to directly or indirectly adversely affect covered species and natural communities within adjacent reserves. Although the PCCP reserves are required to provide internal buffers to protect

adjacent development from reserve management activities and other effects (see Section 5.3.1, Land Acquisition and Restoration Actions, Buffer Zones within the Reserve System), adjacent urban/suburban development could have impacts on reserves that extend beyond reserve buffers. The purpose of this condition is to provide additional measures to minimize impacts to covered species and natural communities from neighboring urban/suburban development. Sources of such adverse effects may include vandalism, dumping of trash, trampling, unauthorized mountain bike or off-road vehicle use; runoff from adjacent streets and landscaped areas containing lawn fertilizer, pesticides, and vehicle waste (petroleum byproducts); introduction of invasive nonnative species; lights and noise from nearby development; unregulated movement of domestic animals; and a lack of barriers to covered species entering hazardous developed or heavily used areas.

This condition applies to future development adjacent to existing PCCP reserves, future development within the Reserve Acquisition Area that is adjacent to non-developed land, and to future urban/suburban development at the boundary of the RAA and Potential Future Growth area, where future urban/suburban development could occur adjacent to future reserves. Furthermore, some reserves may be acquired within the PFG area; therefore, this condition also applies to future urban/suburban development that occurs adjacent to a PCCP reserve in the PFG

Beyond minimizing direct and immediate impacts, the design of the urban/suburban – RAA/reserve interface will consider indirect and long-term effects, such as runoff from developed areas that can transport harmful substances (e.g., pesticides, automotive fluids, sediment) into reserves; changes to hydrological conditions; establishment of invasive nonnative species that can disperse from nearby landscaped areas; and structural and biological damage (e.g., soil compaction, creation of unauthorized trails, disturbance of sensitive species) that can result from unmanaged human access and use.

Design Requirements

New urban/suburban development that occurs adjacent to PCCP reserves and in or adjacent to the RAA (see Chapter 5, Section 5.2.3, Reserve System) will incorporate design requirements to minimize the indirect impacts of development adjacent to existing or potential future reserves. The relevant jurisdiction (City or County) will determine which development projects are subject to this condition, as well as which components may be required for a particular development. The PCA will provide technical assistance when needed. Design requirements to be incorporated

in new development at the urban/suburban – RAA/reserve interface, if appropriate and at the project proponent's expense, include but are not limited to those listed below.

- Where new development occurs, roads will be placed on the interior of the development (i.e., away from the reserve boundary) to reduce the incidence of domestic pets entering the reserves, minimize potential wildlife-vehicle collisions, and limit the amount of urban runoff from roads into reserve areas (independent of other BMP treatments).
- Fencing will be used to prevent illegal access by people and pets from properties adjacent to PCCP reserves and the RAA boundary will have fences and the RAA boundary will have fences. Fences will be suitable to the conditions in the adjacent reserve. The type of fence will be at the discretion of the County or City, as permitted by County and City codes. Fences will not have gates and will be designed to minimize the likelihood of pets escaping private yards and entering reserves.
- Natural or artificial barriers or other access restrictions may be installed around development to protect sensitive land-cover types and covered species in the reserves. Barriers will be designed so they are appropriate for site conditions and the resources being protected. Some barriers should keep undesirable pets outside of the reserve, other barriers should keep covered species inside the reserve, while others should do both. Before installation of a barrier, consideration should be given to freedom of movement by covered species. If the barrier would prevent movement critical for a species' life cycle, or if the barrier would encourage species to use other less favorable crossings, alternative solutions should be considered.
- Roads constructed adjacent to reserves will be fenced to prevent unauthorized public access. Locked gates will be inspected regularly to identify any unauthorized locks. The PCA will have the discretion to determine which type of fence is appropriate (e.g. chain link vs. post and cable to allow movement of wildlife between reserves).
- Development will be designed to minimize the length of the shared boundary between development and the reserves (i.e., minimize the urban edge).
- Conservation subdivision standards, as described in General Condition 8, Rural Development Design and Construction Requirements, may be employed for rural subdivisions greater than 20 acres.
- Use of high-intensity lighting near reserves will be avoided. Low-glare, no-glare, or shielded lighting will be installed in

developed areas adjacent to reserves to minimize artificial lighting of reserve lands at night. The height and intensity of lights should be kept to a minimum. If necessary, high-intensity lighting will be placed as low to the ground as possible and directed away from the reserves to minimize long-distance glare.

- Public facilities such as ballparks and fields that require high-intensity night lighting (i.e., floodlights) will be sited at least 0.5 mile from the reserve boundary to minimize light pollution. Facilities may be sited closer to the RAA if the project proponent can demonstrate to the PCA that the lighting system will not be intrusive to wildlife within the RAA (e.g., hills block the lighting).
- For any landscaping, non-invasive plants will be required and use of native plants is recommended.

Any design requirements incorporated into projects at the urban/suburban – RAA/reserve interface will be located within the development (i.e., not on the PCCP reserve) with the exception of the reserve buffer zones discussed in Chapter 5, Section 5.3.1. These features will be maintained by the property owners. The PCA will monitor compliance with these conditions along the RAA/PFG boundary and the boundary between reserves and urban/suburban development. Violations will be reported to the applicable local jurisdiction for potential enforcement.

Although they may not be under an obligation or requirement, existing developments located adjacent to reserves or the RAA are encouraged to adopt and implement as many of these design requirements as practicable. Local jurisdictions are encouraged to notify and involve the PCA during the development review process for large projects planned at the boundary of existing reserves or at the RAA – PFG interface.

In addition to the requirements identified above, several other requirements and BMPs are identified in other conditions that are associated with urban/suburban development adjacent to or within the RAA and stream zone. Project proponents will comply with the following conditions as appropriate.

- General Condition 2. Maintain Hydrological Conditions and Protect Water Quality.
- General Condition 3. Stream Systems Avoidance.
- General Condition 8. Rural Development Design and Construction Requirements.
- Condition 12. Fuel Buffer.

6.6.3 General Condition 2. Maintain Hydrological Conditions and Protect Water Quality

This condition applies to all residential, commercial, industrial, institutional, and public projects that could have adverse impacts on watershed health through changes in hydrology and water quality.

New development in the Plan area can alter watershed hydrology and introduce new pollution sources that may affect water quality in local streams. Alterations to watershed hydrology can occur by increasing impervious surfaces and reducing the capacity of remaining pervious surfaces to capture and infiltrate rainfall, resulting in increased surface flow and peak discharge rates to local streams during storm events. Resultant increases in peak streamflow have the potential to erode stream banks, damage streamside vegetation, and widen or incise stream channels. Water quality in receiving water bodies may be degraded by pollution from urban or urbanizing areas. Surface runoff can transport sediment from construction; oil, grease, and toxic chemicals from roads; nutrients and pesticides from turf management and gardening; viruses and bacteria from failing septic systems; road salts; and heavy metals into local streams. Increased flows may also cause increased sediment load from sloughing or undercut banks. Increases in impervious surfaces in upper watersheds may have greater impacts than do increases in impervious surfaces in lower watersheds, as upstream runoff must travel the extent of the watershed before ultimately draining to a terminal receiving water body. These changes in watershed hydrology and new pollution sources degrade habitat quality of aquatic resources and adversely affect the ability of covered species to migrate, breed, and develop.

To minimize impacts to watersheds and water bodies due to development, the State Water Resources Control Board and the nine Regional Boards require that municipalities develop stormwater management plans to reduce such potential impacts. Currently, Placer County and the City of Lincoln have stormwater management plans and/or programs that regulate new development and redevelopment as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) Permit requirements. Permittees shall comply with applicable NPDES permits and/or adopted plan as a condition on covered activities.

Stormwater Management Plans

West Placer County Stormwater Management Plan

The West Placer County Stormwater Management Plan was prepared to comply with the NPDES Stormwater Phase II Stormwater Management Plan (SWMP) regulations. The SWMP describes a comprehensive program to reduce pollution in stormwater runoff in portions of western Placer County. The Placer County program is designed to comply with the Clean Water Act and meet federal and State NPDES stormwater regulations for small municipal storm sewer systems.

Under the SWMP, the County will endeavor to reduce the amount of pollutants reaching its waterways from human activities by implementing the six minimum control measures required in the federal law. These are:

- Public education and outreach on stormwater impacts;
- Public involvement and participation;
- Detection and elimination of illicit discharge;
- Control of stormwater runoff from construction sites;
- Post-construction stormwater management in new development and redevelopment; and
- Pollution prevention and good housekeeping for municipal operations.

In addition to the six minimum control measures required by federal law, the State general permit imposes discharge prohibitions, effluent limitations, receiving water limitations, new development design standards, and additional evaluation and reporting requirements.

City of Lincoln Stormwater Management Program

The City of Lincoln Stormwater Management Program was prepared to comply with the NPDES Stormwater Phase II Stormwater Management Plan (SWMP) regulations. Per the requirements of the General Permit, the City's SWMP describes how pollutants in stormwater runoff will be controlled and specifies BMP's that address the six Minimum Control Measures (listed above). Each BMP must have accompanying measurable goals that will be achieved during the five year permit term as a means of determining program compliance and accomplishments, and as an indicator of potential program effectiveness.

State Water Board Permit for Construction Activities

The State Water Resources Control Board (State Water Board) is in the process of updating the requirements of the NPDES General Permit for Stormwater Discharges associated with

construction and land disturbance activities. While regional and local regulations may be more stringent, all Permittees must be in compliance with both their regional and local regulations (discussed above) as well as those regulations of the State Water Board NPDES permit. One change to the permit is the requirement that all dischargers "maintain pre-development hydrologic characteristics" (State Water Resources Control Board 2008). Many of the new requirements are already reflected in the Placer County Stormwater Quality Program and associated stormwater management plans. The BMPs identified in this Condition support future State Water Board requirements for maintaining pre-project runoff levels, as well as the requirements of the stormwater management plans discussed above.

Low Impact Development Standards

Placer County and the City of Lincoln will implement applicable Low Impact Development (LID) standards through the creation of a LID ordinance. LID is an innovative stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

LID builds on conventional design strategies by exploiting every surface in the infrastructure - natural and hardscape - to perform a beneficial hydrologic function. The surfaces are used to retain, detain, store, change the timing of, or filter runoff in a number of different configurations and combinations. The goals and objectives of the LID ordinance will include:

- Reduce imperviousness by using permeable paving or landscaping to break up expanses of impervious surfaces.
- Direct runoff into or across vegetated areas to help filter runoff and encourage groundwater recharge.
- Preserve, or design into the infrastructure, naturally vegetated areas that are in close proximity to parking areas, buildings, and other impervious expanses in order to slow runoff, filter out pollutants, and facilitate infiltration.
- Reduce street widths.
- Remove curbs and gutters from streets, parking areas, and parking islands to allow storm water sheet flow into vegetated areas.
- Use devices such as bio-retention cells, vegetated swales, infiltration trenches, and dry wells to increase storage volume and facilitate infiltration.

- Grade to encourage sheet flow and lengthen flow paths to increase the runoff travel time to minimize impacts on peak flow rates.
- Disconnect impervious areas from the storm drain network and maintain natural drainage divides to keep flow paths dispersed.
- Disconnect roof downspouts from storm drains and direct storm water into vegetated areas or into water collection devices.
- Install cisterns or sub-surface retention facilities to capture rainwater for irrigation or other non-potable uses.
- Use native plants (or adaptable species) to establish a low maintenance landscape that requires less irrigation and that is appropriate for the climatic conditions.
- Use naturally occurring bio-chemical processes through plantings in tree box filters, swales and planter boxes.

Site Design, Source Control Measures, and BMPs

Through the stormwater management plans and LID ordinances described above, the Permittees will have identified a set of programmatic BMPs, performance standards, and control measures to minimize increases of peak discharge of stormwater and to reduce runoff of pollutants to protect water quality during and after project construction. Many of these BMPs will support the biological goals and objectives of the PCCP. Implementation of these BMPs will reduce the potential for adverse impacts on covered aquatic species and wetlands. The site design requirements, source control measures, and BMPs provide impact avoidance and minimization measures (Table 6-3; *in development*) designed to support the following goals.

- Minimize the potential impacts on covered species most likely to be affected by changes in hydrology and water quality.
- Reduce stream pollution by removing pollutants from surface runoff before it reaches local streams.
- Minimize degradation of streams and maintain or improve the pre-development hydrograph to maintain populations of covered species and enhance recovery.
- Reduce the potential for scour at stormwater inlets to streams by controlling the rate of flow into the streams.

To support the above goals, implementation of the conditions identified in Table 6-3 will be required as part of this condition. These requirements include preconstruction, construction site, and post construction actions. Preconstruction conditions are site design planning approaches that protect water quality by

preventing and reducing the adverse impacts of stormwater pollutants and increases in peak runoff rate and volume. They include hydrologic source control measures that focus on the protection of natural resources and the reduction of impervious surfaces. Construction site conditions include source and treatment control measures to prevent pollutants from leaving the construction site and minimizing site erosion and local stream sedimentation during construction. Post construction conditions include measures for municipal operations, stormwater treatment, and flow control.

California Green Building Standards Code

Placer County and the City of Lincoln will implement the applicable California Green Building Standards for storm water drainage and retention. The 2010 California Green Building Standards Code is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California beginning on January 1, 2011. The code is Part 11 of the California Building Standards Code in Title 24 of the California Code of Regulations and is also known as the CALGreen Code. In short, the code is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction.

6.7 In-Stream Projects

In-stream projects—such as flood protection projects, construction of new bridges and repair or rehabilitation of existing bridges, water supply capital projects, and other development may affect wildlife, aquatic species, and habitats by discharging sediment, disturbing earth and riparian vegetation, and altering hydrologic and hydraulic characteristics of water bodies. General Conditions 3 through 5 are designed to address such impacts.

6.7.1 General Condition 3. Stream System Avoidance

Note: CARP is still in development.

The primary purpose of this condition is to insure that in-stream projects are designed and implemented in such a way as to avoid the stream system. The term stream system is defined for the purposes of this Plan as an area along a stream extending to the outer boundary of the FEMA 100-year floodplain or the setback specified in Table 6-4 (ranging from 100-600 feet), whichever is greater (see Figure 6-1, 6-2 and 6-3). The stream system contains the stream zone.

The stream system encompasses all riverine and valley foothill riparian mapped cover (i.e., riverine and riparian forest community) immediately adjacent to a stream. (See Figure 3-3 for mapped land-cover types.) For projects where stream system impacts are unavoidable, projects must be designed to minimize adverse impacts on stream morphology, aquatic and riparian habitat, and flow as described below in General Condition 4, Stream System Impact Minimization.

The Placer County Aquatic Resource Program (CARP; Appendix M) is a multidisciplinary approach for identifying, classifying, ranking, and protecting the aquatic resources of western Placer County. The CARP is an integral part of the PCCP. (see Chapter 1 for additional details). This condition and General Condition 4 comprise elements of the CARP.

The CARP will provide a process through which Placer County can authorize projects under Section 404 of the CWA for projects impacting 10.0 acres or less of waters of Placer County. The County and the City will develop an ordinance to implement the CARP for covered activities in the stream system. This condition applies CARP avoidance measures to minimize impacts to resources in the stream system (e.g., riverine and riparian habitats, covered species) by designating stream setbacks.

The management of stream corridors and associated riparian habitat through the implementation of setbacks has become an increasingly important tool for conserving populations of aquatic species and riparian vegetation, and improving water quality. Riparian buffers of sufficient width to protect and improve water quality are widely recognized for their ability to perform a variety of physical and biological functions. Riparian buffers also provide habitat for a large variety of plant and animal species. They play an important role providing corridors for wildlife, and help mitigate fragmentation by increasing connectivity of isolated habitat patches, thus conserving biodiversity.

This condition requires applicants to avoid and protect jurisdictional waters if they occur within stream setbacks measuring from 100-600 feet outward from the centerline of the stream (i.e., the total width of the setback would range from 200 to 1,200 feet minus the width of the stream channel), or the width of the 100-year FEMA floodplain boundary, whichever is greater (see Table 6-4 for setbacks for specific streams). Corridors are measured from setback edge to setback edge (i.e. a 300-foot setback is equal to a 600- foot corridor around the centerline of a stream).

Together, the stream setbacks and LID ordinance and BMPs specified in General Condition 2, Maintain Hydrological

Conditions and Protected Water Quality will minimize adverse impacts from the introduction of new impervious surfaces, installation of storm drains, construction of wastewater treatment facilities and transportation infrastructure, landscaping, and other human activities.

Project Coverage

This condition applies to all projects that are covered activities that are subject to the CARP. The CARP stream system setback will protect streams adjacent to new projects throughout the Plan area. Existing uses and activities within the stream system setback are not subject to modification or retrofit unless an application is filed for a discretionary project or a building permit is required for modifications to existing structures that impact resources within the stream zone setback.

Stream Setback Categories

The primary categories for stream setbacks were developed based on quality of habitat for covered fish, size of the floodplain, and adjacent slope within the parcel. Table 6-4 includes all of the named streams in western Placer County. These streams are divided into three watershed categories: Priority 1, Priority 2, or Priority 3. In general, the resources listed below will be avoided according to the stream setbacks listed in Table 6-4.

- Priority 1 watersheds include those major streams and associated tributaries which support the greatest potential for sustaining east/west wildlife movement, provide essential habitat for salmon/steelhead, and have the greatest potential for contiguous incorporation into the PCCP Reserve Acquisition Area.
- Priority 2 watersheds include streams and associated tributaries that support essential habitat for salmon/steelhead and provide valuable wildlife habitat; however, not to the extent of Priority 1 streams.
- Priority 3 watersheds include the remaining streams and tributaries in the Plan area.

Unnamed tributaries, intermittent streams, ephemeral streams, and swales are not categorized in Table 6-4 because it is difficult to determine specific avoidance measures for these features in the absence of site-specific data. Avoidance with setbacks of 50 feet or less, low impact development strategies (LIDS), and realignment or relocation may be used to minimize and avoid impacts to these resources.

In addition to the stream systems listed in Table 6-4, the following aquatic resources will be protected by setbacks when these

features occur within stream setbacks or when implementation of a specified setback connects the aquatic resource to a stream setback system.

- Flowing springs: 100 foot setback measured from the center line (200 feet corridor), when swales have surface or shallow subsurface hydrologic connectivity to a stream or wetland adjacent to a stream.
- Long-duration seeps: 100 foot setback measured from the center line (200 feet corridor).
- In-Stream Ponds: The setback will equal the setback applied to the stream class in which the pond occurs.
- Placer Mining Tailings Wetlands and Riparian Vegetation: These areas may occur some distance from a stream channel. They are characterized by a fairly dense canopy of cottonwoods and willows, and they provide habitat values substantially different from the surrounding habitats. These areas can be delineated by mapping the cottonwood and willow canopy, and will have 100 foot upland setbacks and 200 foot upland corridors.

Exemptions

No setbacks are applied to irrigation ditches, underground stream reaches, or on drainages and swales that have neither defined bed and bank nor evidence of scour or sediment transport. The PCWA canals are addressed in General Condition 5, Placer County Water Agency Operations and maintenance. Exemptions from the stream setback would include the following:

- Any activity not subject to the Plan or its conditions including those projects and activities listed as not covered by the PCCP in Section 2.4.
- Covered activities that require work within or adjacent to streams such as bridges, levee maintenance and repair, flood protection projects, stream maintenance, outfalls, flood-protection capital projects, and any emergency actions that occur near streams.
- Recreational trails (see General Condition 9, Prepare and Implement Recreation Plans for details on trails).
- New installation or replacement of utilities that result in no new significant permanent disturbance to the riparian corridor during construction and operation and generate only incidental human activity with temporary loss of habitat.

- Construction and maintenance of access roads providing access to streams or levees for managing facilities and infrastructure.
- Stream crossings essential for access to a parcel or facility (i.e., crossing the stream is the only available means to access the parcel).

These activities must still adhere to General Condition 2, Maintain Hydrological Condition and Protect Water Quality, and General Condition 4, Stream System Impact Minimization, where applicable. These setback exemptions are associated with covered activities that are subject to mitigation.

Exception Provisions

Stream setback policies that apply to a large number of parcels with varying characteristics require a clear and practical set of setback exceptions. The term exception means an allowance for reductions in mandated setback distances necessary to allow reasonable use and development of a property based on the variety of constraints and factors that may affect the property. Exceptions are intended to be used in a minority of cases where special circumstances apply that limit or restrict the ability of a landowner to fully apply the stream setback. For example, flood hazards, unusual lot size or configurations, unusual slope, or grading and access issues may present site constraints that require exceptions to the stream setback condition in order to allow reasonable development of a site consistent with local land use regulations. Exceptions will be considered based on the following factors, including, but not limited to:

- The existence of legal uses of land within the setback;
- The extent to which meeting the required setback would result in a demonstrable hardship for the applicant/property owner; and
- The extent to which meeting the required setback would require deviation from, exceptions to, or variances with other established policies or standards regarding allowable grading, access, water supply, wastewater treatment and disposal systems, zoning, or other established code standards.

A proposal for an exception may be requested through the standard application process addressed either within the context of another land use or development application or through a distinct application or request process. Applicants must apply for a stream setback exception through their local jurisdiction. All applications for stream setback exceptions must be reviewed and

approved by the local jurisdiction. For projects implemented by a local jurisdiction, exception requests must be made to the PCA.

The PCA has review and appeal authority for all exceptions to ensure that these exceptions are applied consistently across jurisdictions and to ensure that the biological goals and objectives of the Plan as a whole are not compromised. As part of the review process, the local jurisdiction and the PCA must consider the implications of a reduced setback on the stream system and habitat, progress toward the biological goals and objectives of the Plan, and potential effects on other properties. The local jurisdiction and the PCA must make written findings that document these considerations and the rationale for the stream setback exception.

The local jurisdiction or the PCA may require technical reports from qualified professionals or consultants to support the application or request. For example, for any significant proposed reduction, a report by a qualified biologist, stream hydrologist, registered engineer, or other professional may be required as a basis for making necessary findings.

The findings required to approve the stream setback exception must be supported by factual information and judgments in the record that will include, but may not necessarily be limited to, the following:

- The stream setback exception is necessary to alleviate substantial hardship and impracticalities inherent in addressing the physical characteristics of the lot, taking into account size, shape, location and other physical development constraints.
- The stream setback relates directly to the extent of the hardship or restriction imposed and that the exception would allow reasonable use and development of the lot, including additions or modifications to existing legal buildings and uses.
- The stream setback exception does not preclude achieving the biological goals and objectives of the Plan, or conflict with other applicable requirements of the Plan and local policies.

As with any discretionary action, especially those intended to provide relief from a setback or other requirement when warranted, there must be provision for appeal of a decision in accordance with the standard appeal authorities and processes outlined by each jurisdiction (e.g., for Placer County – exceptions would be considered by a Zoning Administrator with an appeals process through the Planning Commission and Board of Supervisors). Applicable fees may be imposed by the legislative

body for processing such appeals, as well as for the original exception requests.

Prior to granting the exception, the local jurisdiction will provide the exception request and proposed decision to both the PCA and the Resource Agencies for review. The PCA and Resource Agencies will have 30 days to review the request and provide a written response. If a written response is not received within 30 days, the local jurisdiction may grant the exception.

The PCA will compile a list of all exceptions granted each calendar year for inclusion in the annual report to the Resource Agencies.

If a project cannot avoid modifying an area within the setback distance of a stream system or riparian area, then the project must meet the mitigation requirements specified in Community Condition 1, Mitigation Ratios for Land Conversion and Community Condition 2, Mitigation Ratios for Wetland Area, and comply with the following general conditions: General Condition 2, Maintain Hydrological Conditions and Protect Water Quality, General Condition 4 Stream System Impact Minimization, Community Condition 3.2, Wetland and Pond Avoidance and Minimization, and Community Condition 3.3, Vernal Pool and Vernal Pool Grassland Avoidance and Minimization, when applicable.

6.7.2 General Condition 4. Stream System Impact Minimization

Note: CARP is still in development.

Where stream system avoidance is not feasible, all projects that are covered activities shall minimize impacts on stream systems by complying with this Condition. The primary purpose of this condition is to identify mitigation requirements as well as design requirements and construction practices for in-stream projects. The term in-stream (also referred to as the “stream system” in CARP) is defined in General Condition 3 above. All in-stream projects must be designed to minimize adverse impacts on stream morphology, aquatic and riparian habitat, and flow conditions.

All in-stream projects, except PCWA activities, which are addressed in General Condition 5, will be required to comply with the design requirement and construction BMPs in this condition to minimize impacts on covered species, natural communities, and wildlife movement. In general, BMPs address construction staging, dewatering, sediment management, fish passage,

vegetation management, bank protection, drainage, trail construction, and ground disturbance.

The PCA may over time adapt the BMPs (Table 6-5; *in development*) so that they are more appropriate, or beneficial, for implementing a specific covered activity or more beneficial for the covered species. Therefore, the PCA may need to update this list of BMPs over the permit term as appropriate to reflect new science and BMP monitoring results.

In addition to the BMPs in Table 6-5, several design requirements and construction BMPs are identified below. The identified requirements strive to reflect current and forthcoming regulations and guidelines for in-stream project design (e.g., the State Water Board's Wetland and Riparian Area Protection Policy, described below, and NMFS's Guidelines for Salmonid Passage at Stream Crossings).

Types of Projects Subject to Condition

Covered activities that occur in-stream are subject to the design requirements or construction practices because they are expected to result in impacts on creeks or streams. Except for PCWA covered activities which are covered under General Condition 5. Examples include:

- Installation or rehabilitation of flood protection projects and levee reconstruction.
- Operations and maintenance of flood protection facilities (e.g., dams, armored creeks, detention ponds, streams). Activities may include construction of new facilities, vegetation management, minor sediment removal, or bank stabilization.
- Non-routine stream maintenance activities including extensive removal of vegetation in flood control channels.
- Bridge construction and replacement including vehicular, train, and pedestrian bridges throughout the Plan area.
- Development of trails in or through the in-stream area (stream bed, banks, and adjacent riparian land-cover).
- Culvert installation or replacement.
- Restoration projects throughout the Plan area, including removal or modification of fish barriers and creek realignment.
- Facility maintenance such as trail, bridge, road, and culvert repair and/or replacement in in-stream areas (including riparian areas).
- Natural resource protection such as small bank stabilization projects, restoration to reduce erosion, fish passage

enhancements, removal of barriers to fish passage, and removal of debris deposited during flooding.

- Operations and maintenance of water supply facilities (e.g., flashboard dams, inflatable dams, stream gages, and diversions).
- Removal of debris blockages except in emergency situations.
- Mitigation and/or monitoring in creeks or adjacent riparian corridors.
- Vegetation management for exotic species removal and native vegetation plantings.

Design Requirements

Some impacts on stream and riparian land-cover types are expected under the Plan. All covered activities will implement the following measures to avoid or minimize impacts of covered activities on streams and valley foothill riparian land-cover.

- Site characteristics will be evaluated in advance of project design to determine if non-traditional designs, such as bioengineered bank treatments that incorporate live vegetation, can be successfully utilized while meeting the requirements of the project.
- Maintenance of natural stream characteristics, such as riffle-pool sequences, riparian canopy, sinuosity, floodplain connectivity, and a natural channel bed, will be incorporated into the project design to the extent possible and practicable.
- If a culvert is used, up- and downstream ends of the culvert must be appropriately designed so that the stream cannot flow beneath the culvert or create a plunge pool at the downstream end.
- If structural changes to the channel bed are necessary as part of project design, provisions for fish passage will be incorporated into the project design.
- All proposed creek crossings must be sited to avoid or minimize riparian removal.
- Trails will be sited and designed with the smallest footprint necessary to cross through the in-stream area. Trail crossings will be aligned perpendicular to the channel and be designed to avoid any potential for future erosion. Trails that follow stream courses will be sited outside the riparian corridor to the maximum extent feasible.
- All projects will be conducted in conformance with the County and/or City drainage policies.

- If the project requires removal of riparian vegetation, the amount of riparian vegetation removed will be minimized while still meeting the project goals.
- Riparian restoration under the Plan to offset project impacts will be implemented on-site, if possible, to replace the functions of the riparian woodland degraded or lost to the covered activity. Riparian restoration implemented on site will be credited to Plan mitigation requirements if the restoration helps to meet the biological goals and objectives of the Plan.
- Projects that discharge dredged or fill material into waters of the United States must adhere to the requirements of the CARP (Appendix M).
- Adhere to the NMFS Guidelines for Salmonid Passage at Stream Crossings as described in the following section (National Marine Fisheries Service 2001).
- When implementing levee reconstruction covered activities, no baseline shaded riverine aquatic cover will be removed if the shaded riverine aquatic cover was developed for or contributes to past mitigation projects or efforts.
- If levee reconstruction requires the removal of vegetation that provides habitat value to the adjacent stream (e.g., shading, bank stabilization, food sources, etc.), then the project will include replacement of the vegetation/habitat that was removed during reconstruction unless it is determined to be inappropriate to do so by the relevant resource agencies (e.g., Corps, NMFS).
- All trees marked for removal from stream zones (riparian) must be shown on maps included with the application package. Non-riparian native trees greater than five inches in diameter at breast height shall not be removed without the consent of a PCA representative.
- Applicants for projects with streams on site must follow the setback requirements in General Condition 3, Stream System Avoidance.
- Applicants for projects with wetlands or ponds on site must comply with Community Condition 3.2, Vernal Pool, Wetland, and Pond Avoidance and Minimization.
- Applicants for transportation improvements that include stream crossings must comply with General Condition 6, Design and Construction Requirements for Covered Transportation Projects.

Guidelines for Salmonid Passage at Stream Crossings

All covered activities within the stream system will adhere to the NMFS Guidelines for Salmonid Passage at Stream Crossings unless otherwise noted in this chapter. Key guidelines described in Guidelines for Salmonid Passage at Stream Crossings (National Marine Fisheries Service 2001) are described below.

- For stream crossings, the following structure types (listed in descending order of preference) will be considered.
    1. Free-span bridges that fully span the stream and allow for long-term dynamic channel stability.
    2. Streambed simulation approaches including bottomless arch, embedded culvert design, or ford that maintains the natural streambed. The structure should be sufficiently large and embedded deep enough into the channel to allow the natural movement of bedload and formation of a stable bed inside the culvert or structure.
    3. Non-embedded culvert (often referred to as a hydraulic design), for use in low-gradient areas, that allows fish passage.
    4. Baffled culvert (creases in the culvert create a series of short high-velocity runs and low-velocity backwater areas that allow the fish to swim in short bursts and then rest), for use in high-gradient areas, that allows fish passage.

If the project's site is in an active salmonid spawning area, only free-span bridges or streambed simulations (i.e., culverts with a bed that simulates the natural streambed) are acceptable (National Marine Fisheries Service 2001).

- All stream crossings, regardless of the design (i.e., bridge or culvert) or material used, will be designed to accommodate the 100-year peak flood flow with appropriate clearance to prevent structural damage to the crossing. In practice, it is preferable that the crossing itself and its structural supports completely span the 100-year floodway. At a minimum, culverts must accommodate the 100-year flood without causing any adjacent flooding around the crossing that could result in mass erosion of the bank or the structural support of the crossing. This requirement will reduce the risk of channel degradation, stream diversion, and failure that may lead to adverse effects on salmonids over the lifespan of the crossing (National Marine Fisheries Service 2001).
- For in-stream culvert installation or replacement projects that may affect stream hydraulics, the project must be designed so that the elevations of surface waters in the stream-reach exhibit gradual flow transitions, both upstream and

downstream. Abrupt changes in water surface and velocities must be avoided, with no hydraulic jumps, turbulence, or drawdown at the entrance. A continuous low-flow channel must be maintained throughout the entire stream reach. Hydraulic controls may be necessary to provide resting pools, concentrate low flows, prevent erosion of stream bed or banks, and allow passage of bedload material (National Marine Fisheries Service 2001).

- If a free-span bridge is not feasible due to engineering or cost constraints, bridge piers and footings will be designed to have minimum impact on the stream. This applies in all stream zones, not just active salmonid spawning areas. A hydraulic analysis must be prepared that shows piers or footings will not cause significant scour or channel erosion. Whenever possible, the span of bridges will also allow for upland habitat beneath the bridge to provide undercrossing areas for wildlife species that will not enter the creek. Native plantings, natural debris, or large rocks (not riprap) will be installed under bridges to provide wildlife cover and encourage the use of crossings.
- All in-stream structures will be aligned with the stream, with no abrupt changes in flow direction upstream or downstream of the crossing. This requirement can often be accommodated by changes in road alignment or slight elongation of the culvert. Where elongation would be excessive, such a solution must be weighed against a better crossing alignment and/or modified transition sections upstream and downstream of the crossing. Project components that may result in disruption of stream hydraulics and alterations to the natural stream bed will be anticipated and mitigated in the project design (National Marine Fisheries Service 2001).
- Natural supplemental lighting will be provided in new and replacement culverts that are more than 150 feet long. Where supplemental lighting is required, the spacing between light sources will not exceed 75 feet (National Marine Fisheries Service 2001).
- If structural changes to the channel bed are necessary as part of project design, provisions for fish passage will be incorporated into the project design. If the project proponent has the opportunity to incorporate new fish passage into the project design in an area where fish passage is currently lacking, the project proponent will work with the PCA to determine if new fish passage would support covered species recovery.

Construction Practices

As described above, all in-stream projects will adopt BMPs to minimize impacts on covered species, natural communities, and wildlife movement, as described in Table 6-5 and as appropriate.

Under the CARP, Permittees may issue two permit types within six project categories. A Programmatic General Permit (PGP), which applies to projects with less than 10 acres of wetland fill and a Letter of Permission Procedures (LOP), which applies to projects with greater than 10 acres of wetland fill.

In addition to the BMPs listed in Table 6-5, Permittees will be required to comply with the applicable PGP or LOP conditions as well as the following conditions that apply to all covered activities within the stream system:

- All work in the stream system, including wetlands and streams, shall be done according to the plans and documents included in the CARP application. All changes to those plans shall be reported to the County and the PCA. Minor changes may require an amendment to the permit. Substantial changes may render the permit void and the permittee may need to submit a new application.
- All permit conditions shall be on the improvement plans. A copy of the permit conditions shall be given to individuals responsible for activities on the site. Site supervisors shall be familiar with all permit conditions and shall have a copy on-site at all times.
- The construction corridor in the stream system shall be created in a way to avoid and minimize impacts to vegetation outside the corridor. All preserved wetlands, other waters, and stream zones shall be protected with bright construction fencing. Temporary fencing shall be removed upon completion of the project.
- Erosion control measures shall be specified as part of the Environmental Questionnaire/CARP application, and the application is not complete without them. All erosion control specified in the permit application shall be in place and functional 48 hours prior to any rain event. Erosion control features shall be inspected after each rain event . Site supervisors shall be constantly aware of weather forecasts, even during the summer dry season, and shall be prepared to establish erosion control on short notice for unusual rain events. Maintenance includes, but is not limited to, removal of accumulated silt and the replacement of damaged barriers and other features.

- Implement all required setbacks according to General Condition 3.
- All work in the stream zone of streams that do or that could support salmon and steelhead trout shall be restricted to periods of low stream flow and dry weather between June 15 and October 15. Work may also be conducted two weeks immediately prior to or after work period defined above depending on current weather patterns and timing of runs, provided that the project proponent receives written permission from the Wildlife Agencies.
- All work in the stream zone of perennial and intermittent streams that are not salmonid streams shall be restricted to periods of low flow and dry weather between June 15 and October 15 unless otherwise permitted by the PCA, CDFG and/or ACOE.
- All work in ephemeral or short-term intermittent streams that generally do not support fish shall be restricted to periods when the stream is not flowing, or by terms specified in the permit, providing that erosion control measures are in place before the rainy season. Weather forecasts should be monitored, and erosion control established before all storm events.
- Work in stream zones outside of the specified periods may be permitted under some circumstances. The project proponent must provide the PCA with the following information: a) the extent of work already completed; b) specific details about the work yet to be completed; and c) an estimate of the time needed to complete the work in the stream zone. The CDFG may be asked to confirm the modified dates.
- Work in stream zones shall not disturb active bird nests until young birds have fledged. To avoid impacts to nesting birds in stream zones, trees and shrubs shall be removed between August 15 and February 15. Tree removal at other times is at the PCA's discretion and will require surveys by a qualified biologist to determine the absence of nesting birds.
- Except for site preparation for the construction of dewatering structures, no excavation is allowed in live streams. Detailed plans for dewatering must be part of the permit application.
- Temporary crossings as described in the authorizing permit shall be installed no earlier than April 15 and shall be removed no later than October 15. This work window could be modified at the discretion of the County and the CDFG.

- No vehicles other than necessary earth-moving and construction equipment shall be allowed within the stream zone. The equipment and vehicles used in the stream zone shall be described in the CARP application.

- Staging areas for equipment, materials, fuels, lubricants, and solvents shall be located outside the stream channel and banks and away from all preserved aquatic resources. All stationary equipment that must be within the stream zone must be positioned over drip-pans. Equipment entering the stream zone must be inspected daily for leaks that could introduce deleterious materials into the stream waters. All discharges, unintentional or otherwise, shall be reported immediately to the County. The County shall review the incident and determine whether the matter warrants notifying the appropriate state and federal agencies.

- Cement, concrete, washings, asphalt, paint, coating materials, oil, other petroleum products, and other materials that could be hazardous to aquatic life shall be prevented from reaching streams, lakes, or other water bodies. These materials shall be placed away from aquatic environments and removed immediately if they are accidentally placed near an aquatic feature. All discharges into waters, unintentional or otherwise, shall be reported immediately to the PCA. The PCA shall then determine if the matter warrants notification of the appropriate county, state, and federal agencies.

- During construction, no litter or construction debris shall be dumped into water bodies or other aquatic resources. Nor shall it be placed in a location where it might be moved by wind or water into aquatic resources. All construction debris shall be removed from the site periodically and upon completion of the project.

- Only herbicides registered with the California Department of Pesticide Regulation shall be used in streams, ponds, and lakes, and shall be applied in accordance with label instructions. A list of all pesticides that may be used in the project area shall be submitted to the PCA before use. The USFWS and NMFS do not issue incidental take permits for pesticide and rodenticide use, and pesticide and rodenticide use is therefore not covered under this Plan for the federal permits. This activity is covered under the state permit (i.e., NCCP Act permit).

- The PCA shall be notified immediately if threatened or endangered species not expected on the site are discovered during construction activities. If the grading activity is deemed to put at risk the safety of the species, the County shall suspend work and notify USFWS and the CDFG for guidance.

- Wildlife entering the construction site shall be allowed to leave the area unharmed, or shall be flushed or herded humanely in a safe direction from the site.
- All pipe sections shall be capped or inspected for wildlife before being placed in a trench. Pipes within a trench shall be capped at the end of each day to prevent entry by wildlife.
- At the end of each workday all open trenches will be provided with a ramp of dirt or wood to allow trapped animals to escape.
- If human remains or cultural artifacts are discovered during construction, the project applicant shall stop work in the area and notify the PCA immediately. Work will not continue in the area until a qualified archaeologist has conducted a survey and prepared an assessment.
- Before beginning construction, the project applicant shall have a mitigation plan approved by the PCA that is part of the permit application. In lieu fees shall be paid before the permit is approved. Off-site mitigation plans must be started prior to or concurrent with the project construction start date. When possible, on-site mitigation should be implemented with the start of construction. Where this is infeasible, other implementation schedules may be acceptable. Post-project implementation must be approved by the PCA and will be a condition of the permit.
- The project applicant will notify the PCA of the starting date and the completion date of the mitigation project no later than 10 days after each date. The PCA and Wildlife Agencies, maintain the right to inspect mitigation sites before the mitigation plan is implemented.
- The project applicant will provide to the PCA two sets of as-built conditions for the mitigation project. These plans will show deviations from the approved mitigation plan.
- All deviations from plans and documents provided with the permit application and approved by the Permittees must be reported to the approving Permittee immediately.

Post-construction Practices

Following construction, the project area will be returned to pre-project conditions within two years of project completion, except in areas where permanent impacts (e.g., installation of a bridge) are part of the project design. In such circumstances, all areas that are to be re-vegetated will have vegetation that has successfully established. The following measures will be applied to in-stream projects and will decrease the potential for subsequent erosion and/or spread of nonnative species at the project site.

- Following work in a stream channel, the low flow channel shall be returned to its natural state as nearly as possible. The shape and gradient of the streambed shall be as close as possible to the shape and gradient that existed before the work began.
- Any graded slopes or disturbed soils will be revegetated with plants native to local watersheds; non-native, non-invasive species; or non-reproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions.
- Measures will be utilized on-site to prevent erosion in streams (e.g., from road cuts or other grading) on or otherwise hydrologically connected to the project site, Erosion control measures will include erosion control mats or fabric, contour wattling, brush mattresses, or brush layers.
- If an area with suitable spawning habitat, including spawning gravels, is disturbed during project construction, habitat will be restored to pre-project conditions to the extent possible given any changes to the stream bed that result from project implementation.
- All temporarily disturbed areas, such as staging areas, will be returned to pre-project conditions or improved with native plants within two years of project completion.
- Vegetation and debris must be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and that passage through the culvert or bridge remains clear.

In-stream Operation and Maintenance Activities

Placer County Flood District is responsible for in-stream operations and maintenance of flood control facilities in the Plan area. The City of Lincoln and private property owners may also conduct stream operation and maintenance activities for specific purposes related to flood control and stormwater facilities.

The BMPs identified below are required for in-stream operations and maintenance activities. These BMPs are designed to minimize impacts to riparian and riverine land-cover and covered species during implementation of covered stream operations and maintenance activities.

- Operations and maintenance activities will comply with Plan preconstruction survey requirements.
- Operations and maintenance activities will comply with Species Condition 6, Bank Swallow.

- Prior to undertaking stream maintenance activities, conditions will be assessed to identify tasks that are necessary to maintain the channel for the purpose for which it was designed and/or intended (e.g., flood control, groundwater recharge). Only in-stream work that is necessary to maintain the channel will be conducted.
- When stream reaches require extensive vegetation thinning or removal (e.g., when the channel has been fully blocked by willows or other vegetation), removal will be phased to the extent possible so that a portion of the riparian land-cover remains. In addition, vegetation removal will be targeted and focused on removing the least amount of riparian vegetation as possible while still meeting the desired flood control needs. For example, vegetation removal will be focused on shrubby undergrowth at the toe-of-slope that is most likely to increase roughness and create a flooding hazard. Vegetation on the upper banks, particularly mature tree canopy, should be maintained to the extent possible to provide habitat for birds and small mammals and shading for the active channel.
- When reaches require sediment removal, approaches will be considered that may reduce the impacts of the activity.
- In natural streams not managed for flood control purposes, woody material (including live leaning trees, dead trees, tree trunks, large limbs, and stumps) will be retained unless it is a safety issue, or threatening a structure, impedes reasonable access, or is causing bank failure and sediment loading to the stream.
- If debris blockages threaten bank stability and/or may increase downstream sedimentation, debris will be removed. When clearing natural debris blockages (e.g., branches, fallen trees, soil from landslides) from the channel, removal will concentrate on the minimum amount of debris removal necessary to maintain flow conveyance (i.e., prevent significant backwatering or pooling). Non-natural debris (e.g., trash, shopping carts, etc.) will be fully removed from the channel.
- If bank failure occurs due to debris blockages, bank repairs will only use compacted soil, and will be re-seeded with native grasses and stabilized with natural erosion control fabric. If compacted soil is not sufficient to stabilize the slope, bioengineering techniques must be used. No hardscape (e.g., concrete or any sort of bare riprap) or rock gabions may be utilized in natural streams. Rock riprap may only be used to stabilize channels experiencing extreme erosion, and boulders must be backfilled with soil and planted with willows or other native riparian species suitable for the project site. If available, local native species will be utilized as appropriate.

- Invasive plant species removed during maintenance activities will be handled and disposed of in such a manner as to prevent further spread of the invasive species. Equipment used in construction should be cleaned to remove invasive species' propagules prior to use.
- Any disturbed soils will be revegetated with native plants; nonnative, non-invasive species; or non-reproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions.
- When possible, activities in the active channel will be avoided. If activities must be conducted in the active channel, BMPs identified in this condition and in Table 6-5 will be applied.

BMPs will apply to all streams in the Plan area as well as to open canals, except for PCWA canals that are addressed in Condition 5 below, because these canals may provide habitat for covered species.

6.7.3 General Condition 5. Placer County Water Agency (PCWA) Operations and Maintenance

Placer County Water Agency (PCWA) operates an extensive raw water distribution system that includes canals, ditches, flumes and several small reservoirs. The PCWA will implement its Natural Resource Management Plan (NRMP; see Appendix N) for operations and maintenance (O&M) of its raw water distribution system to comply with this condition. The NRMP describes natural resource conditions along the PCWA distribution system and in the region, regulatory requirements for system O&M, potential effects of O&M activities on natural resource conditions, and identifies best management practices (BMP) for PCWA O&M activities. The NRMP is intended to help PCWA staff identify BMPs that may assist in minimizing the effects of O&M activities on natural resources. PCWA BMPs are described in the NRMP and are summarized below. The summary list of BMP options is not comprehensive; instead, it provides examples of BMPs that may be implemented to minimize particular potential effects of interrelated PCWA O&M activities.

Pre-Implementation Best Management Practices

Potential pre-implementation BMPs for reducing potential effects of PCWA O&M activities on natural resources in the Plan area are:

1) Improve canal bank stability and install sediment traps at canal outlets by

- Installing velocity dissipaters at canal outlets;
- Lining banks at canal outlets;
- Installing erosion-control blankets in areas of soil disturbance;
- Installing temporary fiber rolls in areas of soil disturbance; and
- Applying spray-on soil binders in areas of soil disturbance.

2) Avoid potential wet weather effects by
   - Patrolling canals and removing potential obstructions to prevent erosion and property damage;
   - Minimizing the amount of water purchased from PG&E during periods of high precipitation;
   - Distributing flood releases from the canal system by releasing flows at numerous intermediate outlets;
   - Planning and designing projects to minimize land disturbance;
   - Installing erosion and sedimentation control measures after land-disturbing activities;
   - Identifying areas susceptible to erosion for future canal lining activities; and
   - Choosing canal crossing sites where erosion potential is low.

3) Protect sensitive species and sensitive species habitat by
   - Providing staff with species identification training;
   - Evaluating sites with sensitive species and marking/protecting sensitive species' habitat;
   - Stockpiling materials away from sensitive species' habitat; and
   - Strategically scheduling maintenance activities.

Implementation Best Management Practices

The following are implementation BMPS to reduce potential effects of PCWA maintenance activities on natural resources:

1) Avoid sensitive species areas by
   - Avoiding disturbance to sensitive species; and
   - Avoiding active nests of raptors and other birds covered under the Migratory Bird Treaty Act.

2) Prevent degraded water from entering streams after O&M activities by
   - Modifying canal operations to gradually restore reservoir releases to canals at a slower rate;
   - Applying sediment traps at storm drains for dewatering before canal lining; and
   - Treating first flush flows to reduce downstream water quality effects.

Ongoing or Post-Implementation Best Management Practices

The following are ongoing post-implementation BMPs to reduce the potential interrelated effects of PCWA O&M activities on natural resources:

1) Regulatory compliance management for O&M activities;
2) PCWA Best Management Practice Program;
3) Good housekeeping, such as
   - Ensuring proper handling of materials and wastes;
   - Using proper cleanup procedures after material use;
   - Implementing onsite debris and trash management practices; and
   - Storing materials under a roof or covering with a secure tarp.

In addition, PCWA operations and maintenance will comply with all applicable Community Conditions and Species Conditions.

6.8 Capital Projects

Capital projects include public transportation projects, public waste management projects, capital water supply projects and public flood control projects. With the exception of transportation projects, there is overlap between other conditions and impacts from capital projects and therefore no additional conditions are required. For example, public waste management projects could impact the stream system which is covered by General Conditions 3 and 4.

Transportation projects may have the potential to affect covered species by removing substantial areas of habitat, disrupting hydrologic patterns, contributing to habitat fragmentation, discharging sediment into water bodies, and resulting in direct mortality of covered species. General Condition 6 is designed to reduce the severity of such impacts.

6.8.1 General Condition 6. Design and Construction Requirements for Covered Transportation Projects

This condition identifies design and construction requirements to minimize the impacts of public transportation projects on wildlife movement, covered species, and their habitat. This condition applies to all covered transportation projects within the Plan area. All covered transportation projects that affect the stream system (i.e. cross streams or creeks, including bridges) are subject to General Conditions 3 and 4, above.

The two largest road projects proposed for construction during the permit term of this Plan are the Placer Parkway project and the I-80/SR 65 Interchange Improvements. Many other road improvements, including road widening, smaller road constructions and connections are covered by the Plan (see Appendix A).

Exempt Transportation Projects

The following projects are not subject to the design requirements or construction practices specified in this condition because they are not expected to result in new ground disturbance and are not expected to create new barriers to wildlife movement or augment existing barriers. Although they are not required to implement this condition, they will still be subject to measures that are indentified in the environmental impact analysis process.

- Installing traffic signals, signs, pavement markings, flashing beacons, or other safety warnings.
- Painting new lane striping.
- Installing “rumble” strips, channelizes, or other safety markers.
- Installing guardrails or similar structures that are permeable to wildlife.
- Installing ramp metering.
- Regrading existing shoulders (this activity is considered maintenance; see General Condition 7, Implement Best Management Practices for Operations and Maintenance Activities).
- Implementing other road safety improvements on less than 1,000 feet of roadway. Note that road safety improvements that cross creeks are subject to General Conditions 3 and 4, above.

Covered transportation projects will adopt design requirements and construction practices to minimize impacts on covered species, natural communities, and wildlife movement (see below). Depending on the type of project, these design requirements and construction practices will be required or possible (Table 6-6).

- Required (R). Design element or construction practice is required.
- Possible (P). Design element or construction practice is required unless field data collected at the site or in comparable areas demonstrate that the practice would not benefit wildlife, and CDFG and USFWS concur with the findings.

Types of Projects Subject to Condition

The following projects are subject to the design requirements or construction practices because they are expected to result in new ground disturbance, or they may create new barriers to wildlife movement or augment existing barriers. Each project category is subject to a specific combination of requirements listed in Table 6-6. The requirements are described below.

Highway Projects

Highway projects are those projects identified by the Placer County Transportation Planning Agency that call for the expansion of existing highways or the construction of new highway ramps within the Plan area. This includes freeways and conventional highways.

Major Roadway Projects and Interchange Upgrades

All new road and interchange projects are considered major roadway projects. Road widening, realignment, extension, connection, or improvement projects that do not qualify as exempt or minor road safety improvements on County roads or road segments are also considered major road projects.

Minor Roadway Projects

Minor roadway projects are those County road projects subject to this condition (non-exempt projects) that are not listed above as major roadway projects, including the types of road safety improvements listed below.

- Widening roads to add lanes where the project exceeds 1,000 feet in length.
- Realigning roads for safety or operational purposes where the project exceeds 2,000 feet in length.

- Installing median barriers or other impermeable safety barriers longer than 2,000 feet.

- Repairing roads due to landslides and flood damage. Repair may require installation of retaining wall or drainage management features such as under-road culverts.

Minor Road Safety Improvements

Minor road safety improvements are expected to involve ground-disturbing activities but are not expected to impede or substantially worsen habitat linkages for wildlife. Therefore, the types of road safety improvements listed below will be subject to construction and post-construction practices but not to project design requirements (Table 6-6).

- Installing a solid barrier on a bridge or on a road for up to 2,000 feet at grade in areas with no known wildlife corridor.
- Constructing new turn lanes equal to or greater than 2,000 feet.
- Constructing a new road shoulder equal to or greater than 2,000 feet in locations where no sensitive vegetation or potential habitat in roadside ditches is present.

Pre-Design Data Collection by Habitat Plan PCA

Transportation projects with the greatest potential to affect wildlife movement (see Table 6-6 and lists above) will be designed to minimize the projects' adverse impacts on wildlife movement. In some cases, transportation projects may present opportunities to upgrade existing structures to improve wildlife movement.

To facilitate better project design and to avoid delays in project construction due to the data collection process, the PCA will utilize its long-term data collection program on wildlife movement in the Plan area. The primary goal of this program will be to determine the movement patterns of key covered species and other native wildlife throughout the Plan area. It is expected that several years (or decades) of data will be available to inform project design by the time that many of these projects reach the design stage. These data will be used to select the design requirements most appropriate for the species and conditions particular to the site. If the PCA has not collected data in the project vicinity and the project timeline does not permit new data collection, then the applicant must apply all the design guidelines on the basis of the best available information for the region and appropriate to the conditions at the project site.

Transportation project applicants will coordinate with the PCA, CDFG, and USFWS on individual projects during the conceptual design phase to ensure that as the project moves from conceptual to final design and that the project meets the terms of this Plan.

Transportation Project Design Requirements

To reduce the impacts of construction activities on natural communities and native species within the Plan area, the design requirements listed below will be implemented for applicable transportation projects (Table 6-6). Design requirements are based on the latest techniques for minimizing impacts of transportation projects. Some design requirements may be updated by the PCA if the best available science indicates that such updates would be more effective at facilitating safe wildlife movement across transportation corridors. Because the effectiveness of road crossings designed for wildlife is an active area of research, frequent advances in design are expected throughout the permit term and are expected to be implemented through the adaptive management process.

- **Undercrossings.** When new roadways are constructed or road expansion projects span an undercrossing, such as a culvert, existing undercrossing structures will be enhanced within safety or engineering limitations to allow for fish and wildlife movement. Existing culverts or other potential crossing points will be enhanced if results of data collection indicate that the existing structure is inadequate. The design requirements of replacement structures will be determined by the species that have been documented using or attempting to use the site or species expected to be using the site. Wildlife crossings that can serve multiple species will be used whenever possible.
    - Crossing enhancements. Crossing enhancements must incorporate design requirements identified for culverts and stream crossings in General Condition 4, Stream System Impact.
    - Minimum sizing of culverts. Culverts must be the minimum length, height, and width necessary to provide safe passage under the road for the target species. Culvert designs will be based on the best available data at the time. Culverts will provide a natural substrate on which wildlife can travel (e.g., open bottom box culvert) when such designs are compatible with hydrologic design criteria.
    - Install grating to allow ambient light to penetrate undercrossings when necessary for covered species. For major roadways, grating installation will be subject to determination in the field as to the need. When

installed, culverts will include grating on the inactive part of the roadbed (e.g., road shoulders or median) to allow filtration of ambient light and moisture but minimize noise intrusion. Artificial lighting inside tunnels or culverts will not be used; these devices have not been shown to be effective and may deter nocturnal wildlife. Such devices may also be vandalized.

- Undercrossing placement. New passages will only be placed or located in areas that connect viable habitats so that wildlife is not directed into urbanized areas.
- Fencing design. Fencing will be required in areas where species attempting to cross the road may suffer high rates of mortality. Fencing will be used along the perimeter of the roadway to direct animals to undercrossings and minimize their access to the road. Fencing designs will be tailored to the species expected to use the undercrossing and will be based on the best available data on species use and best fencing designs available at the time. Fencing will extend out from the undercrossing along the road to an appropriate distance that will serve as a barrier to wildlife attempting to cross the road. The distance that fencing extends from the undercrossing will be determined on a case-by-case basis and will consider locations of known collisions in the area. Right-of-way fencing could be designed to serve this purpose. Fencing must be attached to the undercrossing to prevent wildlife from passing through a gap between the undercrossing and the beginning of the fence.

  Fencing must be monitored regularly by the facility owner and repairs made promptly to ensure effectiveness. .
- Road or rail barrier designs. When compatible with vehicle and train safety, road and rail median barriers or shoulder barriers will allow wildlife to cross under or over the barrier in the event they become trapped in the right-of-way.

Construction Practices

In some cases, such as in public parks, restoration projects or PCCP reserves, new gravel or dirt roads may be constructed. The following Best Management Practices for transportation related construction apply to all categories of transportation projects listed in Table 6-6.

BMPs for Dirt/Gravel Road Projects

- For construction of new dirt roads, prevent rills by breaking large or long bare areas up into smaller patches that can be effectively drained before rills can develop.
- For construction of new dirt roads, disconnect and disperse runoff flow paths, including roadside ditches, which might otherwise deliver fine sediment to stream channels.
- When constructing dirt roads, install road surface and ditch drainage structures frequently enough so that gullies do not form at drainage points and so that the road and drainage system are generally dry.
- For construction of new dirt roads, prevent gullies by dispersing runoff from road surfaces, ditches and construction sites, by correctly designing, installing and maintaining drainage structures (e.g., road shape, rolling dips, out-sloped roads, culverts, etc.) and by keeping streams in their natural channels. No single point of discharge from a road or other disturbed area should carry sufficient flow to create gullies. If gullies continue to develop, additional drainage structures will be needed to further disperse the runoff.

BMPs for Roadside Drainage

- When constructing or reconstructing a ditch, utilize designs for outlet locations that avoid directly dumping ditch water into surface waters, when practical. If not practical, implement sediment management BMPs to trap sediment before it reaches a stream. Remove temporary BMPs and replace with permanent BMPs as soon as practical. BMPs described in General Condition 2 and General Condition 4 will be applied as appropriate.
- When designing or redesigning roads, look for opportunities to restore natural drainage patterns. Install culverts or rolling dips to retain water in its drainage of origin, which will decrease the potential for erosion downstream. On problem roads, look for opportunities to reconstruct the road segment to improve and maintain natural drainage patterns; for example, add rolling dips, emergency water bars and additional cross drains.

BMPs for Roadside Construction

- Equipment storage, fueling, and staging areas will be sited on disturbed areas or on non-sensitive non-native grassland land-cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land-cover types. When such sites are not available, staging will occur on the road used to access the site. Standard BMPs,

such as those developed in the West Placer SWMP pertaining to staging must be utilized.

- All species survey requirements of this Plan will be followed within the construction zone (i.e., the limit of project construction plus equipment staging areas and access roads) and the entire road right-of-way. Expanding the survey area beyond the project footprint will help identify covered species and their habitats so that impacts on covered species that occur adjacent to the construction zone can be minimized.
- No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
- Silt fencing or other sediment trapping methods will be installed below the grade of new road construction or road widening activities to minimize the transport of sediment off the site.
- Temporary barriers will be constructed to keep wildlife out of construction sites, as appropriate.
- On-site monitoring will be conducted by a qualified biologist throughout the construction period to ensure that disturbance limits, BMPs, and Plan restrictions are being implemented properly.
- Active construction areas will be watered regularly to minimize the impact of dust on adjacent vegetation and wildlife habitats, if warranted.
- Portions of the project that occur in streams (e.g., bridge or culvert construction) will comply with General Conditions 3 and 4.

Post-construction Practices

Following construction, the areas beyond road shoulders and inside the right-of-way will be returned to a natural state. These actions will likely be applied differently to each road project and will decrease the potential for the spread of nonnative species.

- Invasive plants within the project area and any construction staging areas will be removed to prevent the spread of these species into nearby or adjacent reserves.
- Cut-and-fill slopes will be revegetated with native plants if possible, or with non-invasive plants suitable for the altered soil conditions.
- All temporarily disturbed areas, such as staging areas, will be returned to pre-project conditions or improved with native plants within two years of project completion.

- Vegetation and debris will be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and that the passage through the culvert or under the bridge remains clear.

All structures constructed for wildlife movement (tunnels, culverts, underpasses, fences) will be monitored by the PCA, and repairs made promptly to ensure that the structure is in proper condition. For facilities owned by entities not participating in the PCCP, the PCA will coordinate with these entities to ensure regular monitoring through access and data collection agreements reached with these entities.

6.9 Operations and Maintenance

This condition applies to operations and maintenance activities on public and private lands within the PCCP coverage area. Such operation and maintenance activities include utility lines and facilities maintenance, public or private road maintenance, vegetation management, and mitigation monitoring. These have the potential to affect covered species by disturbing nesting covered bird species, discharging sediment into waterways, and transporting propagules of nonnative invasive species. General Condition 7 would reduce the severity of such impacts.

6.9.1 General Condition 7. Implement Best Management Practices for Operation and Maintenance Activities of Roadways and Utilities

Road and utility maintenance activities have the potential to directly affect covered species through management activities such as mowing or resurfacing, and may indirectly affect covered species by introducing sediment and other pollutants into downstream waterways and by spreading invasive weeds. To avoid and minimize these impacts, the BMPs listed below will be used where appropriate and feasible for all County, City, PCWA, and covered private maintenance activities in the Plan area. .

- Projects occurring in streams or the stream system will also comply with General Conditions 3 and 4, as appropriate.
- Silt fencing or other sediment control devices will be installed downslope from maintenance activities that disturb soil to minimize the transport of sediment off-site.
- In the course of rural road maintenance, no erodible materials will be deposited into watercourses. Brush, loose soils, or

other debris material will not be stockpiled within stream channels or on adjacent banks where it could be washed into the channel.

- Consider alternatives such as mechanical control to substantially lessen any significant impact on the environment before using pesticides. Use integrated pest management BMPs for all vegetation control. Limitations may occur due to fire management requirements and local integrated pest management ordinances.
- Herbicides and pesticides will be used only when necessary and will be applied in strict compliance with label requirements and state and federal regulations. Herbicides and pesticides will only be applied when weather conditions will minimize drift and impacts on non-target sites.
- Maintenance activities on rural roads adjacent to natural land-cover types will be seasonally timed, when safety permits and regulatory restrictions allow, avoiding or minimizing adverse effects on active nests of resident and migratory birds, including covered bird species (see Table 1-3). This measure is particularly relevant for right-of-way mowing, brush clearing, and tree trimming. Project proponents will coordinate with the PCA to develop work schedules that optimize logistic, safety, and financial needs while minimizing potential impacts on nesting birds.
- Mowing equipment will be thoroughly cleaned before use so they are free of noxious weeds (e.g., yellow star-thistle) and do not introduce such weeds to new areas.
- Maintenance or repair of road medians or shoulder barriers in areas that support natural and semi-natural land-cover types (e.g., annual grassland, oak savanna, oak woodland) will not reduce the ability of wildlife of all types to move through or over them, within safety limits. Replacement or repair of road medians will be designed or installed to allow wildlife to move past these structures. Exceptions may be made by the Permittee if significant safety concerns or financial constraints arise.
- All temporarily disturbed areas, such as staging areas, will be returned to pre-project conditions or improved with native plants within two years of project completion.
- Ground-disturbing road maintenance activities, such as regrading, will be timed so that the moisture content of the soil will support recompaction of the soil and reduce the need for an imported water source to achieve soil compaction. Similarly, activities will be timed so that use of heavy equipment will not result in the creation of mud puddles and ruts.

- Conduct regularly scheduled visual inspection of all roads to identify sites where erosion is contributing sediment to local streams and stabilize eroding areas.
- Conduct annual clearing of flow lines (e.g., culverts and ditches) such that flow lines are maintained free of debris.
- Utility pole or line replacement and maintenance should follow the suggested practices for the Avian Power Line Interaction Committee's publication "Suggested Practices for Avian Protection on Power Lines".

6.10 Rural Development

Low-density development within the Plan area is mainly associated with larger sized parcels outside the urban areas. For this Plan, rural development is defined in accordance with the Placer County General Plan land use designation as Rural Residential (1-10 acre minimum) or Agriculture/Timberland (10-80 acre minimum) or the City of Lincoln's Rural Residential land use designation. Rural development is expected to occur in the western and northeastern portions of the Plan area over the term of the permit. It is expected that rural development will primarily impact oak woodlands and valley foothill riparian woodland in the northeastern portion of the Plan area directly, through conversion of natural land-cover, and indirectly, through habitat fragmentation and secondary impacts associated with human occupation.

6.10.1 General Condition 8. Rural Development Design and Construction Requirements

The rural development activities covered by the PCCP are listed below. This condition applies to these activities in the PFG and RAA. These activities are also subject to discretionary permits from Placer County or the City of Lincoln.

- Non-residential development within unincorporated areas of Placer County, consistent with the County General Plan and that requires a permit from the County.
- Activities subject to County/City discretionary approval consistent with local zoning ordinances, such as commercial stables and equestrian event facilities.
- Residential development (e.g., single family homes, subdivisions) consistent with Placer County and the City of Lincoln General Plans. Associated development may include

privately owned bridges, driveways, access roads, ancillary vineyards or orchards, and other uses commonly associated with rural residential development.

- Non-residential development in rural areas that requires approval from the County, such as telecom facilities and small utility outposts.

The primary goal of this condition is to minimize the potential direct and indirect impacts of rural development on covered species and natural communities most likely to be affected by rural development (see Chapter 4, for a description of the potential impacts of rural development on natural communities and covered species). Additional goals of this condition are listed below.

- Minimize habitat fragmentation and degradation of landscape linkages (e.g., wildlife corridors), including maintaining connectivity between aquatic, riparian, and upland habitats.
- Minimize loss of sensitive land-cover types and natural communities including, but not limited to, vernal pool grassland complexes, riparian woodlands, seasonal wetlands, fresh emergent wetlands, ponds, and valley oak woodlands.
- Reduce the extent of new roads in remote rural areas in order to reduce negative impacts on species.
- Minimize degradation of streams and maintain or improve the hydrograph to maintain populations of covered species and enhance recovery.
- Minimize construction-related impacts, including noise, emissions, erosion and sedimentation, disturbance of native vegetation, and introduction of nonnative, invasive species.
- When designing or retrofitting County or City facilities, evaluate whether the project can be designed to reduce impervious surfaces to less than pre-project conditions.

All rural development projects will be reviewed for consistency with this and other applicable conditions (e.g., General Condition 3, Stream System Avoidance). Projects will also be reviewed for their consistency with the PCCP conservation strategy. Projects found to be inconsistent with the conservation strategy will be required to redesign their project to the extent feasible to ensure consistency. Projects will be denied by the County or City if they are found to be inconsistent with the conservation strategy and would jeopardize successful implementation of the PCCP. This provision is in place to ensure compliance with the NCCP Act, which requires that the Permittees not adopt, amend, or approve any plan or project that is inconsistent with the objectives and requirements of the Plan without the concurrence of the Wildlife Agencies (Fish and Game Code Section 2820(b)(3)).

General Design and Construction Standards

The design and construction requirements for all rural development covered by the Plan are listed below. In addition, conservation subdivisions may be employed to further avoid and minimize impacts to resources.

Building Envelope Placement

- All site plans shall be presented to Permittee planning staff for discretionary approval or submittal during the building permit process. These site plans must identify the proposed impact area and general location of site design features (i.e., residence, access road, leach field, wells, accessory structures, etc.). The site plan will show all improvements that will result in permanent impacts to land-cover (e.g., home, driveway, barn, pool, patio, leach fields and other utilities that are within the drip line of trees or root protection zone of native oak species (see Section 6.5.3, Community Condition 3.3), etc.). This site plan will also show all site improvements that will result in temporary impacts to land-cover during construction but that will be returned to the pre-project land-cover once the improvement is constructed (e.g., leach fields outside the drip line of trees, well pipelines).

- Building envelopes shall be located close to, and utilize to the extent practicable, existing infrastructure (e.g., existing driveways, utility lines).

- On parcels adjacent to reserves, locate the proposed development as far from the reserve boundary as possible consistent with other on-site conditions and constraints.

Site Hydrology

- Develop only the minimum number of stream crossings necessary to access the property.

- At project sites that are subject to erosion, natural or manmade exposed soils must be stabilized or otherwise contained on-site to prevent excessive sediment from entering a waterway.

- Consistent with State and Regional Water Quality Control Board regulations, runoff from impermeable surfaces must be directed to natural or landscaped areas, or to designed swales or detention/retention basins to encourage natural filtration and infiltration. Diversion to a cistern or other on-site stormwater management technique is also allowable and encouraged.

- Maintain natural drainages and contours on the project site unless designed otherwise in the approved plan. If site is

graded, blend grading into the existing landform as much as possible.

- Leach fields must be sited away from creeks in accordance with the County/City septic ordinances, as well as at least 100 feet from the boundary of a PCCP Reserve, when space allows.
- Low Impact Development techniques described below and in General Condition 2 will be applied to rural development to minimize runoff and total site imperviousness and to facilitate natural infiltration. Strategies for accomplishing this include:
    - Disconnecting roof drains and directing flows to vegetated areas or to designed swales or detention/retention basins to encourage natural infiltration and filtration.
    - Directing flows from paved areas such as driveways to stabilized vegetated areas.
    - Dispersing runoff from large paved surfaces.
    - Encouraging sheet flow through vegetated areas.
    - Carefully locating impervious areas so that they drain to natural systems, vegetated buffers, natural resource areas, or infiltratable zones/soils.
    - Managing flow and conveyance systems within the development using LID to affect control and time of concentration. The time of concentration, in conjunction with the hydrologic site conditions, determines the peak discharge rate for a storm event.
- Adhere to General Condition 2. Maintain Hydrological Conditions and Protect Water Quality.
- Adhere to General Condition 3, Stream System Avoidance.
- Adhere to General Condition 4. Stream System Impact Minimization.

Private Rural Roads

- Minimize the amount of ground disturbance when constructing roads.
- Ground-disturbing activities associated with road construction will be timed to occur during dry weather months to reduce the possibility of sediment being transported to local streams during wet weather.
- If construction extends into wet weather, other BMPs may be implemented to address specific water quality issues.

- If construction extends into wet weather, the road bed will be surfaced with 6–18 inches of gravel or other appropriate surfacing material to prevent erosion.
- Avoid to the extent possible constructing roads on steep slopes (over 25 percent) or on unstable slopes.
- If construction on steep slopes is required, construction will be timed for dry weather months to reduce the potential for landslides and excessive erosion.

Other Requirements

- Preserve as much natural vegetation as possible, consistent with fuel management standards, on the project site.
- Maintain County-mandated wildfire, agriculture, and timberland buffers (variable width by slope conditions and adjacent land uses).
- On sites adjacent to a PCCP reserve or the Reserve Acquisition Area, locate the building envelope as far from the reserve boundary as possible consistent with other on-site conditions and constraints and adhere to General Condition 1, Reserve and Reserve Acquisition Area Interface Design Requirements and General Condition 10, Wildfire Buffer.
- Disturbed areas will be revegetated with plants native to the local region when possible. If stock native to the local watershed cannot be obtained, then plants from an adjacent watershed or otherwise native to the Plan area will be used.
- No plants identified by the California Invasive Plant Council as invasive[1] will be planted on the project site. Planting with local native and/or drought-resistant plants is highly encouraged. This reduces the need for watering as well as the need for fertilizers and pesticides.

Detailed site plans for proposed projects, including site drainage plans and erosion control treatments, must be provided to the Permittee planning office for projects, or components of projects, that are proposed in or adjacent to streams. Project proponents must continue to adhere to all applicable local planning ordinances including: noise ordinances, zoning ordinances, fuel management/defensible space guidelines, NPDES permit requirements, grading ordinances, and drainage manuals.

Conservation Subdivisions Standards

Conservation subdivisions provide another technique to avoid and minimize impacts to natural resources caused by rural development. When site conditions are suitable, taking into

[1] See www.cal-ipc.org/ip/inventory for the latest list of invasive species.

consideration such issues as slope, access, sewage disposal and other constraints, conservation subdivision standards maybe employed. Conservation subdivisions are characterized by common open space and clustered compact lots. The purpose of a conservation subdivision is to minimize impacts to natural resources while allowing for the number of residences permitted under current community zoning and subdivision regulations.

Generally, conservation subdivisions allow for adjustments in the location of residential dwelling units on a parcel of land if the total number of dwelling units does not exceed the number of units otherwise permitted in the zoning district. The dwelling units are grouped or "clustered" on only a portion of a parcel. This clustering of the dwellings into a small area is made possible by reducing individual lot sizes. The remainder of the site is preserved as open space. Open space areas may also contain areas with steep slopes and ridgelines and cultural resources areas. In addition, the use of conservation subdivisions results in environmental corridors being protected, minimizing fragmentation through the site design process. Generally, this tool is used for parcels 20 acres or larger.

Four Step Design Process for Rural Subdivision Development

Site plans or conceptual design plans for rural development that propose to utilize conservation subdivision design, shall include within the PCCP Participation Package documentation of a four-step design process in determining the layout of the proposed development envelope:

Step 1: Delineation of open space lands or, identification of natural resources and other environmental constraints e.g., steep slopes, areas of slope instability, cultural resources etc. which will constitute open space.

Step 2: Locating the building envelop with a focus on maximum, rather than minimum, setbacks from critical resource areas and service roads.

Step 3: Alignment of streets and trails.

Step 4: Drawing in the lot lines.

6.11 Conservation Strategy Implementation

Plan implementation—including activities associated with implementation of the conservation strategy, recreation, construction, infrastructure design, and maintenance of the reserves—could result in localized effects on covered species and their habitats. All relevant conditions listed below and previously

presented will be applied to construction and maintenance activities within the Reserve System.

6.11.1 General Condition 9. Prepare and Implement Recreation Plans

Public access, consistent with protection of habitat and species, may be provided on Reserves owned in fee title by a public agency. A recreation plan will be developed by the PCA and will be implemented for all new land acquired in fee title or through conservation easements for the Reserve System. This Plan will address lands that are acquired for or incorporated into the Reserve System where the PCA and the land manager determines that recreational and educational uses are compatible with the preservation and enhancement of natural communities, covered species, and biological diversity. The recreation plan will apply to the entire Reserve System. Development of the draft recreation plan shall include opportunities for public comment and Agency review through the PCA. Applicable requirements of the completed system-wide plan will be incorporated into the individual reserve management plans (see Chapter 5).

The system-wide recreation plan will be prepared within three years after acquisition of the first parcel(s). Recreation will not be allowed on a PCCP reserve until the PCA has prepared and adopted a reserve management plan (with its recreation component) for that site. The reserve management plan (and its recreation component) will be revised as needed as the Reserve System expands.

Public access to privately-owned land under conservation easement will only be permitted with the landowner's consent and consistent with a public access plan developed by the PCA and agreed to by the property owner. See Chapter 10, Assurances, for more details.

At a minimum, recreation plans will contain the information listed below.

- Identification of sites within reserves where recreational use is compatible with the goals and objectives of the Plan.
- Identification of acceptable forms of recreation if different from those forms identified in this Condition.
- Identification of sites within reserves that contain sensitive land-cover types or suitable or occupied habitat for covered species.

- Maps of existing and proposed recreational trails, staging areas, and facilities and of habitat types affected.
- Site-specific methods to control recreational use.
- Trail and use monitoring methods, schedules, and responsibilities.
- Trail operation and maintenance guidelines and responsibilities.
- A framework for enforcement of recreational restrictions and permitting process for restricting recreational uses.
- An evaluation determining if the impact of planned recreational use is within the limits established in the Plan and EIS/EIR, and if planned recreation is compatible with the biological goals and objectives of the Plan.
- Clear triggers for use restrictions or closure based on sensitive biological indicators (e.g., seasonal closures of some trails on the basis of activity periods of covered or sensitive species).

Recreational uses on new lands in the Reserve System will be designed to minimize impacts on biological resources and must adhere to the requirements and guidelines listed below.

- In all reserves, recreation must be compatible with the biological goals and objectives of this Plan.
- Recreation will only be allowed where it is compatible with the biological goals and objectives of the Plan and has less-than-significant impacts on biological resources after implementation of necessary mitigation measures, as described in the EIR/EIS.
- Recreational use and impacts will be monitored by the PCA to ensure that uses do not substantially and adversely affect covered species. If any use is found to be substantially adversely affecting covered species that use will be discontinued until adjustments can be made to reduce or eliminate impacts (see Chapter 7 for details on monitoring). The PCA will make decisions about discontinuing or modifying recreational uses.
- Recreational uses potentially allowed on new lands in reserves include hiking, nonmotorized bicycle riding, walking, horseback riding, wildlife observation and photography, and environmental education and interpretation on designated trails at appropriate sites. Other uses may be allowed by the PCA as long as they are compatible with the biological goals and objectives of the Plan.
- Parking and staging areas shall be kept to a minimum. Parking and staging areas will be allowed within the reserves

to support the allowable uses (see below for design restrictions on these facilities).

- Allowable recreational uses will be controlled and restricted by area, time of year and weather events to minimize impacts on natural communities and covered species and to ensure that the biological goals and objectives of the Plan are met. For example, trails will be closed during and immediately following heavy rains and annually winterized to minimize erosion and sedimentation. Additional types of recreational uses may be allowed if the PCA determines that they are consistent with the recreation plan and the biological goals and objectives of the Plan.
- Activities will be allowed in keeping with the ecological needs of the given habitat. Any activities off trails and other active recreation not listed above (e.g., outdoor sports) are prohibited. Recreational uses will be allowed only during daylight hours and designated times of the year (i.e., limited seasonal closures to protect sensitive covered species). Exceptions may be made for educational groups and events that are guided by a PCA staff person or docent approved by the PCA.
- New staging areas will be developed only in areas within reserves that are already disturbed and not suitable for habitat restoration, and that do not contribute to the conservation objectives for covered species habitats and/or natural communities. Sites at the edges of reserves will be chosen over sites in the interior of reserves.
- No motorized vehicles or boats will be allowed in reserves, except for use by the reserve manager staff, emergency response or with the prior approval of the reserve manager (e.g., contractors implementing PCCP conservation actions such as habitat restoration and monitoring, grazing tenants and maintenance contractors). For reserves under conservation easements, vehicle use will be allowed as part of the regular use of the land (e.g., agricultural operations, permanent residents, utilities, police and fire departments, other easement holders), as specified in the easement.
- Unless compatible with Plan biological goals and objectives and associated with reserve management goals (e.g. hunting), dog will not be allowed in reserve areas. ,.
- Recreational hunting or fishing within reserves may be authorized when such activities are compatible or enhance land management objectives, unless such lands were acquired only for open space and/or agricultural conservation purposes, or such uses are already authorized. For example, hunting for management purposes (e.g., feral pigs) is encouraged where it will contribute to achieving the goals and objectives of the

Plan. The PCA will develop hunting protocols for reserves in coordination with other agencies that utilize hunting for management purposes (e.g., CDFG, State Parks). Fishing is currently allowed in Hidden Falls Regional Park, which will be added to the Reserve System.

- Picnic areas shall be operated during daylight hours only and limited to picnic benches, restrooms, potable water and trash receptacles. To the extent feasible, picnic areas will be located on the perimeter of reserve areas and will be sited in already disturbed areas.
- Public collecting of native species will be prohibited within reserves.
- Introduction of domestic or feral animals, including cats, ducks, fish, reptiles, and any exotic non-naturalized species, is prohibited within the reserves to prevent interference with and mortality of native species, except as required by the reserve manager for management purposes.
- Trails will be established on existing roads or trails wherever possible to minimize the need for new ground-disturbing activities and to reduce new and ongoing maintenance costs. However, this will be balanced with the need to reroute some poorly designed existing ranch roads and trails that are difficult and expensive to maintain. In some cases, rerouting access roads and trails may have net benefits on biological resources.
- New trails will be designed and operated to be compatible with natural resources protection. New trails will be sited to minimize impacts on sensitive species (including covered species) and natural communities and to minimize disturbance to adjacent landowners and land uses. Wetlands will be avoided and trails through woodland or riparian habitat will be designed to avoid the removal or substantial pruning of trees, to the extent possible. If tree removal is required, unhealthy, exotic tree species, or trees unlikely to reach maturity due to site conditions (e.g., being shaded out by larger trees) will be targeted for removal.
- Trails built across streams or through riparian corridors will be sited and designed with the smallest footprint necessary to cross the stream zone. Stream crossings will be perpendicular to the channel and be designed to avoid any potential for future erosion. Trails that follow a stream course will be sited outside the riparian corridor to the maximum extent feasible.
- Trails will not be paved and will be sited and designed so that they do not contribute to erosion and bank failure.
- Recreational uses will be controlled using a variety of techniques including fences, gates, clearly signed trails,

educational kiosks, trail maps and brochures, interpretive programs, and patrol by land management staff.

- Construction of recreational facilities within reserves will be limited to those structures necessary to directly support the authorized recreational use of the reserve. Existing facilities will be used where possible. Facilities that support recreation and that may be compatible with the reserve include parking lots (e.g., small gravel or paved lots), trails, educational and informational kiosks and restroom facilities located and designed to have minimal impacts on habitat. Playgrounds, irrigated turf, off-highway vehicle trails, and other facilities that are incompatible with the goals and objectives of this Plan will not be constructed.
- Signs and informational kiosks will be installed to inform recreational users of the sensitivity of the resources in the reserve, the need to stay on designated trails, and the danger to biological resources of introducing wildlife or plants into the reserve.
- Trails will be prohibited within 100 feet of wetlands and streams that provide suitable habitat for covered species unless topography or other landscape characteristics shield these trails from the covered species' habitat or a lack of effect of the trail on the species can be otherwise demonstrated.
- Trails will be designed to avoid disturbance of active western burrowing owl nests.
- When compatible with Plan biological goals and objectives, recreation plans for reserves adjacent to existing public lands will try to ensure consistency in recreational uses across open space boundaries to minimize confusion to the public. Reserves adjacent to non-Plan public lands with different recreational uses will provide clear signage to explain these differences to users that cross boundary lines. The PCA will be responsible for securing and providing signage for reserve boundaries.
- Reserves will be closed to all recreational uses until a recreation plan for the Reserve System is developed and approved by the PCA and the Wildlife Agencies. Approval by the Wildlife Agencies will follow the timelines established in Chapter 5, Section 5.2.5 (see Land Management on Reserves).

Rare exceptions to the guidelines listed above will be considered and approved by the PCA on a case-by-case basis. Exceptions will be approved only if they are consistent with the biological goals and objectives of the Plan.

6.11.2 General Condition 10. Wildfire Buffer

California Government Code Section 51182 and Public Resources Code 4291 require that the area within 100 feet of occupied dwellings and other structures be treated to reduce risk of wildfire and create defensible space where suppression forces can effectively fight a fire. Treatments may include removal of vegetation, pruning, planting fire-resistant vegetation or other measures, as appropriate. Total clearance of vegetation is neither recommended nor desirable. The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels will be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Consistent with fuels management objectives, steps will be taken to minimize erosion consistent with General Conditions 2 and 8.

If the property line is less than 30 feet from the occupied structure, then fuels treatments should be conducted up to the property line. Local and state laws may require additional fuels management. The cost of establishing and maintaining the fuel buffer will be borne by the project proponent. The vast majority of properties adjacent to the Reserve System are expected to be able to create sufficient defensible space within their property to meet this condition, as required by state law. In many cases, the PCA will establish a fuel buffer on the reserve side of a property boundary to provide additional protection against wildfire (see Chapter 5, Section 5.3.1 – Buffer Zones within the Reserve System). The type of fuel treatment in buffers on PCCP reserves will be determined based upon the information contained in the Wildfire Management in Conservation Reserves report (Appendix E). Areas within PCCP reserves used for fuel management buffers will not be credited to the land acquisition requirements in Chapter 5 because this area will be maintained in a disturbed state. In areas within reserves where the PCA establishes a fuel break, the PCA will trim, mow, or otherwise manage vegetation to minimize fuel loads and fire hazards. Various land uses are allowable within the fuel management buffer as long as they reduce fire hazards (e.g., uses such as trails, fire-resistant landscaping, and livestock grazing). Allowable uses must comply with the Reserve and Reserve Acquisition Area Interface Design Requirements described above in General Condition 1. Creating and maintaining the fuel management buffer within the Reserve System may also have impacts on covered species. Any impacts on covered plants from fuel buffer management will be counted by the PCA as an adverse effect that must be offset by conservation

of covered plants in the Reserve System (see Chapter 5). In some cases, maintenance of the fuel buffer may improve habitat for covered plants by reducing cover of nonnative plants.

Best Management Practices for Fuel Management on Reserves

Each reserve management plan will include a section on fire management (see Chapter 5). This section will be based on the system-wide fire management plan for the Reserve System, to be developed using guidance from the Wildfire Management on Conservation Reserves report (see Appendix E, Fuel Management). The fire management section of each reserve management plan will include implementation of minimum impact suppression techniques where feasible. The following BMPs, discussed in further detail in Appendix E, apply to fuel management in the Reserve System and will be included in the fire management plans. These BMPs will be applied depending upon the community type and covered species present. They may be revised and adapted to fit specific habitats or new techniques, based on monitoring data (see Chapter 7).

Stream Protection

Prescriptions for fuels treatments in or near streams will include the following BMPs:

- Fuel treatments in the Stream System will adhere to General Condition 4, Stream System Impact Minimization.
- No debris created by fuels treatments will be allowed to enter the stream channel.
- No vegetation removal will occur in the immediate vicinity of the stream system. Exceptions may be permitted to control exotic vegetation that contributes to high fuel loads.
- Vegetation removal within the inner zone (up to 100 feet from the channel) is limited to under-story thinning to reduce ladder fuels.
- Species and canopy diversity will be maintained within the inner zone to ensure that ecological functions are protected.
- Fuel management activities will use only existing stream crossings. Improperly functioning crossings may be upgraded or re-located during fuels treatments.

Protection of Seasonal and Permanent Wetlands

Many reserves will support large areas of vernal pool grasslands. Prescriptions for wildfire management in vernal pool grasslands incorporate the following BMPs:

- No equipment operation or herbicide use is permitted within vernal pool topographic depressions.
- Fuels treatments in seasonal and permanent wetlands, if any, will be confined to reducing exotic vegetation posing a fire hazard. Additional removal of vegetation may occur to manage vegetation to benefit covered and other native species. Fuels management will focus on removing non-native grasses and herbaceous species that are not components of the desired seasonal and permanent wetlands. However, methods such as controlled burning, mowing, and grazing by livestock may also impact native species. In general, when applied correctly, these methods enhance habitat for native species. Use of such methods to manage fuels in seasonal and permanent wetlands will be consistent with the biological goals and objectives of the PCCP. The impacts and efficacy of fuel management methods in seasonal and permanent wetlands will be monitored and improved based on monitoring data (see Chapter 7, Monitoring and Adaptive Management Program).

  In woodland reserves (oak woodland, riparian woodland) there may be inclusions of seasonal and permanent wetlands. General Conditions 3 and 4 provide requirements for avoiding and minimizing impacts to these wetlands. Avoidance buffers and conditions to minimize impacts will apply to equipment operation and vegetation removal. These wetlands will usually have a low fire hazard unless they have been invaded by weedy exotics such as Himalayan blackberry or brooms.
- No road or trail crossings through seasonal or permanent wetlands are permitted.
- No dragging of trees or brush through seasonal or permanent wetlands is permitted.

Topography, Geology, and Soils

Fuels treatments in the Reserve System will be conducted to have minimal impacts on soil or geologic features. Operations that could impact these resources include mechanized harvesting of fuels on steep slopes or projects involving road or trail construction. The following BMPs will be implemented to reduce potential soil erosion or mass wasting:

- No equipment operation is permitted on slopes steeper than 50 percent or in areas of known geologic instability except on existing roads.
- To the degree possible, only existing roads and trails will be utilized for access to fuels treatments.

- Erosion control measures, including water bars, silt fences, mulches and re-vegetation with native species will be applied to any action resulting in disturbed soils posing a risk to water quality.

Protection of Covered Species and Wildlife

Fuels treatments on the Reserve System can result in direct impacts on wildlife habitat through removal of vegetation as well as displacement of resident wildlife (Manley 2007). These impacts can be minimized if all habitat components are retained and operations are timed to accommodate species' behavior. Mitigation measures may include retaining shrub and ground cover while reducing ladder fuels (e.g., separating patches of shrub and ground cover from trees; retaining trees that provide roosting and nesting habitat or that are good mast producers; and retaining shrub species that provide browse and/or fruits). Snags and large woody debris on the forest floor will also be retained, consistent with fire hazard reduction requirements. Restrictions on operations in and around roosting, nesting, and breeding sites and other habitats during specified periods of the year may be required (see Section 6.12, Conditions to Minimize Impacts on Specific Covered Species). Required BMPs to minimize impacts to wildlife from fuels management include:

- Fuels treatment operations will be prohibited during the bird nesting season of March 1-August 31 (best to operate in fall and winter), unless emergency conditions requires treatment during the bird nesting season. Conditions and situations that require emergency fuels treatment will be determined by the PCA.
- On parcel and landscape-scale treatments, wildlife corridors will be maintained by selective retention of under-story shrub and tree patches.
- Potentially sensitive habitats such as rock outcrops and wetlands will be flagged or fenced prior to fuels treatment.
- Habitat components such as snags and large woody debris will be retained to the degree possible.
- In cases where potentially sensitive or special status species not covered by the PCCP may be associated with habitats proposed for treatments (e.g., bats), field surveys may be conducted to determine their presence or absence and appropriate mitigation measures may be required, per existing state and federal regulations (see Chapter 1, Section 1.3 Regulatory Setting, for an overview of existing regulations).

6.11.3 General Condition 11. Agricultural Buffer

Many properties within the Reserve Acquisition Area have existing agricultural operations. Agriculture and species conservation can be compatible, however, some agricultural activities such as tillage, drainage, intercropping, rotation, grazing and extensive usage of pesticides and fertilizers may impact covered species. Conversely, PCCP reserve management and operations could limit agricultural activities. To address the potential for agricultural operations to impact covered species and agriculture operations to be limited by reserve operation and management, the PCA will establish buffers between the land uses.

The PCA will establish buffer zones on the reserve side of a property boundary to provide separation from existing agriculture operations (and urban and suburban development) (see Chapter 5, Section 5.3.1 – Buffer Zones within the Acquisition Area). The type of buffer on PCCP reserves will be determined based upon the existing agricultural conditions at the time the PCCP reserve is established and the reserve management and operation. Areas within PCCP reserves used for agricultural buffers may be credited to the land acquisition requirements in Chapter 5, if the buffers do not alter the land in a way that it no longer can meet biological goals and objectives (e.g., the vegetation in the buffer is managed in a way that is inconsistent with habitat requirements of covered species). This determination will be made on a case-by-case basis (see Section 5.3.1 for more details).

6.11.4 Condition 12. Mosquito and Vector Control

Creating, restoring, and preserving wetlands within the Reserve System could have the potential to create conditions that attract mosquitoes. To protect the public, mosquito populations in Placer County are currently monitored and controlled by the Placer Mosquito and Vector Control District. The Placer Mosquito and Vector Control District would also provide these services within the PCCP Reserve System and in certain instances might perform additional tasks related to wetland management.

All mosquitoes have a life cycle with an aquatic stage (larvae) and an aerial stage (adult). The majority of BMPs for mosquito control focus on managing the aquatic stage of the mosquito. The types of BMPs that are used depend upon the mosquito stage and type, as well as the habitat. Mosquitoes are often categorized into three types, standing-water mosquitoes, floodwater mosquitoes, and

container mosquitoes. The prominent types of mosquitoes within the PCCP Reserve System that will need to be monitored include the floodwater and standing-water mosquitoes.

BMPs should be incorporated in wetland management as a first line of defense, but they should be used in combination with other tools. Since managed wetlands within the Reserve System have the primary goal of providing valuable habitat, many of the BMPs that may be considered would be applied to restoration and enhancement features, water and vegetation management, and maintenance of wetland infrastructure. Reserve Management plans should describe BMPs. In addition, coordination with the Placer Mosquito Vector Control District and implementation of the appropriate BMPs within the framework of a larger Integrated Pest Management program consistent with the biological goals and objectives of the PCCP will likely result in an ecologically sound wetland Reserve System.

Wetland Restoration and Enhancement

Wetland restoration and enhancement can have a significant impact on mosquito production. Features that can reduce the potential for mosquito production should be taken into consideration when wetland restoration projects are being designed and discussed with land managers and stakeholders. Taking the time to incorporate design features during the preliminary stages can save money and prevent unintended mosquito populations. BMPs to be considered during the initial stages of wetland design include the following:

- Include, when possible, independent inlets and outlets in the design of each wetland unit (except for vernal pools and other wetland types that do not have outlets and inlets).
- Provide adequate water control structures for complete draw-down and rapid flooding.
- Design swales with adequate slopes so the majority of the wetland can be drawn down.
- Install cross-levees where appropriate to improve the ability to rapidly flood and irrigate. “Underwater” levees that isolate irrigation water during the spring but can be overtopped during fall and winter flooding can also be built.
- Construct or improve ditches with at minimum slope of 2:1 and four-foot depth to prevent unwanted vegetation growth and/or unnecessary seepage. Consider a 3:1 slope or greater to discourage damage from burrowing animals and minimize potential seepage problems.
- Construct, improve, or maintain levees to quality standard (minimum >3:1 slopes and >80% compaction) to ensure

stability and prevent unwanted seepage. Consider slopes 5:1 or greater in areas prone to overland flooding and levee erosion.

- Excavate deep channels or basins to maintain permanent water greater than 2.5 feet deep within a portion of managed seasonal wetlands. This provides year-round habitat for mosquito predators, which can inoculate seasonal wetlands when they are irrigated or flooded. This BMP should not be applied to vernal pool and other wetlands because many species of mosquito predators (e.g., mosquitofish [*Gambusia affinis*]) also prey upon vernal pool crustaceans and amphibians such as California red-legged frog (USFWS 2002, 2005). Nonnative mosquito predators will not be added to Reserve System wetlands unless approved by the PCA and Wildlife Agencies.
- Maintain separate permanent water reservoirs used to convey water to seasonal wetlands. Vernal pools shall not be included in any artificial reservoir or drainage system. . These provide year-round habitat for mosquito predators, which inoculate seasonal wetlands when they are irrigated or flooded.

6.12 Conditions to Minimize Impacts on Covered Species

The conservation strategy for covered species mainly depends on establishing and managing large reserves away from urban areas and away from the Potential Future Growth (PFG) area. It is expected that there will be incidental take of some covered species due to their presence in the PFG area. Nevertheless, the take of individuals can be reduced by implementing the conditions listed below.

Most of the measures below provide seasonal restrictions or spatial buffers to separate certain covered species from potential disturbance from covered activities. When the PCA acquires land adjacent to existing or planned development and agriculture that has no buffer zone or an inadequate buffer zone, one must be created on the reserve (see Chapter 5, Section 5.3.1, Land Acquisition Actions, Buffer Zones within the Reserve Acquisition Area). The buffer will include necessary protective setbacks on PCA reserves. Therefore, the setbacks or buffers described below will not extend onto private land when the species occurs on PCA reserves.

As described in Chapter 3, the broad landscape of the Plan area is home to a long list of covered species. Several of these are rarely found in the area under current conditions, while others are

widespread wherever suitable habitat is present. The main strategy for conservation of covered species is to protect, enhance, and restore natural communities at the landscape-level in a regional Reserve System. This means planning for take of habitat and species in the PFG area and preservation and management in the RAA and along the stream system.

The conditions to minimize impacts on species described below are intended to allow the PCA to progressively implement the regional conservation strategy by applying a consistent set of conditions to individual covered activities on a case-by-case basis as they occur. There is a distinction drawn between where take is generally accepted and circumstances when particular rarity or seasonal sensitivity requires minimization even though habitat may not be maintained in the long term.

Take of individuals can be reduced by implementing the conditions listed in the species' sections below. While the conditions previously presented provide measures to avoid and minimize impacts from covered activities, additional measures will be required to avoid and minimize impacts to some covered species that are no take species, are particularly rare in the Plan area, or would benefit greatly from additional avoidance or minimization measures.

The conditions listed here are based on existing guidelines, regulatory principles, and expert sources as available at the time the PCCP was being drafted. These measures can be modified based on monitoring data from the PCA and other sources (e.g., other approved HCP/NCCPs), the scientific literature, and new regulations, with administrative concurrence of the Wildlife Agencies. Activities that may affect these covered species must also adhere to other applicable conditions in this chapter, including Species Condition 1, Avoid Direct Impacts to Wildlife Species Protected under Other Laws.

There are no Species Conditions for Central Valley Steelhead and Central Valley fall/late fall-run Chinook salmon. Rather, impacts to steelhead and Chinook salmon by covered activities will be minimized by the following General Conditions that apply to the stream system throughout the Plan area:

- General Condition 2. Maintain Hydrological Conditions and Protect Water Quality.
- General Condition 3. Stream System Avoidance.
- General Condition 4. Stream System Impact Minimization.
- General Condition 5. Placer County Water Agency Operations and Maintenance.

Furthermore, habitat for steelhead and Chinook salmon will be protected, managed, and restored in the Reserve System (see Chapter 5).

6.12.1 Species Condition 1. Avoid Direct Impacts to Wildlife Species Protected under Other Laws

All covered activities must adhere to other laws that protect wildlife species, including those summarized here. Several wildlife species that occur in the Plan area are listed as fully protected, as defined under Sections 3511 and 4700 of the California Fish and Game Code. As described in Chapter 1, CDFG cannot issue permits for take[2] of these species. Fully protected species that are known or likely to occur in the Plan area are listed below.

- Golden eagle.
- American peregrine falcon (a covered species).
- Bald eagle (a covered species).
- White-tailed kite.
- Ring-tailed cat.

American peregrine falcon, bald eagle, and golden eagle forage widely throughout the Plan area, primarily as winter residents, and golden eagle nests on the Bear River in Plan area. Potential nesting habitat for American peregrine falcon is limited to the cliffs above the North Fork American River at the eastern edge of the Plan area. There are no documented records of nesting by American peregrine falcon in the Plan area (CNDDB 2010). White-tailed kite is a year-round resident, primarily in the Valley portion of the Plan area. Ring-tailed cat may be found in riparian woodland in the Plan area.

All migratory bird species and their nests are protected under the Migratory Bird Treaty Act (MBTA). All birds covered by the Plan (see Table 1-3 for list of covered bird species) are considered migratory birds and are subject to the MBTA. Actions conducted under the Plan must comply with the provisions of the MBTA and avoid killing or possessing covered migratory birds, their young, nests, feathers, or eggs. As described in Chapter 1, the ESA incidental take permit, once issued by USFWS for the PCCP will automatically function as an MBTA Special Purpose Permit, as specified under 50 CFR Sec. 21.27, for any bird species federally listed under the ESA as threatened or endangered for a 3-year

[2] Take is defined more narrowly in the California Fish and Game Code than in the ESA; see Chapter 1, *Introduction*, for details.

term subject to renewal by the Permittees. Currently, none of the covered bird species are listed as threatened or endangered under the ESA. Should any of the covered migratory bird species become listed under the ESA during the permit term, the ESA permit would constitute a Special Purpose Permit under the MBTA for that species for a 3-year term subject to renewal by the Permittees.

Golden eagle and bald eagle are protected under the Bald and Golden Eagle Protection Act. Take of golden eagle or bald eagle includes "impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment" (72 FR 31133).

6.12.2 Species Condition 2. Bald Eagle

Bald eagle is a state fully protected species, so CDFG cannot issue a permit for take and take must be avoided. Bald eagles overwinter in the Plan area. They are not known to breed in the Plan area but there are recent records of breeding in neighboring counties (i.e., Yuba, El Dorado) within the elevation range of the Plan area (< 2,500 ft elevation). It is therefore assumed that bald eagles could potentially nest within the Plan area. Nests are associated with bodies of water, usually in old growth or mature conifers within one mile of lakes and rivers that support abundant fish, waterfowl, or other waterbird prey. Such habitat conditions are rare in the Plan area, so it is unlikely that bald eagles will nest in areas where they will be affected by covered activities.

No avoidance and minimization measures will be needed as long as bald eagle does not breed in the Plan area. If the PCA learns that bald eagle is breeding in the Plan area, then the avoidance and minimization measures below will apply to projects that could impact nesting bald eagles. These measures are based on recommendations in the National Bald Eagle Management Guidelines (USFWS 2007). The PCA will map active nest sites. A nest will be assumed to be active unless it has been documented to be abandoned for at least five years, as bald eagles tend to reuse nests in subsequent years. The PCA will map a 660-foot radius around each active nest to define the area in which covered activities must evaluate their line of sight to the active nest. If a covered activity is located within the line of sight and within 660 feet of an active nest, then the project must adopt the avoidance and minimization measures below:

- Activities in the line of sight (within 660 feet of active nests) will be prohibited to prevent nest abandonment. Fencing will be erected to demarcate the 660-foot buffer.
- Construction monitoring by a qualified biologist will focus on ensuring that activities do not occur within the line-of-site zone.
- The frequency of monitoring will be approved by the PCA and based on the frequency and intensity of construction activities and the likelihood of disturbance of the active nest. In most cases, monitoring will occur at least every other day, but in some cases daily monitoring may be appropriate to ensure that direct effects on bald eagles are minimized.

Nests can be active almost any time of year as nest activity and courtship begins several months before egg-laying, with mating, egg incubation, hatching, and rearing occurring primarily from January through August. Therefore, this avoidance and minimization measure will be required at active nests year-round. If site-specific conditions (e.g., steep topography, dense vegetation) or the nature of the covered activity (e.g., limited activities, activities that have occurred at the site in the past and demonstrated no disturbance to the active nest) indicate that a smaller buffer could be appropriate, the applicant may propose a smaller exclusion zone to the PCA for its approval. The PCA will consult with the Wildlife Agencies to determine the appropriate buffer distance given site conditions.

6.12.3 Species Condition 3. Swainson's Hawk

The following procedures will be implemented to avoid or minimize direct impacts of covered activities on Swainson's hawk. This condition is based on avoidance, minimization, and mitigation guidelines from the Draft Staff Report: Recommended Mitigation Strategies for the Swainson's Hawk (*Buteo swainsoni*) Within the California Breeding Range (CDFG 2004) and measures developed to avoid and minimize impacts to Swainson's hawk by activities covered by the East Contra Costa County HCP/NCCP (2006).

Surveys for Swainson's hawk will be required if a proposed project occurs within 1,000 feet of a nest site used within the previous five years; or anywhere on the Valley floor (below 200 feet elevation) if trees occur within 1,000 feet of a project site.

The PCA in coordination with Agencies will use surveys, monitoring reports and other sources of data to maintain maps of Swainson's hawk nest sites active within the previous five years to help ensure that mitigation measures are implemented for trees

that are taken by covered activities (see Mitigation for Loss of Nest Trees, below).

Surveys must be conducted by a biologist approved by the Wildlife Agencies no more than one month prior to ground disturbance that is to occur during the nesting season (March 1–September 15). Surveys must be conducted according to the Swainson's Hawk Technical Advisory Committee's methodology (May 31, 2000) or according to updated methodologies as issued by the Wildlife Agencies. According to current guidelines, during the survey the biologist will use binoculars to inspect all large trees and then document whether Swainson's hawk nests occur on-site.

If surveys conclude that Swainson's hawk nests occur, and are occupied, the project must adopt the minimization measure listed below:

- During the nesting season (March 1–September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, and minimal activities) indicate that a smaller buffer could be used, the PCA will coordinate with the Wildlife Agencies to determine the appropriate buffer size.

If young fledge prior to September 15, covered activities can proceed normally. A qualified biologist will be required to survey the nest to establish whether the young have fledged prior to September 15. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the project applicant can apply to the PCA for a waiver of this avoidance measure. Any waiver must also be approved by the Wildlife Agencies. While the nest is occupied, activities outside the buffer can take place.

Nest trees will not be removed, if feasible. If a nest tree (any tree that has an active nest in the year the impact is to occur) must be removed:

- Tree removal shall only occur between September 15 and February 1; and,

- The loss of any non-riparian Swainson's hawk nest trees must be mitigated by the project proponent through the following measure:

    1. Pay the PCA a fee to purchase, plant, maintain, and monitor 15 saplings on the Reserve System for every tree lost according to the requirements listed below. The PCA

will determine suitable locations on the Reserve System for trees to be planted.

The following requirements must be met for planting options:

- Tree survival shall be monitored at least annually for five years, then every other year until year 12. All trees lost during the first five years will be replaced. Success will be reached at the end of 12 years if at least five trees per tree lost survive without supplemental irrigation or protection from herbivory.
- Irrigation and fencing to protect from deer and other herbivores may be needed for the first several years to ensure maximum tree survival;
- Native trees suitable for the site will be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk. This variety will help to ensure that nest trees will be available in the short term (5-10 years for cottonwoods and willows) and in the long term (e.g., Valley oak, sycamore). This will also minimize the temporal loss of nest trees;
- Riparian woodland restoration conducted as a result of covered activities (i.e., loss of riparian woodland) can be used to offset the nest tree planting requirement above, if the nest trees are riparian species;
- When site conditions permit, trees will be planted together in clumps or with existing trees to provide larger areas of suitable nesting habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site);
- Plantings on the site will occur closest to suitable foraging habitat within the Reserve Acquisition Area; and
- Trees planted in the PCCP reserves or other approved off-site location will occur within the known range of Swainson's hawk in the Plan area and as close as possible to high-quality foraging habitat.

6.12.4 Species Condition 4. American Peregrine Falcon

American peregrine falcon is a State fully protected species, so CDFG cannot issue a permit for take and take must be avoided. It over-winters in the Plan area, and there are recent records of

breeding in Placer County east of the Plan area and in neighboring Yuba County. Therefore, American peregrine falcon could potentially nest within the Plan area. American peregrine falcon nests almost exclusively on protected ledges of high cliffs, often in woodland and forest. Such habitat conditions are rare, occurring primarily in the eastern portion of the Plan area, so it is unlikely that American peregrine falcon will nest in areas where it will be affected by covered activities. (American peregrine falcon also nests on buildings and other man-made structures. The PCA will consult with the Wildlife Agencies to determine appropriate mitigation measures for covered activities that occur within 0.5 mile of a nest that occurs on buildings or other man-made structures).

The measures described below will be applied to avoid or minimize impacts of covered activities on American peregrine falcon. If a project occurs within 0.5 mile of a cliff (either from the cliff base or cliff rim) that is greater than 160 feet high, surveys will be required prior to any ground disturbance that is to occur during the nesting season (February 1–August 31). Surveys must be conducted by a qualified biologist using protocol approved by the Wildlife Agencies, and will be focused to establish the presence or absence of nesting American peregrine falcons.

If an active American peregrine falcon nest is found within 0.5 mile of the covered activity, the project must abide by the conditions below. These distances are based on a range of recommended buffer distances for American peregrine falcon (Hays and Milner 2004).

- Activities will be prohibited within 0.5 mile of the cliff rim above an active nest and within 0.25 mile of the face of the cliff, measured outward from the cliff base to the covered activity, between February 1 and August 31 to avoid impacts to nesting American peregrine falcon. If active nests are present a brightly colored construction fence will be erected to establish a buffer boundary at the above distances above the cliff rim and outward from the cliff face prior to ground disturbance activities. No disturbance associated with the covered activity will occur within the cliff side of the fenced area. If site-specific conditions (e.g., steep topography, dense vegetation) or the nature of the covered activity (e.g., limited activities, activities that have occurred at the site in the past and demonstrated no disturbance to the active nest) indicate that a smaller buffer could be appropriate, the applicant may propose a smaller exclusion zone to the PCA for its approval. The PCA will consult with the Wildlife Agencies to determine the appropriate buffer distance for the given site conditions. If young fledge prior to August 31, covered activities can proceed normally. A

qualified biologist will be required to survey the nest to establish whether the young have fledged prior to August 31.

- A qualified biological monitor will be present on-site to ensure that no covered activities occur within the buffer zone established around an active nest. The frequency of monitoring will be approved by the PCA and based on the frequency and intensity of construction activities and the likelihood of disturbance of the active nest. In most cases, monitoring will occur every other day, but in some cases daily monitoring may be appropriate to ensure that direct effects on American peregrine falcon are minimized.

6.12.5 Species Condition 5. California Black Rail

The California black rail is a state fully protected species, so CDFG cannot issue a permit for take and take must be avoided. Information related to the breeding season for California black rail in the Sierra Nevada Foothills is sparse, but the breeding season is believed to extend from March 1 – August 15. Therefore, projects in occupied wetlands will not be permitted during the nesting season, when eggs and chicks are vulnerable to impacts and cannot disperse to new habitat.

Populations of California black rail have only recently been discovered in the Sierra Nevada foothills, with the majority of occurrences in marshes in the foothills of Butte and Yuba Counties. There are currently two records of California black rail in the Plan area. The PCA will provide updated maps of documented occurrences of California black rail and the location of their habitat within the Plan area.

If a proposed project is to occur during the nesting season within 300 feet of an area determined by the PCA as a potential breeding habitat for California black rail (i.e., fresh emergent wetland habitat > 0.2 acres in the Foothills), a survey must be conducted within two weeks prior to ground disturbance activities to determine if California black rail is present. Surveys must be conducted by a biologist approved by the Wildlife Agencies according to CDFG-approved protocol, or the protocol used in Richmond et al. (2008). If California black rail is determined to be present, no project activities are permitted within 300 feet of the outside perimeter of the occupied wetland during the nesting season. The 300-foot buffer will be fenced with four-foot black mesh exclusion fencing to prevent California black rails from entering the work areas and to identify the occupied wetland and buffer zone as a no-work area.

A qualified biological monitor will be present on-site to ensure that no covered activities occur within the buffer zone established around an occupied wetland. The frequency of monitoring will be approved by the PCA and based on the frequency and intensity of construction activities and the likelihood of disturbance to California black rail. In most cases, monitoring will occur at least every other day, but in some cases daily monitoring may be appropriate to ensure that direct effects on California black rail are minimized.

Wetlands that are occupied by California black rail or that provide potential habitat for California black rail that are impacted by covered activities must be mitigated in-kind according to the mitigation ratios specified in Community Condition 2. Wetlands preserved and restored to provide habitat for California black rail will have the habitat characteristics suitable to support breeding California black rail described in the species accounts (Appendix D) and the scientific literature.

6.12.6 Species Condition 6. Bank Swallow

The following measures will be implemented to avoid or minimize the impacts of covered activities on bank swallow nesting colonies.

Within the Plan area, bank swallows currently nest in the banks of the Bear River. The PCA will map the location of additional nest colonies if the PCA learns that bank swallows nest elsewhere in the Plan area.

If a project occurs within 300 feet of a bank of the Bear River, or in the bank of any river that is known by the PCA to be occupied, surveys to determine the presence of bank swallow colonies must be conducted within seven days prior to any ground disturbance that is to occur during the breeding season (April 1 – August 1).

If bank swallows are found to be nesting within 300 feet of covered activities, the project must abide by the following measures:

- Disturbance to bank swallow nesting colonies will be avoided. Covered activities will not be permitted within 300 feet of an active bank swallow nest colony during the nesting season (from April 1 through August 31, or until a qualified biologist has determined that young have fledged or that nests are no longer occupied);
- A construction fence will be erected to clearly identify the 300-foot buffer line to construction crews; and

- A qualified construction monitor will ensure that the 300-foot buffer is maintained around the nest colony and to ensure that covered activities do not affect nest success.

6.12.7 Species Condition 7. Western Burrowing Owl

The following measures will be implemented to avoid or minimize impacts of covered activities on western burrowing owls. This condition is based on the CDFG Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995) and other HCPs measures to avoid and minimize impacts. .

The PCA will provide maps of areas with potential burrowing owl breeding and overwintering habitat in the Plan area based on current available information.

If a project site occurs within 250 feet of an area that is determined by the PCA to be potential breeding or overwintering habitat, a qualified biologist must conduct a survey – within 15 days prior to ground disturbance – to establish the presence or absence of burrowing owls. During the breeding season (February 1 – August 31), surveys will document whether burrowing owls are nesting in or adjacent to disturbance areas. During the nonbreeding season, (September 1 – January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any area to be disturbed. Survey results will be valid only for the season (breeding or non-breeding) during which the survey is conducted.

The biologist will survey the proposed footprint of disturbance and a 250-foot radius from the perimeter of the proposed footprint to determine the presence or absence of burrowing owls. The presence of burrowing owl or their sign anywhere on the site or within the 250-foot accessible radius around the site will be recorded and mapped. Surveys will map all burrows on the project site. Adjacent parcels under different ownership will not be surveyed. Surveys must follow CDFG-approved survey guidelines (California Department of Fish and Game 1993) and will be designed to maximize the likelihood of detecting burrowing owls. Surveys must begin one hour before sunrise and continue until two hours after sunrise (three hours total) or begin two hours before sunset and continue until one hour after sunset. Additional time may be required for large project sites. For sites known to support burrowing owls in the past, a minimum of two surveys will be conducted (if burrowing owls are detected on the first survey, a second survey is not needed). All burrowing owls observed will be counted and mapped.

If burrowing owls are found to occur within 250 feet of the project site, the following measures must be implemented to prevent nest abandonment (if nesting burrowing owls are present) or harming/harassing individuals within burrows:

- A qualified biological monitor will conduct training of construction personnel on the avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone (i.e., outside the buffer zone). During construction activities, the qualified monitor will be present on-site to ensure that buffers are enforced;
- If burrowing owls are found during the breeding season (February 1–August 31), the project proponent will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance will include establishment of a 250-foot non-disturbance buffer zone around nests. Construction may occur within the 250 foot buffer zone during the breeding season only if a qualified biologist monitors the nest and determines that the birds have not begun egg laying and incubation or that the juveniles from the occupied burrows have fledged and moved off-site;
- During the non-breeding season (September 1– January 31), the project proponent will avoid the owls and the burrows they are using, if possible. Avoidance during the non-breeding season will include the establishment of a 160-foot buffer zone around active burrows. A biologist must conduct daily monitoring to ensure that the construction activities do not occur within the buffer zone;
- During the nonbreeding season, if a project cannot avoid occupied burrows, a qualified biologist must passively exclude birds from those burrows. Passive exclusion will be conducted for burrows located in the project footprint and within a 160-foot buffer zone. Passive exclusion must be conducted by installing one-way doors in burrow entrances that must be implemented 48 hours prior to excavation. The project area must be monitored daily for one week to confirm that the owl has abandoned the burrow. Burrows must be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). During excavation, an escape route must be maintained at all times. This may include inserting an artificial structure into the burrow to avoid having the overburden collapse into the burrow and trapping owls inside.

6.12.8 Species Condition 8. Tricolored Blackbird

The following measures will be implemented to avoid or minimize impacts of covered activities on tricolored blackbird nesting colonies.

The PCA will provide maps of areas with potential tricolored blackbird breeding habitat based on the best current information available. The map will also include locations of colonies active within the last five years and a 250-foot buffer around each nest site.

Surveys for tricolored blackbird colonies will only be required for projects occurring within potential breeding habitat and within 250 feet of recently (within previous five years) used colony sites. Surveys must be conducted by a qualified biologist during the breeding season (March 15 – July 31) and within 30 days prior to implementation of covered activities. During this survey, the biologist must establish presence or absence of nesting tricolored blackbirds.

If tricolored blackbird nesting colonies are identified, the project proponent will abide by the following measures:

- Activity will be prohibited during the breeding season within a no-activity buffer zone. If the colony is nesting in a wetland, the no-activity buffer zone is to be at least 250 feet from the outer edge of all hydric vegetation associated with the colony. If the colony is nesting in non-wetland vegetation (e.g., Himalayan blackberry), the no-activity buffer zone is to be at least 250-feet from the edge of the colony substrate. The buffer zone will be clearly marked to prevent covered activities from occurring within the buffer zone. This buffer may be reduced in areas with dense forest, buildings, or other habitat features between the construction activities and the active nest colony. Depending on site characteristics, the sensitivity of the colony, and surrounding land uses, the buffer zone may be increased. Covered activities potentially affecting a colony will be observed to confirm that the activity is not disrupting the colony, and if it is, the buffer will be increased. PCA technical staff will coordinate with the Wildlife Agencies and evaluate exceptions to the minimum no-activity buffer distance on a case-by-case basis.

- A construction monitor must be present on-site to ensure that the buffer zone is enforced. If monitoring indicates that construction outside of the buffer is affecting a breeding colony, the buffer will be increased if space allows (e.g., move staging areas farther away).

6.12.9 Species Condition 9. Giant Garter Snake

The following measures will be implemented to avoid or minimize impacts of covered activities on giant garter snake. This condition is based on the USFWS's Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat (USFWS 1999) and measures established for the East Contra Costa HCP/NCCP (2006).

Giant garter snakes are not known to occur within the Plan area. However, they are known to occur adjacent to the western and southern borders of the Plan area and potentially suitable habitat is known to occur within the Plan area (see Appendix D, Species Accounts). The PCA will provide a map of areas with potential giant garter snake habitat based on the best information currently available. If a project occurs within this mapped area, a qualified biologist will survey the site using Wildlife Agency-approved protocol (e.g., protocol in USFWS 1999) to determine whether suitable giant garter snake habitat occurs within 200 feet of the project footprint. The surveys will delineate suitable habitat and document any sightings of giant garter snake.

If the biologist determines that suitable aquatic habitat occurs within 200 feet of the project footprint, a buffer of 200 feet from suitable habitat will be delineated within which covered activities cannot occur. This buffer distance is designed to minimize impacts to giant garter snake in aquatic habitats and in upland retreat sites adjacent to aquatic habitat.

A qualified biologist will provide Wildlife Agency-approved environmental training to construction personnel conducting site preparation and grading operations. Training will instruct workers on how to identify the giant garter snake and its habitats and what to do if a giant garter snake is encountered during construction activities. The qualified biologist will be present on-site to ensure that no covered activities occur within the buffer zone. The frequency of monitoring will be approved by the PCA and based on the frequency and intensity of construction activities and the likelihood of disturbance to giant garter snakes.

If a live giant garter snake is found during construction activities, the Wildlife Agencies and the project's biological monitor will be immediately notified. The biological monitor shall halt construction in the vicinity of the giant garter snake. The giant garter snake will be monitored and allowed to leave the area on its own. The monitor shall remain in the area for the remainder of the work-day to make sure the giant garter snake is not harmed or, if it leaves the site, does not return. Escape routes for the giant garter snake

will be determined in advance of construction and giant garter snakes will always be allowed to leave on their own. If a giant garter snake does not leave on its own within one working day, further consultation with the Wildlife Agencies will be conducted.

If possible, the project will limit construction activity that disturbs habitat to the period between May 1 and September 30. This is the active period for the giant garter snake and the chance of direct mortality is reduced because snakes are expected to actively move and avoid danger. If activities are necessary in giant garter snake habitat between October 1 and April 30, the USFWS Sacramento Field Office will be contacted to determine if additional measures beyond those described below are necessary to avoid take.

If the project cannot avoid conducting work between May 1 and September 30, the project must dewater the aquatic habitat for at least 15 consecutive days prior to when excavation and/or filling begins. This is to decrease the likelihood that any individual giant garter snakes are damaged by excavation and filling equipment – by increasing the likelihood that the snakes disperse away from the area before excavation and/or fill activity begins. If a site cannot be completely dewatered, or if snake prey remains, prey items must be removed using netting or other salvage methods.

By about October 1, giant garter snakes enter winter retreat sites in upland habitats adjacent to aquatic habitat until they emerge by about April 1. During this period, giant garter snakes may enter a state of torpor, where they cannot move quickly on their own, and making individuals more vulnerable to harm. To avoid impacts to giant garter snakes during the over-wintering period, projects must, where feasible, complete vegetation and/or ground disturbance before September 30.

If the project cannot avoid conducting work in suitable upland habitat between September 30 and May 1, the project must have a qualified biologist inspect the site to ensure that snakes are not overwintering on the site.

Fill or construction debris may be used by giant garter snakes as over-wintering sites. Therefore, upon completion of construction activities, any temporary fill or construction debris must be removed from the site.

6.12.10 Species Condition 10. Valley Elderberry Longhorn Beetle

The following measures will be implemented to avoid or minimize impacts of covered activities on valley elderberry longhorn beetle.

This condition is based on the USFWS's Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS 1999).

The PCA will provide a map of areas with potential valley elderberry longhorn beetle habitat based on the best information currently available. If a project occurs within this mapped area, a biologist approved by the Wildlife Agencies will survey the site to determine whether suitable valley elderberry longhorn beetle habitat occurs on or adjacent to the proposed project site.

Valley elderberry longhorn beetle are difficult to detect through most of their life cycle, but depend entirely on elderberry plants as juveniles and as adults. Although individual valley elderberry longhorn beetle surveys are useful for studying their population dynamics, valley elderberry longhorn beetle surveys are not reliable for determining absence vs. presence. Juveniles' exit holes do not become apparent until the juveniles are full-grown, and the adults land and feed on elderberry plants only intermittently. Therefore, the presence of elderberry plants, rather than surveys for individual valley elderberry longhorn beetle, will be used as a proxy for the potential occurrence of valley elderberry longhorn beetle.

If a project site contains elderberry plants with one or more stems measuring 1.0 inch in diameter or greater at ground level, or are otherwise located where they may be directly or indirectly affected by the proposed action, the project must avoid to the maximum extent practicable impacts on valley elderberry longhorn beetle habitat. To do so, the project proponent will:

- Establish a minimum 100-foot buffer from the outside perimeter of the elderberry branches that is to be maintained during and after construction. In buffer areas,
    - Construction-related disturbance will be minimized, and any damaged area will be promptly restored following construction. This is because construction damage has the potential to reduce recruitment of new elderberry saplings. In addition, both adults and juveniles are vulnerable to being crushed when construction activity damages elderberry plants.
    - No insecticides or herbicides (or other chemicals that might harm the beetle or the elderberry plants) will be used.
    - If mowing of grasses and ground cover is required for reducing fire hazard, mowing may occur only from July through April. In addition, a project may not mow within five feet of elderberry plant stems, and mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of

mowing/trimming equipment). This is to avoid damaging elderberry plants, as damaging an elderberry plant has the potential to harm any individual valley elderberry longhorn beetles that occur within those branches.

To maintain this buffer, the project must fence and flag all areas to be avoided during construction activities. Contractors must be briefed on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements, and work crews must be instructed about the status of the beetle and the need to protect its elderberry host plant. Signs will be erected every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs will be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

Transplant Elderberry Plants That Cannot Be Avoided

If a project must remove elderberry plants, the plants must be transplanted to minimize the likelihood that any valley elderberry longhorn beetle juveniles feeding inside the stems of the plants are harmed. All elderberry plants with stems measuring 1.0 inch in diameter or greater at ground level must be transplanted to suitable habitat on a PCCP reserve, as determined by the PCA. At the PCA's discretion, a plant that is unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of location, may be exempt from transplantation. To do this, the project must abide by the following measures:

- Transplant elderberry plants between November 1 and February 15 using the protocol described in USFWS 1999 or other protocol approved by the PCA and USFWS. Because November 1 through February 15 is the dormant period for valley elderberry longhorn beetle, they will be less likely to leave the plants during the relocation.

- The planting area must be at least 1,800 square feet for each elderberry transplant. Up to five additional elderberry plantings (cuttings or seedlings) and up to five associated native species plantings may also be planted within the 1,800 square foot area with the transplant. An additional 1,800 square feet will be provided for every additional 10 seedlings or cuttings (see below).

- Transplants must be watered as necessary to ensure survival through the first summer.

Plant Additional Seedlings or Cuttings

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (e.g., transplanted or destroyed) must be replaced in suitable habitat on a PCA reserve at a site determined by the PCA, with elderberry seedlings or cuttings at a ratio of 4:1 (i.e., four elderberry seedlings or cuttings must be planted to replace each adversely affected elderberry). Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the reserve where transplants will be relocated. If the PCA determines that the elderberry plants on the proposed project site are unsuitable candidates for transplanting, the PCA may allow the project proponent to plant seedlings or cuttings at a ratio greater than 4:1 for each elderberry plant that cannot be transplanted.

Next to each transplant, plant elderberry seedlings and associated native plants at a ratio of 2:1 (i.e., two native tree/plant species for each elderberry seedling or cutting) using the protocols described in USFWS 1999 – or other protocol approved by the PCA and USFWS. Stock of saplings, cuttings, and seedlings should be obtained from local sources, unless otherwise approved by the PCA. Planting or seeding the elderberry planting and transplanting areas with native herbaceous species is encouraged. Establishing native grasses and forbs may discourage unwanted non-native species from becoming established or persisting around transplant/planting areas.

A qualified biologist (monitor) must be on-site for the duration of the transplanting of the elderberry plants to ensure that no unauthorized take of the valley elderberry longhorn beetle occurs. If unauthorized take occurs, the monitor must have the authority to stop work until corrective measures have been completed.

Areas on PCA reserves maintained as firebreaks or buffers for land adjacent to reserves cannot be used for transplants or credited for additional plantings.

6.12.11 Species Condition 11. Western Spadefoot Toad

The following measures will be implemented to avoid or minimize impacts of covered activities on western spadefoot toad.

The PCA will provide a map of areas with potential western spadefoot toad aquatic (i.e., breeding) habitat based on the best

information currently available. If a proposed project is to fill or surround suitable aquatic habitat during the breeding season (December 1 – April 31), a qualified biologist will survey the site to determine whether western spadefoot toad occurs on the proposed project site. If pre-construction surveys have determined that western spadefoot toad occurs on the proposed project site, the PCA, in consultation with the Wildlife Agencies and a qualified biologist, may translocate adults, larvae, and egg masses to suitable habitat protected on the Reserve System. The decision to translocate individuals will be based on the status of western spadefoot toads in the Plan area and on the Reserve System, the status of the population to be impacted, the availability and condition of suitable habitat to translocate western spadefoot toads to, and the health of the individuals to be impacted by the project (e.g., incidence of disease).

The project proponent will notify the PCA of the approximate date of removal of the breeding habitat at least 30 days prior to this removal to allow the PCA and/or Wildlife Agencies to translocate individuals, if requested. The PCA and/or Wildlife Agencies must notify the project proponent of their intent to translocate western spadefoot toads within 14 days of receiving notice from the project proponent. The project proponent must allow the PCA and/or Wildlife Agencies access to the site prior to construction if they request it. The project proponent must coordinate the timing of the removal of the breeding habitat to allow the PCA (or qualified biologist) and/or WildlifeAgencies time to translocate western spadefoot toads. The PCA and/or Wildlife Agencies shall be allowed 45 days to translocate individuals from the date the project application was submitted (or a longer period agreed to by the project proponent, PCA, and Wildlife Agencies).

If suitable aquatic habitat is retained on-site, the project proponent will erect appropriate fencing to demarcate buffers and minimize movement of western spadefoot toad into construction sites from aquatic habitats, as described in Community Conditions 3.2 and 3.3.

6.12.12 Species Condition 12. California Red-legged Frog

Although California red-legged frog is believed to be extirpated from the floor of the Central Valley (USFWS 2000), the Plan area is within the frog's historic range (Storer 1925; Jennings and Hayes 1985; Hayes and Krempels 1986). California red-legged frogs occur east of the Plan area in Michigan Bluff and an unincorporated town site near the Middle Fork of the American River in Placer County; however, there are no known occurrences in the Plan area. Surveys will be required if potentially suitable

habitat occurs on the site of the proposed project to determine presence or absence of California red-legged frog.

The PCA will provide a map of areas with potential California red-legged frog aquatic habitat based on the best information currently available. If a proposed project is to fill or surround suitable aquatic habitat, a qualified biologist will survey the site to determine whether California red-legged frog occur on the proposed project site. If pre-construction surveys have determined that California red-legged frog occurs on the proposed project site, the PCA, in consultation with the Wildlife Agencies and a qualified biologist, may translocate adults, larvae, and egg masses to suitable habitat protected on the Reserve System. The decision to translocate individuals will be based on the status of California red-legged frog in the Plan area and on the Reserve System, the status of the population to be impacted, the availability and condition of suitable habitat to translocate frogs to, and the health of the individuals to be impacted by the project (e.g., incidence of disease).

The project proponent will notify the PCA of the approximate date of removal of the aquatic habitat at least 30 days prior to this removal to allow the PCA and/or Wildlife Agencies to translocate individuals, if requested. The PCA and/or Wildlife Agencies must notify the project proponent of their intent to translocate California red-legged frogs within 14 days of receiving notice from the project proponent. The project proponent must allow the PCA and/or Wildlife Agencies access to the site prior to construction if they request it. The project proponent must coordinate the timing of the removal of the aquatic habitat to allow the PCA (or qualified biologist) and/or Wildlife Agencies time to translocate California red-legged frogs. The PCA and/or Wildlife Agencies shall be allowed 45 days to translocate individuals from the date the project application was submitted (or a longer period agreed to by the project proponent, PCA, and Wildlife Agencies).

If suitable aquatic habitat is retained on-site, the project proponent will apply appropriate measures that will minimize impacts to California red-legged frogs, as described in Community Condition 3.2 and General Conditions 3 and 4. In addition, if California red-legged frogs occur on the retained or avoided habitat (e.g., the stream zone), the following measures will be undertaken to minimize impacts to California red-legged frog:

- Refrain from direct disturbance to an area no less than 300 feet surrounding occupied habitat. Appropriate fencing will be installed to demarcate the 300-foot buffer around occupied habitat and to prevent movement of California red-legged frogs into the construction site.

- Conduct daily pre-construction surveys (performed by a qualified biologist) of the construction site.
- Train all construction crews to identify California red-legged frogs.
- If an individual California red-legged frog is found within a construction site, all work must stop until the frog leaves the site on its own or a permitted biologist can relocate it to suitable habitat.