El Dorado County
Integrated Natural Resources Management Plan
Phase I

- Administrative Draft
INRMP Implementation Options Report

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EXECUTIVE SUMMARY

This report is the fourth and final report of the El Dorado County (County) Integrated Natural Resources Management Plan (INRMP) Phase I study. The report presents optional strategies that could be employed in Phase II to develop the overall INRMP master plan and provides strategies for developing a Phase II scope of work. According to the County's General Plan, the INRMP shall define and describe actions to be taken to mitigate for impacts to wildlife and plants associated with development.

Impacts associated with development include those caused by land-conversion from natural to partially and fully-developed states, increased extent and/or capacity of the transportation system, and increases in both the developed footprint and degree of fragmentation within the study area. Mitigation for these impacts can occur in four ways: avoidance, minimization, restoration and compensation. Avoidance and minimization are usually the least expensive and easiest forms of mitigation and are least subject to challenge. Compensation is the most expensive, sometimes least effective, and most subject to challenge.

This report follows the outline of the INRMP components as currently defined by General Plan Policy 7.4.2.8. It *does not* provide options to the structure, but rather implementation options for each of the main components, or sub-sections, of Policy 7.4.2.8 as currently written. As defined by County General Plan Policy 7.4.2.8, the INRMP shall consist of eight sections as follows:

A. Habitat Inventory
B. Habitat Protection Strategy
C. Mitigation Assistance
D. Habitat Acquisition
E. Habitat Management
F. Monitoring
G. Public Participation
H. Funding

For each of the eight sections, the report provides an introduction, the General Plan context, a brief description of work completed to date in Phase I, a description of the defined Optional Approaches, and a summary matrix for each topic noting advantages and disadvantages of each option and relative costs.

Appendix A summarizes what other local jurisdictions are doing to address wildlife and plant mitigation needs. Appendix B provides conceptual examples of how the INRMP Implementation Options Report can be shaped as overall strategies for preparing the INRMP. Appendix C consists of a recommended strategy for developing a Phase II scope of work.

<u>INRMP Relationship to Pine Hill Preserve</u>
The Pine Hill Preserve is within the INRMP study area boundary and the INRMP will complement activities of the preserve, for example, by providing habitat connectivity to the preserve. While the Pine Hill Preserve was established to protect specific species, the INRMP is intended to focus on overall biodiversity and habitat protection for a variety of plants and

wildlife within the study area (including special status species). As directed by General Plan Policy 7.4.2.8, all lands acquired under the INRMP will be added to the Ecological Preserve Overlay area.

INRMP Relationship to Oak Woodland Management Plan (OWMP)

The Oak Woodland Management Plan (OWMP) is associated with the INRMP but it was created with specific mitigation requirements as described in General Plan Policy 7.4.4.4 through a separate Objective in the General Plan. Other components of the INRMP (such as mitigation fee structure) could be based on policies already established by the OWMP, or new policies may be developed. Similarly, Priority Conservation Areas (PCAs) were identified for oak woodlands in the OWMP and could be developed for other important habitat types by utilizing methodologies similar to those established for the OWMP. Since mitigation for impacts to oak woodland habitat is dealt with in the OWMP, the INRMP will focus on mitigation for other important habitats. When considering the locations and prioritization of wildlife movement corridors and other conservation areas, the mapping work done for the OWMP will be considered. Ultimately, the OWMP will become part of the final INRMP.

1. HABITAT INVENTORY

1.1 Introduction

This part of the INRMP describes how important habitats in the INRMP study area are identified and mapped and how the amount of these habitats protected by County programs is tracked. The General Plan states that the Inventory is to be updated every three years and shall show the amount of important habitat (by habitat type) removed due to new development during that period.

The initial inventory has been completed (INRMP Phase I). The following section describes optional methods available to provide the required updates to the inventory and to identify the habitat areas that are protected, and habitat areas that have been removed.

1.2 General Plan Context

The following text is presented verbatim from Subsection A of Policy 7.4.2.8:

A. Habitat Inventory. This part of the INRMP shall inventory and map the following important habitats in El Dorado County:

1. *Habitats that support special status species;*
2. *Aquatic environments including streams, rivers, and lakes;*
3. *Wetland and riparian habitat;*
4. *Important habitat for migratory deer herds; and*
5. *Large expanses of native vegetation.*

The County should update the inventory every three years to identify the amount of important habitat protected, by habitat type, through County programs and the amount of important habitat removed because of new development during that period. The inventory and mapping effort shall be developed with the assistance of the Plant and Wildlife Technical Advisory Committee, CDFG, and USFWS. The inventory shall be maintained and updated by the County Planning Department and shall be publicly accessible.

1.3 Background Information

The initial INRMP Habitat Inventory was prepared by the County in March 2008. The Inventory and associated maps were updated in April 2010 as a part of the INRMP Phase I scope of work.

To update the existing Initial Inventory Map, the County gathered additional data, met with the Plant and Wildlife Technical Advisory Committee (PAWTAC) and the INRMP Stakeholders Advisory Committee (ISAC), and revised the map to show the best data that is currently available.

For graphic clarity, each of the five elements was displayed on separate maps. Although they are presented as separate maps, all of the information is part of the same Geographic Information

System (GIS) database, which will be important for Phase II analysis and preparation of the INRMP. The process used to create each of the five maps is described below.

1.3.1 Habitats that Support Special-Status Species

The original Initial Inventory Map prepared by the County used the California Natural Diversity Database (CNDDB) point data, U.S. Fish & Wildlife Service (USFWS) Critical Habitat, and the Pine Hill Preserve area to show special-status species. For the map update, the County utilized the most current versions of these same data sources as well as U. S. Forest Service (USFS), Natural Resource Conservation Service (NRCS), and several other data sources. This includes the recently proposed changes to the areas of Critical Habitat for the California red-legged frog (*Rana aurora draytoni*) (CRLF) in El Dorado County. It should be noted that the CNDDB is based on project-driven surveys and therefore the data it contains is incomplete.

1.3.2 Aquatic Environments including Lakes, Streams, and Rivers

The data source utilized to produce this map is the National Hydrography Dataset from the U.S. Geological Survey (USGS). This data includes a thorough inventory of intermittent and perennial streams, bodies of water, and man-made water conveyance structures (e.g., canals). It shows some ephemeral streams but the list of ephemeral water courses is not comprehensive.

1.3.3 Wetland and Riparian Habitats

The wetland and riparian habitat map update is based on the USFWS National Wetlands Inventory (NWI) database. The USFWS NWI database is derived from 7.5-minute USGS topographic data and aerial photo interpretation. Many seasonal wetlands are not included in this inventory due to the difficulty of mapping these features without extensive ground verification.

1.3.4 Important Habitat for Migratory Deer Herds

Information on migratory deer herds is very limited. The only existing source is the California Department of Fish & Game (CDFG) data produced in 1990 from reports prepared in the 1970s and 1980s. CDFG staff indicated that there have not been any recent updates, although significant land use changes have occurred since those maps were produced. These changes, including increases in human population and traffic, have likely affected the current distribution of migratory deer herds.

1.3.5 Large Expanses of Native Vegetation

A large expanse of native vegetation is dependent upon the vegetation type and the species utilizing the habitat provided by the vegetation type. Therefore, a large expanse of oak woodland is different in size than a large expanse of a vegetation type with relatively limited distribution such as serpentine chaparral. Similarly, a large expanse of native vegetation for a population of mule deer is larger than that required for a population of California horned-lizard. Phase I mapping of the large expanses of native vegetation focused on identifying all areas of vegetation that are relatively undisturbed. Phase II could consider species-specific habitat requirements to determine conservation strategies and potential mitigation.

To show large expanses of undisturbed areas, the County first mapped areas that have extensive land development and/or road networks. The remaining areas were then shown as large expanses of native vegetation using existing vegetation mapping data.

1.4 Optional Approaches

1.4.1 Existing Mapping Technique

The methodology for producing the mapping was accepted by the Board of Supervisors in June 2010. The first option employs this same methodology for future updates.

1.4.2 Identification of Priority Conservation Areas

This option could be employed to refine the Large Expanses of Native Vegetation map to identify habitat areas within the study area that are currently protected as well as habitat areas that should be protected as part of the INRMP. This strategy could be based on additional GIS Mapping to include land ownership, development agreements, zoning, connectivity analysis, Important Biological Corridors (IBCs), etc. Areas that are identified as priority conservation areas could suit the definition of "Important Habitat" as defined by General Plan Policy 7.4.1.6.

1.4.3 Additional Data Sources

This option supplements the first option and serves to update the initial inventory maps with new information as new data becomes available. General Plan Policy 7.4.2.8 requires updates every three years and these updates should consider new information. This could include utilization of the United States Army Corps of Engineers' (USACE) forthcoming updates for aquatic environments and wetlands maps. It could also include incorporation of additional data obtained from field research and other activities performed in association with implementing the monitoring component of the INRMP.

1.4.4 Field Surveys for Habitats, Wildlife, and Plants

In order to refine existing mapping, biologists could perform targeted surveys of the study area to document the extent of important habitat types. This could involve various levels of effort from documenting potential habitat for a few particular species to a more intensive survey designed to capture numerous habitats and species. This effort would increase confidence in the current maps.

Table 1 Summary of Optional Approaches for Habitat Inventory

Option Type	Advantages	Disadvantages	Relative Cost
Existing Mapping	• Board-approved methodology • Database already exists	• Best available data is incomplete	Low
Identification of Priority Conservation Areas	• Eliminates areas that are unlikely candidates for acquisition • Utilizes methodology defined by OWMP	• Could reduce total acreage available that has been identified as important habitat • Reduces connectivity • Increases habitat fragmentation	Moderate
Additional Data Sources	• Utilizes new information as it becomes available	• Additional expense to create complet database	High
Field Surveys	• Gives greater confidence to mapping • Identifies locations of previously undefined habitats	• Requires a large effort.	High

2. HABITAT PROTECTION STRATEGY

2.1 Introduction

This section describes science-based strategies that can be used to support habitat protection. The strategies could be in the form of ordinances, direct payments, education and outreach or land acquisition. For example, riparian setbacks and Important Biological Corridors (IBCs) are strategic ordinances that protect important habitats and wildlife movement. Land-use regulations enforced through the planning process for land development are inexpensive conservation actions that local governments can take. Protection of habitat values could also be in the form of "payment for ecosystem services" (PES). For example, conservation payments to agricultural land owners to encourage best management practices can be offered. Habitat protection can also result from stewardship training and education programs that encourage habitat-protection behavior in targeted (e.g., riparian land-owners) or broad public audiences. Finally, the protection could be attained through acquisition of conservation easements or land in fee title. Any habitat protection strategy should consider using a combination of these options to achieve the goals of the INRMP. In all cases, an overall assessment and planning using optimization tools would be appropriate for both establishing an efficient habitat protection system and assessing effectiveness of the system.

2.2 General Plan Context

The following text is presented verbatim from Subsection B of Policy 7.4.2.8:

B. Habitat Protection Strategy: This component shall describe a strategy for protecting important habitats based on coordinated land acquisitions (see item D below) and management of acquired land. The goal of the strategy shall be to conserve and restore contiguous blocks of important habitat to offset the effects of increased habitat loss and fragmentation elsewhere in the county. The Habitat Protection Strategy should be updated at least once every five years based on the results of the habitat monitoring program (item F below)(Section 6 in this report). *Consideration of wildlife movement will be given by the County on all future 4- and 6-lane roadway construction projects. When feasible, natural undercrossings along proposed roadway alignments that could be utilized by terrestrial wildlife for movement will be preserved and enhanced.*

2.3 Background Information

Phase I of the INRMP included mapping large expanses of native vegetation and identifying potential wildlife corridors and areas where wildlife road crossings are needed or can be improved. This section describes specific strategies for protecting and enhancing these resources.

2.4 Optional Approaches

2.4.1 Local Ordinances

Ordinances can help implement conservation priorities without the expense of buying properties. For general ecosystem attributes like connectivity and habitat quality, ordinances are one way to protect what would be difficult to buy across all habitat types.

2.4.2 Land Use Regulation

It is difficult to anticipate and expensive to pay for all of the disparate natural values that contribute to a functioning ecosystem and conservation of biodiversity. Contemporary municipal and county planning is often a balancing act among competing demands that include conservation of natural values and systems. The County could utilize land use regulations for activities such as subdivision design, zoning, and permitting to assist in conservation.

2.4.3 Important Biological Corridors (IBCs)

The IBC's, as currently defined by the County, were developed under the Environmentally Constrained General Plan Alternative. That alternative was not adopted in its entirety and therefore it is appropriate to reconsider the location of the IBCs in light of the mapping and connectivity studies that have now been prepared. To do so would require a General Plan Amendment.

2.4.4 Payment for Ecosystem Services

Wildlife habitat quality and wildlife movement are valuable ecosystem attributes. An argument can be made that if someone goes out of their way to provide these attributes through actions that are not otherwise required, then payment may be appropriate. Significant funding needs to be in place in order for this to be an effective option.

2.4.5 Stewardship & Education

Educating the public about local wildlife, habitats, and potential threats to wildlife can foster a sense of stewardship over local resources. Often, people need better access to information to balance the actions that could benefit conservation with their day to day activities. Fostering stewardship and education can assist in implementing the INRMP and can be encouraged by offering incentive-based tax credits for activities such as maintaining wildlife-friendly fencing or developing land in a way that is consistent with maintaining wildlife movement in that area.

2.4.6 Easement and Fee Title Acquisition

A traditional conservation practice in the face of development is acquisition of land in fee title or as conservation easements. This practice is common, but presents uncertainties that cannot be ignored (also see Section 4, Habitat Acquisition).

2.4.7 Habitat Prioritization

There are many ways that lands can be prioritized for action under the options listed here. For the last decade, conservation biologists have been developing tools to assist in decision-making about potentially effective habitat protection strategies. These include approaches that optimize selection of lands for action based only upon potential conservation value. Others combine cost with conservation value to select sets of lands that cost-effectively provide the values being

sought. Still others address uncertainties associated with incomplete knowledge, climate change effects, changes in regulation, and changing costs and availability of funds.

Conservation prioritization is a common, economical way to address impacts and mitigation. A triage process is often performed to locate in space and time the places and/or actions that are likely to cause the greatest irreversible change. This process may create three priority tiers: high priority for action, moderate priority, or watch for change, and low priority. Figure 1 below, summarizes this concept. Lands that have high ecological value or that are irreplaceable are given moderate to high priorities depending on whether change is unlikely (or unknown) or whether change is imminent. Similarly, lands that have low (or unknown) ecological value are given low to moderate priorities.

Figure 1. Conservation Triage and Prioritization

	Change Unlikely/Unknown	**Change Imminent**
High Value/Irreplaceable	*Moderate Priority*	*High Priority*
Low/Unknown Value	*Low Priority*	*Moderate Priority*

Using the INRMP study area as an example, community areas and highway 50 corridor areas could be prioritized because of the high likelihood of development and the resulting ecological high value of remaining lands. A second tier of priority areas would be areas in the study area that were identified in the General Plan as intended for eventual development and that serve current natural functions. The third tier would be lands that are unlikely to be developed under the current General Plan, such as the eastern portion of the study area which is mostly coniferous forest. Since this area is unlikely to be affected by development, it should be given a low priority for conservation efforts.

A habitat prioritization system can also be utilized to rank habitat quality and to provide recommendations for appropriate mitigation measures (see Section 3). Less mitigation, for example, would be required for impacts to lower quality habitat. This type of system can also be used for purposes of determining what land to acquire (see Section 4, Habitat Acquisition).

2.4.8 Williamson Act

Another option for temporary habitat protection could be accomplished by entering into Williamson Act contracts with land owners. This offers the benefit of tax relief to the property owner while the land remains less developed. In this option lands may enter and leave Williamson Act designations so long as total acreages of habitat to be protected are maintained. The issue of temporary habitat protection could be addressed by requiring a replacement Williamson Act contract with habitats and acreages comparable to those removed.

2.4.9 Planning Process

Successful habitat protection relies on the County developing appropriate and flexible planning processes. One component of the process is the development and administration of plan strategies and actions. Another is prioritization of actions that are likely to meet the needs of the

INRMP and General Plan, which the County can develop with assistance from advisors/consultants. A third is communicating how the plan functions to non-county entities, including interested agencies, the general public, non-governmental organizations, and land-owners. The planning process should be open for public review and critique on a frequent enough timeframe to ensure nimble response to changing conditions and investment by interested parties in the process. The INRMP Phase I planning process serves as a good model for INRMP implementation in terms of intimate-involvement of interested parties in planning, the oversight role of the Board, day-to-day steering by county staff, and periodic exposure of the plan to public scrutiny and critique.

2.4.10 Considerations of Wildlife Movement for Road and Construction Projects

Non-interchange infrastructure projects also provide opportunities for incorporation of wildlife movement needs into designs and planning. Wildlife movement needs could be used to help identify route alternatives with the lowest impact to wildlife and landscape connectivity. Specific design considerations could be included at locations of highest probability of crossing by animals. Improved roadway designs (e.g. medians that allow crossing by many species) could be incorporated in all infrastructure projects in the INRMP planning area. This section could also serve to identify which specific roads within the County constitute major roadways that are in need of wildlife considerations, and would prioritize proposed improvements based on cost effectiveness.

Table 2 Summary of Optional Approaches for Habitat Protection

Option Type	Advantages	Disadvantages	Relative Cost
Local ordinance	• Predictable landscape outputs	• County responsible for full implementation	Low
Land use regulation	• Can plan for ecological patterns and processes that cross parcel boundaries	• Less owner control of process • Requires County action	Low
Revise and Update Important Biological Corridors	• Current adopted IBCs were developed for the environmentally constrained General Plan Alternative, which was not adopted in its entirety • Current IBCs were not scientifically developed	• Requires a General Plan Amendment	Moderate
Payment for ecosystem services	• Politically popular because of funding to landowners	• Can be expensive • Results are not predictable	Potentially high
Stewardship & education	• Politically popular and palatable	• Effectiveness highly variable and hard to measure	Moderate
Easement and fee title acquisition	• Politically popular because of funding to landowners	• Likely to be expensive • Results are not predictable	Potentially high
Habitat prioritization	• Rationale for investment of funds, conservation-based	• Relies on willingness of sellers	Low
Williamson Act	• Can offer relatively quick protection from development	• Temporary – property can be taken out of contract	Low
Adopt Planning Process	• Mechanism to ensure that plan is adaptable to change • Transparent communications between all parties	• Administrative costs	Potentially high
Consideration of Wildlife Movement for Road and Construction Projects	• More cost effective to incorporate design concepts during initial construction rather than retrofits.	• Higher construction costs	Moderate

3. MITIGATION ASSISTANCE

3.1 Introduction

This section describes options available to mitigate for unavoidable impacts to areas identified as important habitat. These are impacts that are the result of development activities for which a discretionary permit is issued. Not everything can be protected, so priority for inclusion in the acquisition portion of the INRMP (Section 4, Habitat Acquisition) must be established to optimize cost and effectiveness of the program and to capture key opportunities.

3.2 General Plan Context

The following text is presented verbatim from Subsection C of Policy 7.4.2.8:

C. Mitigation Assistance. This part of the INRMP shall establish a program to facilitate mitigation of impacts to biological resources resulting from projects approved by the County that are unable to avoid impacts on important habitats. The program may include development of mitigation banks, maintenance of lists of potential mitigation options, and incentives for developers and landowner participation in the habitat acquisition and management components of the INMRP.

3.3 Background Information

The County currently has two mitigation programs in place: the Ecological Preserve and the Oak Woodland Management Plan. The INRMP could adopt or modify strategies developed in one of these plans to identify areas to conserve and set priorities of lands to be acquired or for which a different instrument (Memorandum of Understanding (MOU), lease, easement) may be appropriate.

- Ecological Preserve Plan
  - Ranks three types of lands that require varying degrees of mitigation for impacts.
  - Identified an ecological preserve area; impact fees collected are used to acquire parcels from willing sellers in that area.
- Oak Woodland Management Plan
  - Identified Priority Conservation Areas where parcels from willing sellers should be acquired or conservation easements could be obtained in perpetuity.
  - Options for developers include replacement of oak trees on-site as mitigation for loss of oak canopy.

These programs have established priorities for acquisition and mitigation requirements.

3.4 Optional Approaches

3.4.1 Avoidance of Impact

There are several ways for the County to avoid impacts under the General Plan. One is to discourage development of areas with natural values that are either difficult to replace or irreplaceable. Another is to develop ordinances that protect certain features because they have

been shown scientifically to provide environmental benefits (e.g., riparian/upland setbacks associated with streams, last-remaining wildlife movement areas). A third is to use development agreements and the permit process as ways to limit development of certain areas. A fourth is to use potential impacts from enhanced transportation system capacity as a result of development as a way to gauge development impacts and thus avoid them. Transportation system avoidance of impact can occur by placing development so that increased circulation does not result in impacts to natural systems, and by avoiding parts of the landscape which have irreplaceable or difficult to replace values. These actions have moderate fiscal costs to the county for management of the ordinance development and permit & agreement review. These actions may result in lost development opportunities to individual land-owners, which is a common result of General Planning.

3.4.2 Minimization of Impact

When development occurs, potential impacts can sometimes be mitigated by changing practices on site. One method is to consider clustered vs. dispersed development. From an ecological point of view, low-density development is better than high-density, if the impacted area stays the same, but the number of units can vary. Conversely, high-density, clustered development may be better than low-density, dispersed development if the impacted area and the number of units stayed the same. High-density, clustered development tends to be cheaper than low-density, dispersed development in terms of county services, development cost, and ecological cost.

Because the pattern of development can matter for ecological attributes and processes, minimization of impacts can occur on-site through design modification. General Plan Policy 7.4.2.2 calls for mandatory clustered development in areas identified as important habitat for wildlife movement. Utilizing this option could help fulfill that policy. There will still be impacts from site development that may need to be mitigated off-site, but by clustering proposed development to less than 50% of the site, greater ecological function is likely. Minimization of transportation system impacts can occur by retaining materials and energy from construction on-site, by muffling noise produced by construction or use of infrastructure, by providing passage for animals under or over the right-of-way, and by designing the overall road network to provide for wildlife movement and other ecological flows.

3.4.3 Restoration of Impacted Area

Some infrastructure projects will have impacts that cannot be avoided in implementing the project, but can potentially be restored on-site. These types of impacts could include sites for construction material and vehicle storage, underground infrastructure, or other temporary types of impacts. If possible, it is generally ecologically preferable to restore these degraded areas rather than seek compensatory mitigation off-site. This approach can also save time and resources that would otherwise have to be allocated to finding new off-site mitigation opportunities. If a large portion of a project area is to be permanently converted then often only a small amount of on-site restoration will be possible, with the remainder of the ecological impacts requiring compensatory mitigation.

3.4.4 Compensation for Impact

True compensation for impacts from development is often impossible because of the land-consumption that accompanies development, both on constructed sites and from fragmentation of

landscapes and stream systems. What is called compensatory mitigation is actually compensation for area affected, which will tend to under-compensate for actual impacts. Developed area compensation can take several forms: 1) fee-title acquisition of undeveloped land at a certain ratio to the developed footprint; 2) acquisition of conservation easements similar to (1); and 3) acquisition and restoration of degraded lands to function at a higher ecological level. The first two options are common features of Habitat Conservation Plans (HCPs), Natural Communities Conservation Plans (NCCPs), and ad hoc mitigation for urban development not under an HCP or NCCP. These methods have mixed results when viewed from an administration or planning point of view and sometimes poor results from an environmental point of view. Some federal agencies have moved toward giving preference to mitigation banks and in-lieu fees because they have found these mitigation measures are more effective than small, site-specific on-site mitigation. The third approach of restoring environmental attributes and processes is less common, but is likely to provide the most value of the three approaches.

Transportation system impacts are similarly unlikely to be truly compensated for because of the land-consumption, fragmentation, and other direct effects of the road network. What is commonly called compensatory action for transportation systems is similar to compensatory mitigation for development and suffers similar weaknesses. Restoring function lost due to transportation system development and daily use is the closest option to truly compensating for impacts. This can include restoring wildlife movement, restoring plant community connectivity, restoring aquatic flows, and restoring natural geomorphic and disturbance processes. Over-arching the approaches is the general approach of replacing like with like.

3.4.5 Mitigation Banks within the INRMP Study Area

As part of the compensation approach, the County could create mitigation banks within the INRMP study areas by acquiring easements in perpetuity or by purchasing land in desired areas or delineating areas for inclusion in a preservation area. In-lieu fees collected from developers would reimburse the County for the acquisition of these lands. This option could be expensive, but would keep money spent by the County within the INRMP study area. If the bank is large enough, the County could cooperate with adjacent jurisdictions to provide mitigation lands and share the cost of acquisition. It may be desirable to set up different mitigation banks for different important habitat types.

3.4.6 Regional Mitigation Banks

The County could participate in regional, private, mitigation banks or non-profit land trusts that have identified willing sellers of desirable habitats, such as the American River Conservancy and the Cosumnes River Preserve. The advantage of this option is that it is a pay-as-you-go system. The disadvantage is that money from the County could go to acquiring habitat in another area.

3.4.7 In-Lieu Fees

In-lieu fees collected from developers could be used to purchase land or conservation easements or to construct capital improvement projects to improve wildlife conditions.

3.4.8 Options for Property Owners and Developers

The County could credit fees owed to the INRMP by property owners and developers for covered activities. The credits could be issued for: restoration of degraded habitat or high fire-risk/excessive fuels habitat, either on-site or off-site; preserving corridors or important habitat

on-site by effective clustering or avoidance of key habitat areas; participating in other mitigation programs (preserving wetlands, participation in Ecological Preserve or OWMP).

Table 3. Summary of Optional Approaches for Mitigation Assistance

Option Type	Advantages	Disadvantages	Relative Cost
Avoidance of Impact	• No impact to wildlife	• Lost development opportunities to individual land owners	Moderate
Minimization of Impact	• Allows development to occur and still accommodates wildlife • Encourages creative and environmentally sensitive design	• May require zoning change	Moderate
Restoration of Impacted Area	• Can correct for temporary situations • Ecologically preferable to compensation	• Usually not possible to restore entire site	Moderate to High
Compensation for Impact	• Provides options for developers	• Landscape fragmentation • Requires frequent monitoring	High
Mitigation Bank within INRMP study area	• pay-as-you-go system • Keeps collected fees within INRMP study area • Could provide mitigation opportunities for adjacent jurisdiction and cost sharing for the County	• Cost of administration	High
Regional or Private Mitigation Banks	• Pay-as-you-go system	• Protected habitat may not be within study area	Moderate
Capital Improvements	• Pay-as-you-go system • Provides source of funding to improve existing conditions	• Administrative costs	Moderate
Restoration by property owner or developer	• On-site restoration	• Need to monitor to evaluate success • Requires dedication in perpetuity.	Moderate
Credit for wildlife sensitive design	• Lessens impacts	• Hard to measure	Low
Credit for participation in other mitigation programs	• Other programs already established	• Not all habitat types are currently represented by other programs	Low

4. HABITAT ACQUISITION

4.1 Introduction

This section describes specific strategies to identify and acquire land that supports habitat of high value so that it can be protected from development. Land will be acquired through easements or fee title from willing sellers only and may include habitat that supports special-status species, habitat that provides important linkages or improves connectivity, or habitat that has been identified to support biodiversity or other INRMP goals.

4.2 General Plan Context

The following text is presented verbatim from Subsection D of Policy 7.4.2.8:

D. Habitat Acquisition. Based on the Habitat Protection Strategy and in coordination with the Mitigation Assistance program, the INRMP shall include a program for identifying habitat acquisition opportunities involving willing sellers. Acquisition may be by state or federal land management agencies, private land trusts or mitigation banks, the County, or other public or private organizations. Lands may be acquired in fee or protected through acquisition of a conservation easement designed to protect the core habitat values of the land while allowing other uses by the fee owner. The program should identify opportunities for partnerships between the County and other organizations for habitat acquisition and management. In evaluating proposed acquisitions, consideration will be given to site specific features (e.g., condition and threats to habitat, presence of special status species), transaction related features (e.g., level of protection gained, time frame for purchase completion, relative costs), and regional considerations (e.g., connectivity with adjacent protected lands and important habitat, achieves multiple agency and community benefits). Parcels that include important habitat and are located generally to the west of the Eldorado National Forest should be given priority for acquisition. Priority will also be given to parcels that would preserve natural wildlife movement corridors such as crossing under major roadways (e.g., U.S. Highway 50 and across canyons). All land acquired shall be added to the Ecological Preserve overlay area.

4.3 Background Information

Phase I of the INRMP generated much of the material required to identify habitats and wildlife corridors which should be part of the final INRMP. Task 1a of Phase I identified important habitat by habitat type within the County. Lands targeted for acquisition will either be part of the identified important habitat areas or lands associated with wildlife movement and corridors. These lands could be identified by the Habitat Prioritization task proposed as a part of Section 2, Habitat Protection Strategy.

4.4 Optional Approaches

Lists that identify the land that should be acquired need to be developed prior to initiating programs for land acquisition. Numerous factors would be used to determine priority for acquisition including, results of habitat prioritization studies (see Section 2, Habitat Protection

Strategy), parcels that offer the largest contiguous pieces of habitat, parcels that offer the best conservation value in terms of their cost and as Policy 7.4.2.8 indicates, areas west of the National Forest and parcels that are strategically located in areas needed for wildlife crossings or corridors. Below are four techniques that could be used in some combination to generate a prioritized list of lands for acquisition.

4.4.1 Acquisition by Habitat Type

The background material developed in Phase I is available in a GIS database. GIS modeling and other techniques can be further utilized to identify parcels that meet the above identified criteria. This task could also serve to develop ratios of habitat to protect by habitat type (number of acres to protect based on the number of acres identified as important habitat).

4.4.2 Lands at Risk of Conversion

Another approach to prioritizing land acquisition would be to identify parcels of land identified as important habitat that are at risk of conversion to an incompatible land use. This could either be a stand-alone study or a continuation of the first option. Utilizing GIS or other methods, parcel lists can be further refined, identified or prioritized based on the introduction of additional GIS layers such as Zoning, General Plan Designation, or Development Agreements.

4.4.3 Survey to Identify Willing Sellers

A third option may be as simple as sending queries to property owners whose parcels are located within areas of important habitat. The query letter could include relative background information about the INRMP and include a survey to be sent back by the property owner (postcard format) that identifies their willingness to participate.

4.4.4 Targeted Properties

A fourth option for land acquisition would be to target specific parcels previously identified. These could include parcels ranking high in habitat prioritization or parcels that may have strategic importance such as parcels adjacent to major roadways where wildlife crossings are desired.

As indicated in General Plan Policy 7.4.2.8, acquiring land for the purposes of habitat protection or restoration does not necessarily involve gaining fee title to the subject property. There are numerous other property rights strategies that could be employed and for which inquiries and options could be made to property owners. Those strategies are described below.

1. **Fee Title.** This is the acquisition of most or all of the rights to a tract of land. There is a transfer of property rights with the formal conveyance of a title. While a fee title acquisition involves most rights to a property, certain rights may be reserved or not purchased.
2. **License or Permit.** This type of agreement is an acquired authorization for a specific activity on land of another party. They are temporary in nature, and no property rights are acquired. Their advantages are simplicity and ease to negotiate. An example would be a license or permit to conduct a wildlife inventory.
3. **Cooperative Agreement, MOU, and Memorandum of Agreement.** This is a simple habitat protection action, and no property rights are acquired. An agreement is usually

long term but can be modified by either party. They are most effective in establishing multiple uses for management of land. An MOU is a document describing a bilateral or multilateral agreement between parties. It expresses a convergence of will between the parties, indicating an intended common line of action. It is often used in cases where parties either do not imply a legal commitment or in situations where the parties cannot create a legally enforceable agreement.

4. **Easement.** This is the acquisition of a limited right(s) (less-than-fee). The right to control access, grazing, timber harvest, hunting, and development of the property are some typical examples of rights acquired in easements. A conservation easement is legally binding, whether the property is sold or passed on to heirs. Because use is permanently restricted, land subject to a conservation easement may be worth less on the open market than comparable unrestricted and developable parcels.
5. **Use Reservation.** It is sometimes desirable to acquire fee title to land, but the existing owner is permitted to continue to live on or use the land. This is called "extended use" or "use reservation." An example is a property with a residence that would not interfere with project management if allowed to remain. A use reservation may be reserved by the owner for a specified period of time or for the remainder of his/her life. Many types of use reservations can be negotiated.
6. **Agency Mitigation.** Land could also be acquired and added to the ecological preserve from state and federal jurisdictional agencies as part of existing mitigation requirements for INRMP issues such as wetlands (money could be directed at the INRMP program for acquisition purposes instead of offsite mitigation). While potentially beneficial to the INRMP program, this approach does not fulfill the County's requirement for mitigation under CEQA.
7. **Lease.** A lease is a contract calling for the lessee (user) to pay the lessor (owner) for use of an asset.

Table 4 Summary of Property Rights Strategies

Acquisition Type	Advantages	Disadvantages	Relative Cost
Fee Title	• Total transfer of property rights • Property rights can be transferred to another agency for management	• Cost • Need for management and maintenance of the acquired lands	High
License or Permit	• Low initial cost	• Temporary	Low
MOU	• Low cost	• Temporary • May not be legally binding • Does not fulfill CEQA requirement for mitigation	Moderate
Easement	• Achieves goal without cost of ownership	• Usually only applies to a portion of the property • Monitoring enforceability	Moderate

Use Reservation	• Retains property rights • Accommodates existing land owners	• Possible incompatible land uses • Property access • Monitoring enforceability	Moderate
Agency Mitigation	• Utilizes programs already in place	• Need for management and maintenance of the acquired lands • Does not fulfill CEQA requirement for mitigation	Low
Lease	• Purchase not required	• Temporary • Does not fulfill CEQA requirement for mitigation	Moderate

4.5 Potential Partnerships

Although this report describes many partnering opportunities with other agencies, it is the County's sole responsibility to implement the INRMP. Other agencies may augment action taken by the County but they are not responsible for implementing and enforcing the INRMP. Land acquisition, for example, may be by state or federal land management agencies, private land trusts, mitigation banks, or other public or private organizations with assistance from the County. The County could assist in the initial acquisition and then turn the management and ownership over to another agency or entity.

List of Potential Partners

Federal
- Bureau of Land Management (BLM)
- Bureau of Reclamation
- Environmental Protection Agency (EPA)
- Federal Highway Administration
- Farm Service Agency
- USFWS
- USFS
- National Center for Recreation and Conservation
- National Resources Conservation Service

State
- California Conservation Corps
- California Department of Conservation
- CDFG
- California Department of Forestry and Fire Protection (CDF)
- California Department of Parks and Recreation
- California Department of Transportation
- California Resources Agency
- California Wildlife Conservation Board

Special Districts
- Georgetown Divide Resource Conservation District (GDRCD)
- El Dorado County Resource Conservation District (EDCRCD)
- El Dorado Irrigation District (EID)
- Georgetown Divide Public Utility District (GDPUD)
- Other special districts

Private
- Mitigation banks
- American River Conservancy
- The Nature Conservancy
- Other private organizations

Table 5 Summary of Optional Approaches for Habitat Acquisition

Option Type	Advantages	Disadvantages	Relative Cost
Acquisition by Habitat Type	• Takes advantage of previously preformed work	• Requires specific software	Moderate
Lands at Risk of Conversion	• Development agreements may already be in place • Density requirements may already be in place and other areas that could accommodate those densities would need to be identified and changed	• Ignores biology of what is existing 'on the ground' • Leaves little room for negotiation	High
Survey to Identify Willing Sellers	• Available parcels may be fragmented	• Not everyone will respond to the survey • Willingness may change over time • Property ownership may change	Low
Targeted Properties	• Critical properties can be identified based on previous studies	• Identified properties may not have willing sellers	Low

5. HABITAT MANAGEMENT

5.1 Introduction

After property or easements have been acquired, lands need to be properly managed in order to provide optimal wildlife value. In the event that property rights are not acquired, agreements can be made with property owners so that they can provide management activity. This section describes optional approaches to habitat management. A key component will be the identification of responsible parties (who does what and how is it paid for). It is closely related to Section 4, Habitat Acquisition and Section 6, Habitat Monitoring.

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5.2 General Plan Context

The following text is presented verbatim from Subsection E of Policy 7.4.2.8:

E. Habitat Management. Each property or easement acquired through the INRMP should be evaluated to determine whether the biological resources would benefit from restoration or management actions.

Examples of the many types of restoration or management actions that could be undertaken to improve current habitat conditions include: removal of non native plant species, planting native species, repair and rehabilitation of severely grazed riparian and upland habitats, removal of culverts and other structures that impede movement by native fishes, construction of roadway under and overcrossing that would facilitate movement by terrestrial wildlife, and installation of erosion control measures on land adjacent to sensitive wetland and riparian habitat.

5.3 Background Information

Phase I of the INRMP identified important habitats within the study area by habitat type. Each habitat type may require different management strategies.

5.4 Optional Approaches

5.4.1 Design

Develop specific habitat management plan for each major habitat type.
Each major vegetation type will require specific management considerations and actions tailored to their characteristics.

Design Guidelines
While new infrastructure construction impacts existing ecological features such as wildlife connectivity, it also provides the opportunity to account for wildlife needs in the early phases of design and construction. New road alignments or alternatives for other types of projects could be selected to minimize the expected effects on wildlife connectivity. Suitable wildlife crossings and corridors could be explicitly included in designs for new projects. Design guidelines that

benefit wildlife movement can be developed and included in the County's Design Standards Improvement Manual.

Interchange Replacements to Include Concepts That Benefit Wildlife
Implementation of road projects, such as interchange replacement, provides an opportunity to retrofit existing transportation infrastructure for enhancement of wildlife connectivity. Interchange upgrades are unique opportunities in that these locations often already include cross-highway movement potential, albeit for motor vehicles. Options to be considered could include possible means of integrating wildlife movement into the interchange infrastructure. Landscape-scale patterns should be used to identify the potential for individual species to use interchanges in their movement patterns.

Considerations of Wildlife Movement for Road and Construction Projects
Non-interchange infrastructure projects also provide opportunities for incorporation of wildlife movement needs into designs and planning. Wildlife movement needs could be used to help identify route alternatives with the lowest impact to wildlife and landscape connectivity. Specific design considerations could be included at locations of highest probability of crossing by animals. Improved roadway designs (e.g. medians that allow crossing by many species) could be incorporated in all infrastructure projects in the INRMP planning area. This section could also serve to identify which specific roads within the County constitute major roadways that are in need of wildlife considerations, and would prioritize proposed improvements based on cost effectiveness.

Best Management Practices on Improved Parcels to Preserve Habitat and Prevent Degradation
Best Management Practices (BMPs) could be established for management activities both within conservation areas and for projects in the vicinity of conservation areas.

5.4.2 Infrastructure Improvements/Construction

Vegetated Underpasses
Many animal species have been shown to utilize vegetated under-crossings if they are designed in species-appropriate ways. Considerations in design of underpasses include the amount and spatial arrangement of vegetation as well as the width, height, and length dimensions of the under-crossing. These parameters generally vary between species, so landscape-scale analyses could be used to identify the species most likely to be present at the location of any particular under-crossing. If new underpasses are being considered, the landscape analyses could be used for placement.

Culvert replacements
There are a number of design options for upgrading culverts for use by wildlife. Simple within-culvert additions can be used to facilitate use by smaller species. Larger species may require enlargement of existing culverts. Consideration should also be given to the spatial configuration of the entrance and exit points.

Fence Design and Location
Proper fencing keeps animals from crossing at unsafe locations and directing them to crossing structures. The length of fencing required will depend on landscape characteristics and the probability of wildlife crossing in locations away from crossing structures. Other fencing considerations include designs that allow for escape by animals that have managed to get into the right-of-way area.

Traffic calming
Roads can be designed to decrease vehicle speeds through such techniques as narrowing or tighter turns. Speed bumps or other grade changes can be used to reduce speeds as well. Caution signs warning motorists of wildlife hazards can be effective, especially if coupled with warning lights or posted vehicle speeds. Reduced traffic speeds can be used to enable ease of crossing for wildlife in discrete road segments of concern.

Other structural retrofits (improve existing impediments)
Other potential structures for enabling wildlife road crossings include vegetated overpasses. While these are relatively expensive infrastructure features, they have been shown to be effective for animal species that are unlikely to use under-crossings. Successful overcrossings generally include vegetation and solid barriers that prevent animals from seeing traffic below.

5.4.3 Coordinating Management

Identification of Responsibilities
The Habitat Management component of the INRMP must describe not only what needs to be done, how it will be accomplished, how it will be paid for and identify the responsible parties. Management options could include: no management; county management (i.e., existing county staff or new department); shared management between the County and some outside agency (BLM, CDF, USFS, etc.); full management by outside agency; private management (supported by County, et al.)

Monitoring and Controlling Invasion of Weeds
Invasive weeds are a major management issue in California. Without a specific plan for monitoring and controlling weeds, there is a likelihood of loss of native biodiversity from protected areas. Techniques for controlling invasion include: seasonally-appropriate prescribed fire, grazing regimes, biological agents, and control by hand. Various combinations of these methods could successfully reduce the ecological threat posed by invasive species.

Availability of Water
Seasonal water availability can be an important management issue in areas where water diversion takes place. If ecosystems in conservation areas are being negatively affected by lack of water, solutions could include acquisition of water rights from willing sellers, drilling wells, or even trucking water in for stocking small ponds or other features.

Coordinate Effort with Vegetation Management for Fire Control
Fire is an ecosystem process that plays a large role in many disturbance regimes. Different ecosystems react to this process in different ways. While some are highly sensitive to fire

disturbance, many Mediterranean ecosystems (such as those found in the INRMP planning area) are fire adapted. Management of these ecosystems requires fire or similar disturbance to maintain ecosystem health. These ecosystem needs may also have to be balanced with safety concerns for nearby residents however. Management plans could include prescribed fire, grazing, logging, or other actions to account for fire presence and management.

Table 6 Summary of Optional Approaches for Habitat Management

Option Type	Advantages	Disadvantages	Relative Cost
Design	• Habitat wildlife considerations planned prior to construction	• Fee structure needs to be in place to pay for improvements • May require updates to County policies, manuals, and regulations • Requires coordination of multiple agencies	Low
Infrastructure Improvements/Construction	• Most likely to reduce effects of roads and other infrastructure • Able to plan for most large-scale patterns and processes	• Requires a large amount of county involvement and outside resources	High (but potentially offset)
Coordinated Management	• Can plan for ecological patterns and processes that cross parcel boundaries	• Less owner control of process • Requires county action	Moderate

6. MONITORING

6.1 Introduction

This section describes several approaches to habitat monitoring. Once investments are made under the INRMP, then monitoring the effectiveness of the investments is prudent. Monitoring can take many forms from specific species population monitoring to habitat condition monitoring. It can be done on a variety of temporal and spatial scales as well. Whatever the form of monitoring, it needs to provide feedback information to the County so that modifications can be made to the INRMP as necessary to meet the habitat and species protection goals of the INRMP (e.g., adaptive management).

6.2 General Plan Context

The following text is presented verbatim from Subsection F of Policy 7.4.2.8:

F. Monitoring. The INRMP shall include a habitat monitoring program that covers all areas under the Ecological Preserve overlay together with all lands acquired as part of the INRMP. Monitoring results shall be incorporated into future County planning efforts so as to more effectively conserve and restore important habitats. The results of all special status species monitoring shall be reported to the CNDDB. Monitoring results shall be compiled into an annual report to be presented to the Board of Supervisors.

6.3 Background Information

What is monitored?
This section describes the various habitat and species attributes that can contribute to understanding successes and failures associated with INRMP implementation, so that effective investments are continually made. Monitoring can include indicator species, and identifying habitat values and landscape attributes such as connectivity that can be used in periodic programmatic understanding of the INRMP strategies. Results of the monitoring program should be updated periodically and included with the three year updates to the Habitat Inventory report.

Where is it monitored?
Typically, monitoring would take place on lands controlled under the INRMP. However, not all values will be located only on these lands, or be best measured on these lands (e.g., downstream effects). The scale of monitoring could vary from sites (location on the ground) to stream reaches to habitat types.

When is it monitored?
In designing a monitoring program, consideration should be given to describe the potential timing, frequency, and longevity required of monitoring to understand how things are changing in response to INRMP implementation. Time of year is important in measuring certain ecosystem attributes. Frequency is important and determined by the goal of monitoring and the ecosystem attribute of concern.

Why is it monitored?
Before any monitoring program is put in place, clear goals should be established in order to make the information meaningful.

Who monitors and uses the information?
The County can take advantage of existing monitoring in the County by other agencies, encourage new monitoring programs by other agencies, pursue grant opportunities to improve County monitoring, and cost-effectively develop its own monitoring as needed. There are existing and proposed monitoring actions within the INRMP study area that the County could use as sources of information. This section describes options for sharing information with other parties and stakeholders so that conservation investors, including the public, can measure the effectiveness of the overall program.

Types of monitoring
There are several types of monitoring that could be conducted to measure conservation return on investments. They range from outputs measures (acres affected by program) to outcome measures (wildlife population health, community satisfaction).

6.4 Optional Approaches

This section presents general ways of monitoring the success of the INRMP over time. These include methods that directly measure the condition of habitats and wildlife populations as well as more indirect ways of monitoring the success of the program, like measuring community satisfaction. Some combination of these approaches should be applied to the INRMP monitoring program.

6.4.1 Program Actions

Two common and related measures of program activity are the amount of money spent and the acres of habitat partially or completely protected. The INRMP needs to identify projected revenue to determine the extent of the program.

6.4.2 Indicator Species Presence/Absence

Monitoring the indicator species described in the Indicator Species report could be an appropriate way to measure ecological performance under the INRMP. This would include monitoring across landscapes under different levels of protection.

6.4.3 Habitat Condition

Habitat fragmentation, exotic species invasion, loss of animal species, changes in natural processes, and climate change can all affect habitat condition. Although presence of indicator species is one indication of habitat health, other conditions may exist that could be assessed through monitoring of habitat characteristics over time. This could include progress of development and its impacts on connectivity and large expanses of native vegetation.

6.4.4 Indicator Species Population Health

The presence or absence of indicator species, or condition of their habitat, could be moderately useful performance measures of conservation investment. Usually, monitoring is conducted on desired ecological outcomes of a program. In this case, the well-being of populations of plants and animals, including indicator species, would be a major desired outcome.

6.4.5 Community Satisfaction

The INRMP is a program to mitigate for impacts resulting from development in western El Dorado County as the 2004 General Plan is implemented. Satisfaction with the program will be important so that stakeholders (e.g., landowners, regulatory agencies, conservation organizations, developers) and the general public understand how funds are invested, what county actions are taken, and the benefit received from the investment.

6.4.6 Data Collection and Evaluation

Monitoring can be a laborious and expensive process. It can also involve smart use of the information generated by other agencies so that the County can strategically target specific places and processes to monitor, Whether the information collected by the county itself, or from other sources, it should fit into an INRMP-knowledge base that is designed for multiple types of data from multiple sources (i.e. Geographic Information System (GIS)).

6.4.7 Performance Indicators

The goal of the knowledge base is not just to collect data, but to inform effectiveness evaluation. The function of evaluating effectiveness is to show what is gained from fiscal and political investments, as well as what is lost. Evaluation of how well a program is doing relative to program goals is the starting point of each smart management cycle. High level goals can be linked to elements or objectives that can be measured.

Table 7 Summary of Optional Approaches for Monitoring

Option Type	Advantages	Disadvantages	Relative Cost
Program actions	• Inexpensive	• Low information content about program performance	Low
Indicator species	• Broad information about ecological benefits	• Generally low information content about each species	Moderate
Habitat condition	• Broad information about potential ecological benefits	• Wildlife benefits unknown	Moderate
Indicator species population health	• Broad and deep information about potential ecological benefits	• Expensive	High
Community satisfaction	• Provides meaningful connection to stakeholders and public	• Relates only to perception of program performance	Moderate
Data collection and evaluation	• Takes advantage of and shares information generated by other agencies • Tool for evaluating program's success.	• Requires skilled technicians to maintain database • Inaccurate or incomplete data	Moderate
Performance Indicators	• Provides means for evaluating plan's effectiveness	• Multiple performance indicators would need to be monitored for.	Moderate

7. PUBLIC PARTICIPATION

7.1 Introduction

Public awareness and acceptance of the concepts and policies that will be presented in the INRMP will be a key component to program success. This section describes various public participation options that could facilitate and maximize stakeholder involvement.

7.2 General Plan Context

The following text is presented verbatim from Subsection G of Policy 7.4.2.8:

G. Public Participation. The INRMP shall be developed with and include provisions for public participation and informal consultation with local, state and federal agencies having jurisdiction over natural resources within the County.

7.3 Background Information

Currently there are two separate County committees that are specifically devoted to development of the INRMP: PAWTAC and ISAC. Both committees advise the Board of Supervisors in the decision making process. Both committees are extensively involved in the preparation of Phase I of the INRMP. This section will describe the public participation options for reaching out to members of the community.

7.4 Optional Approaches

7.4.1 Maintain Current Organization

Maintain current organization utilizing the PAWTAC, ISAC and informing the public through the INRMP website and optional notification of updates and meetings via email.

7.4.2 Increase Public Involvement

Encourage more public involvement with workshops and enhance participation of both local and regional stakeholders.

- Public involvement
  - Continue to engage general public through website postings and email lists to keep citizens apprised of the INRMP process.
  - Public workshops could be scheduled to inform the public at large and provide opportunity for comments. The INRMP has seven sections (7.4.2.8 A-F, H) which the public can review at the draft and the final stages. Workshops could be held to increase public review time for all sections.
  - Provide worksheets to attendees that encourage written input and ranking of components of the plan by importance.

- Involve local, state and federal agencies having jurisdiction over natural resources within the County.
    - This could be achieved by creating an agency stakeholders group which meets regularly to comment on the INRMP development. Members of this group could represent the broad range of interests in the County, and could include agencies that may be involved in funding, habitat acquisition and habitat monitoring.
    - The agency stakeholder group could be organized so that a small subset of the group reports to the Board of Supervisors to keep them informed of the progress of the INRMP.
    - In addition to the agency stakeholder group, a technical advisory group (e.g., PAWTAC) which reviews the INRMP on strictly technical issues could be continued. Members of the agency stakeholder group could also participate in the technical group, but separation of those duties should be maintained.
    - Suggested List of Agency Stakeholder Committee members:
        - Local Representatives
            - El Dorado County Planning Department
            - El Dorado County Water Agency (EDCWA)
            - EID
            - SMUD
            - City of Placerville
            - El Dorado County Department of Transportation (EDCDOT)
            - Local Community Services Districts
            - GDPUD
            - Resource Conservation Districts
        - California State Representatives:
            - CDFG
            - California EPA
            - Caltrans
        - US Government Representatives
            - USFWS
            - USBR
            - USFS
            - BLM

7.4.3 Property Owner Survey

Conduct survey(s) (telephone or postcard) to solicit specific information from property owners within the study area in order to identify and address concerns and interests regarding the INRMP.

7.4.4 Individual Stakeholders Meetings

Invite stakeholders (property owners, developers, environmentalists) to individual meetings that specifically address their concerns.

Table 8 Summary of Optional Approaches for Public Participation

Option Type	Advantages	Disadvantages
Maintain Current Organization	• No action required by Board or County Staff	• Fewer opportunities for public involvement • Narrow range of interested or affected groups participate in the process
Encourage Public involvement and Enhanced stakeholder participation	• Improves public awareness and appreciation for transparency of the process • Engages stakeholders that are involved or could be involved in other elements of the INRMP such as funding, acquisition, monitoring	• Must identify and enlist new members for the committees • Additional staff time for workshops/outreach
Surveys	• Avoids excessive input from a vocal minority	• Cost
Individual Stakeholder Meetings	• Site specific information can be incorporated into the plan	• Possibility of too many or too few meetings

8. FUNDING

8.1 Introduction

This section describes the funding for implementation of the INRMP, which is expected to come from a variety of sources including mitigation fees (see Section 3, Mitigation Assistance), state/federal grants, and/or the County General Fund. Mitigation fees are required to account for the full cost of mitigation including habitat protection, acquisition, and management and monitoring. Grants and General Fund contributions could be used establish, supplement and strengthen the program.

8.2 General Plan Context

The following text is presented verbatim from Subsection H of Policy 7.4.2.8:

H. Funding. The County shall develop a conservation fund to ensure adequate funding of the INRMP, including habitat maintenance and restoration. Funding may be provided from grants, mitigation fees, and the County general fund. The INRMP annual report described under item F above shall include information on current funding levels and shall project anticipated funding needs and anticipated and potential funding sources for the following five years.

8.3 Background Information

One possible methodology for establishment of a conservation fund in-lieu fee was previously established and accepted by the Board of Supervisors for the OWMP. This section of the INRMP could identify a similar methodology applicable to other important habitat types covered by General Plan Policy 7.4.2.8

8.4 Optional Approaches

8.4.1 Grants

Many federal, state and private grants are available for purposes that are compatible with the goals of the INRMP. These grants however, cannot be used as a source to fund required mitigation components of the INRMP. Since the INRMP is in itself a mitigation measure, grant applications need to be clear that the funding will be used to implement broad based conservation efforts associated with the INRMP, and not be used as a funding source for mitigating impacts caused by development.

Federal Grant Sources

United States Army Corps of Engineers

Although the USACE does not offer grants, it can provide assistance through cost-sharing arrangements. The following programs are offered by the Corps:

- Section 1135: Restoration and acquisition of wetlands previously affected by a USACE project.

- Section 206: Restoration of aquatic ecosystems structure and function. No relationship to an existing USACE project is required.

Bureau of Land Management

The BLM can provide assistance for projects that contain areas of critical environmental concern. They also provide partnerships for local governments for purposes such as land acquisition and environmental education.

Bureau of Reclamation

Through the Central Valley Conservation Program, the Bureau of Reclamation can fund projects for the purchase of land and easements, habitat protection, restoration and enhancement and providing educational information. Projects must benefit listed species or species of special concern.

Environmental Protection Agency

The EPA can provide assistance for projects that provide comprehensive wetlands monitoring.

Federal Highway Administration

- Conservation Lands Program: The purpose of this program is acquisition of scenic lands, historic sites and wildlife corridors of statewide interest and priority along transportation corridors where those lands also have a high value for conservation habitat.
- Transportation Enhancement Activities: This program can fund projects that enhance the travel experience including projects that provide environmental mitigation to address water pollution from highway runoff or to reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.

U.S. Fish and Wildlife Service

- Central Valley Project Improvement Act Habitat Restoration Program Section 3406(b)(1)
- North American Wetlands Conservation Act Grants Program
- Partners for Fish and Wildlife Program

National Center for Recreation and Conservation

- Land and Water Conservation Fund (LWCF): LWCF provides grants for acquisition or development of neighborhood, community or regional parks.
- Rivers, Trails and Conservation Assistance Program (RTCA): RTCA works with local and state government to conserve rivers, provide open space and develop trails and greenways.
- Federal Lands to Parks Program: This program helps communities create new parks and recreation areas by transferring surplus federal land to state and local governments.

Natural Resources Conservation Service

- Farm Security and Rural Investment Act of 2002
- Grasslands Reserve Program: This program offers landowners opportunity to protect, restore and enhance grasslands on their property.

- Resource Conservation and Development: This program seeks to accelerate the conservation, development and utilization of natural resources, improve the general level of economic activity and to enhance the environment and standard of living in designated areas.
- Wildlife Habitat Incentives Program: This program provides technical assistance and cost sharing to help develop a wildlife habitat development plan.

State of California Grant Sources

Sierra Nevada Conservancy

The SNC supports the Sierra Nevada Region in many tangible ways: from providing funding for local projects to offering technical assistance and other support for collaborative projects in partnership with local government, non-profit organizations and Tribal entities. Activities supported will contribute to the following program objectives:

- Provide increased opportunity for tourism and recreation in the Region;
- Protect, conserve and restore the Region's physical, cultural, archaeological, historical and living resources;
- Aid in the preservation of working landscapes;
- Reduce the risk of natural disasters, such as wildfire;
- Protect and improve water and air quality; and
- Enhance public use and enjoyment of lands owned by the public.

California Department of Fish and Game

Land Owner Incentive Program: This program helps to protect habitat for special status species

California Department of Forestry and Fire Protection

California Forest Stewardship Program: This program seeks to improve the economic value and environmental quality of forestlands. Financial assistance is available to help rebuild forest and wildlife resources to maintain a healthy environment and productive forests.

California Department of Parks and Recreation, Office of Grants and Local Services

Habitat Conservation Fund: This program can be used for acquisition of wildlife habitat and wildlife corridors, the enhancement and restoration of wetlands, riparian and aquatic habitat, and the acquisition and construction of trails that attract and educate people to and about local wildlife resources. Six project categories are eligible for funding:

- Habitat for rare and endangered, threatened, or fully protected species
- Wildlife corridors and urban trails
- Aquatic habitat
- Deer and lion habitat, including oak woodlands
- Riparian habitat
- Wetlands

California Resources Agency

Environmental Enhancement Mitigation - Resource Lands Program: projects involve the acquisition of real property in fee title or through a conservation easement and may include the restoration or enhancement of resource lands to mitigate the loss of, or detriment to resource lands lying within the right-of-way acquired for proposed transportation projects.

California Wildlife Conservation Board

The three main functions of the California Wildlife Conservation Board (WCB) are land acquisition, habitat restoration and development of wildlife oriented public facilities. Programs include:

- California Riparian Habitat Conservation Program
- Habitat Enhancement and Restoration Program
- Inland Wetlands Conservation Program
- Land Acquisition Program
- Oak Woodlands Conservation Program
- Public Access Program
- Rangeland, Grazing Land and Grassland Protection Program

Private Foundations

The following list of private foundations also offer grant opportunities, many of which are available to private property owners:

- California State Wildlife Foundation
- Conservation Fund
- Doris Duke Charitable Foundation
- Ducks Unlimited
- William and Flora Hewlett Foundation
- James Irvine Foundation
- Andrew W. Mellon Foundation
- National Fish and Wildlife Foundation
- National Geographic Education Foundation
- National Tree Trust

Table 9 Summary of Grant Opportunities

Grant Source	Habitat Inventory (Planning)	Habitat Protection Strategy	Mitigation Assistance	Habitat Acquisition	Habitat Management	Habitat Monitoring	Public Education
Federal Grant Sources							
Army Corps of Engineers	✓	✓			✓		
Bureau of Land Management	✓	✓				✓	✓
Bureau of Reclamation	✓	✓		✓	✓		✓
Environmental Protection Agency	✓	✓		✓	✓		✓
Federal Highway Administration		✓		✓			✓
Fish and Wildlife Service	✓	✓		✓	✓	✓	✓
National Center for Recreation and Conservation	✓	✓		✓	✓		✓
Natural Resources Conservation Service	✓	✓		✓	✓		✓
State of California Grant Resources							
CA Dept. of Fish and Game	✓	✓			✓	✓	
CA Dept. of Forestry and Fire Protection	✓	✓		✓	✓		✓
CA Dept. of Parks and Recreation		✓		✓	✓		✓
CA Resources Agency		✓		✓	✓		
California Wildlife Conservation Board		✓		✓	✓	✓	✓
Foundations							
California Wildlife Foundation					✓		✓
Conservation Fund	✓	✓		✓	✓		
Duke Foundation	✓			✓	✓		✓
Ducks Unlimited		✓		✓	✓		✓
Hewlett Foundation	✓			✓	✓		✓
Irvine Foundation	✓			✓	✓		✓
Mellon Foundation	✓			✓	✓		✓
National Fish and Wildlife Foundation	✓				✓	✓	✓
National Geographic Society Education Foundation					✓		✓
National Tree Trust	✓				✓		✓

8.4.2 Mitigation Fees

Conservation in-lieu fees can be established for projects that cannot provide their own on-site mitigation. In-lieu fees could then be used for acquisition or for funding specific capital improvement projects that will meet the intended mitigation objective(s).

8.4.3 Permitting Fees

Permitting Fees could also be established and associated with project development, portions of which could be designated for mitigation purposes.

8.4.4 Assessment Districts

Special assessments districts or financing options could be set up so that funding for wildlife protection measures could be paid for by the developer or future occupants of the development.

8.4.5 Administrative Fees

Once a mitigation fee methodology has been established, the County could charge an additional fee to cover costs associated with administration and management of the INRMP program. This fee could be based on a percentage of the mitigation fee.

8.4.6 County General Fund

County could contribute financially to the INRMP during years when excess funds are available.

Table 10 Summary of Optional Approaches for Funding

Option Type	Advantages	Disadvantages	Relative Cost
Grants	• Many sources available • Could benefit property owners as well as County	• Many grants require matches • Requires staff time to prepare grant application • Grants can not be used to pay for mitigation necessary to address the General Plan	Low
Mitigation Fees	• Can pay for capital improvements or habitat acquisition	• Requires staff time to monitor fee implementation and management of funds	Moderate
Permit Fees	• Funds raised prior to construction impacts	• Existing development fees are already high – more fees could drive away potential developers	Moderate
Assessment Districts	• Puts responsibility on property owner	• Payment could be postponed • Taxes are politically and socially unpopular	Low (to County)
Administrative Fee	• Protects over burden of General Fund	• Existing development fees are already high – more fees could drive away potential developers	Low (to County)
County General Fund	• Funding can be used for whatever component of the INRMP needs it most	• County limitations on unallocated funds • Lag time for County to allocate funds during the budget cycle	High

9. ACRONYMS

BLM	Bureau of Land Management
BMPs	Best Management Practices
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish & Game
CNDDB	California Natural Diversity Database
CRLF	California red-legged frog
EDCDOT	El Dorado County Department of Transportation
EDCRCD	El Dorado County Resource Conservation District
EDCWA	El Dorado County Water Agency
EID	El Dorado Irrigation District
EPA	Environmental Protection Agency
GDPUD	Georgetown Divide Public Utility District
GDRCD	Georgetown Divide Resource Conservation District
GIS	Geographic Information System
HCPs	Habitat Conservation Plans
IBCs	Important Biological Corridors
INRMP	Integrated Natural Resources Management Plan
ISAC	INRMP Stakeholders Advisory Committee
LWCF	Land and Water Conservation Fund
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
OWMP	Oak Woodland Management Plan
PAWTAC	Plant and Wildlife Technical Advisory Committee
PCAs	Oak Woodland Priority Conservation Areas
PES	payment for ecosystem services
RTCA	Rivers, Trails and Conservation Assistance Program
SNC	Sierra Nevada Conservancy
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USFWS	U.S. Fish & Wildlife Service
USFS	U. S. Forest Service
USGS	U.S. Geological Survey
WCB	California Wildlife Conservation Board

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Appendix A
Other Jurisdiction Programs

As part of the preparation effort for this report, the SEA Team researched programs adopted or in development by nearby jurisdictions designed to protect wildlife habitats. The following table summarizes the programs that were found to have goals that are similar to those of the INRMP. Many of these plans are Habitat Conservation Plans (HCPs), which serve primarily to protect endangered or threatened species. Plans that are not HCP-type plans are listed at the bottom of the table

Table A1 Other Jurisdiction Programs with Goals of Wildlife Habitats Protection

Selected Habitat Planning Activities Near El Dorado County			
Plan Title (Website)	**Format**	**Status**	**Plan description (from website)**
East Contra Costa County HCP/NCCP (http://www.co.contra-costa.ca.us/depart/cd/water/hcp/)	HCP/NCCP	Approved	Protects open space and habitats, streamlines endangered species and wetland compliance, and maintains local control of land use. Acquires land or easements from willing sellers, restores lands, and promotes connectivity in a preserve system. Funded by development impact fees and grants and other funding sources. Provides for monitoring of mitigation efforts and management of lands.
San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (http://www.sjcog.org)	HCP	Approved	Balances need to conserve open space with need for development. Protects agricultural lands, property owner's rights, protects listed and species at risk for listing. Plan streamlines environmental review and permitting process for development. Administered by participating cities on the county which purchase easements from willing sellers whose lands fall in one of several established preserves. Funded by development impact fees.
Natomas Basin Habitat Conservation Plan (http://www.natomasbasin.org/)	HCP	Approved	Acquires lands for habitat preserves, designs and constructs wildlife reserves and manages marsh, riparian and grasslands. Mitigates impact of development in the Basin. Directed by the Natomas Basin Conservancy, funded by development impact fees for activities in Basin.
Butte County Regional Habitat Conservation Plan and Natural Communities Plan (http://www.buttehcp.com/)	HCP/NCCP	In development	Cooperative planning effort among local cities, agencies and the County of Butte, this plan proposes to conserve resources of natural communities, covered species and their habitats, open spaces and working landscape and to streamline environmental review and permitting process in the Planning Area. Funded by development impact fees, public and private funding sources.

South Sacramento Habitat Conservation Plan (http://www.southsachcp.com/Home.aspx)	HCP	In Development (Preliminary Draft released)	Proposes to protect and enhance wetlands, upland habitats, and streamline permitting for development projects. Thirty plant and animal species covered, 10 which are special status species. Will promote avoidance, minimization of impact and will use compensation measures, land acquisition and easement dedications. Will be funded by development impact fees. Will use additional funds through grants and other sources.
Placer County Conservation Plan (http://www.placer.ca.gov/Departments/CommunityDevelopment/Planning/PCCP.aspx)	HCP/NCCP	In Development (Admin. Draft released)	Proposes to integrate several programs to protect fish and wildlife habitat and protect streams, wetlands and water resources and form a preserve system. Will create standards and guidelines for a land conservation strategy and streamline environmental review for development projects. Will be funded by development impact fees and outside funding sources for ongoing management and monitoring of the preserves.
Santa Clara Valley Habitat Conservation Plan (http://www.scv-habitatplan.org)	HCP/NCCP	Second Draft released	Plan will be collaborative among four local city and county partners to promote protection and recovery of natural resources and endangered species while streamlining the environmental review and permitting process for development projects in the County. Will create a conservation strategy of land acquisition in a reserve system, and provide for long term management, restoration and management. Will be funded through development impact fees, local, state and federal funding.
Yuba-Sutter NCCP/HCP (http://www.yubasutterhcp.org/)	HCP/NCCP	In Development	Plan will be a collaboration between two counties to establish a reserve area for protection. Will follow established guidelines for HCP/NCCP process.
Solano County Multispecies Habitat Conservation Plan (http://www.scwa2.com/Conservation_Habitat_FinalAdminDraft.aspx)	HCP	Final Administrative Draft released	Plan will be collaborative among cities, agencies and County to promote conservation of biological diversity and preserve endangered species and private property rights while streamlining environmental review for development projects. Will define high, medium and low value conservation areas for mitigation efforts. Will provide for monitoring and management. Will be funded by development impact fees.

Yolo Natural Heritage Program (http://www.yoloconservationplan.org/)	HCP/NCCP	In Development	Plan proposes to protect regional biodiversity by protecting natural communities, agricultural landscapes through conservation measures to minimize and mitigate impacts from development and use adaptive management and monitoring while streamlining the environmental review and permitting process for development projects in the County. Plan will be overseen by JPA of cities, UC Davis and the County of Yolo.
Other Area Conservation Efforts, Not HCP-Based			
Plan Title (Website)	**Format**	**Status**	**Plan description (from website)**
Sonoma County Agricultural Preservation and Open Space District (http://www.sonomaopenspace.org/)	Special District	Approved	District was formed by vote of County citizens and is overseen by an Open Space Authority which is mandated to preserve agricultural lands and open space by acquisition and voluntary conservation agreements. Funded by quarter-cent sales tax and additional funding partners.
Tuolumne County Biological Resources Conservation Handbook (http://portal.co.tuolumne.ca.us)	Planning Guidebook	Draft circulated	Will streamline permitting and mitigation process for land developers while protecting biological resources and provide mitigation guidelines and address specific impacts to various habitat types ranked by priority. Allows flexibility in mitigation measures. GIS database of habitats will be maintained by County. Program will be funded by development impact fees.
Nevada County Natural Resources Report (http://www.yubanet.com/nrr/index.html)	Information only	Complete	The report provides description of County's ecosystems including distribution. Intended to inform the Board and Community Development Agency.

Lists of completed conservation plans in California:

http://www.fws.gov/sacramento/es/hcp_list.htm

http://www.ceres.ca.gov/planning/hcp/

Appendix B
Optional Conceptual Approaches

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1. INTRODUCTION

The following examples describe how the eight required elements of the INRMP could fit together to form a plan for the County which protects habitats and allows flexibility in planning and mitigating impacts of development. Each example emphasizes a different aspect for an INRMP, such as landscape permeability, restoration of degraded habitats or protection of corridors and each includes options outlined previously in this Report.

The examples are provided to assist the County in developing an overall Phase II strategy. The actual strategy adopted by the County may resemble one of these approaches, or could be a combination of these plans with other approaches not described here.

When writing the INRMP, the County should consider the multiple options described in this Implementation Options Report. The final INRMP also needs an adaptive management component to accurately assess the Plan so that necessary corrections can be made to keep it functional and relevant. Ideally this adaptive management component would also describe an overall administrative approach to implementing the INRMP.

2. LANDSCAPE PERMEABILITY EMPHASIS EXAMPLE

For this conceptual conservation strategy option, the County would design the INRMP to focus General Plan development impact mitigation and conservation on protecting lands in the immediate vicinity of existing and future Highway 50 under-crossings. Ordinances and incentives would be developed to encourage land development that is "permeable to wildlife movement" throughout the study area but concentrated around important wildlife crossing zones along Highway 50 and other major roadways. Conservation easements or fee title acquisition of lands would be directed toward Priority Conservation Areas for each of the major habitat types. Figure B1 is a conceptual drawing of this example.

A. Habitat Inventory: Primarily completed in Phase I; Priority Conservation Areas (PCAs) would be delineated for each of the major habitat types; acreages impacted and acquired as mitigation would be tracked.

B. Habitat Protection Strategy: Connectivity and permeability would be required in defined zones. Acreage could be acquired or funded by the developer for acquisition based on area and type of habitat impact. In addition to direct habitat impact mitigation, indirect habitat impact mitigation would be required to fund easement acquisitions, vegetation management, and Highway 50 undercrossing improvements and management.

C. Mitigation Assistance: Mitigation fees would be collected for impacts to important habitats and used to acquire lands critical for maintaining connectivity. A range of other mitigation options and incentives would be developed to reduce mitigation costs.

D. Habitat Acquisition: This concept would generally limit habitat acquisition to areas where wildlife movement is critical adjacent to Highway 50 and the PCAs to be delineated generally within the large expanses mapped in Phase I.

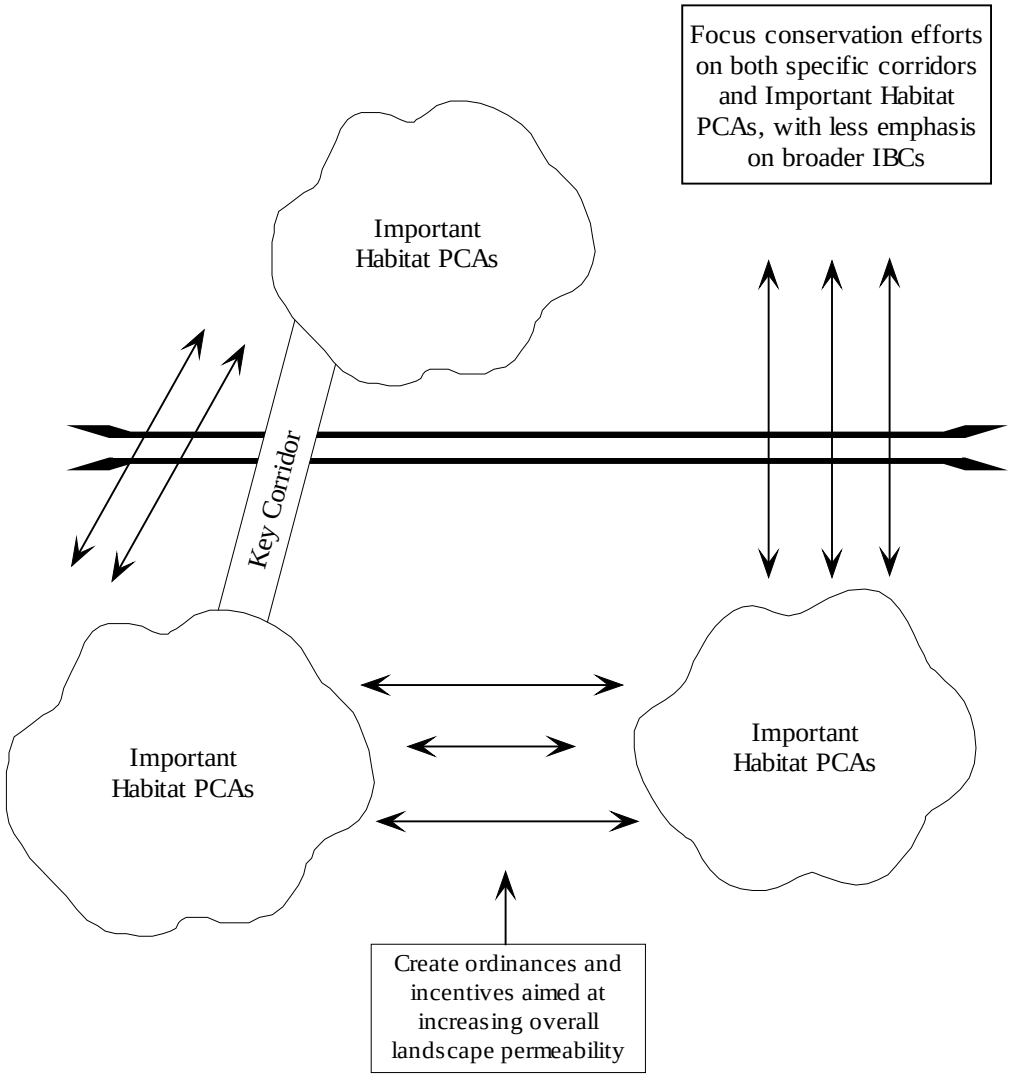
E. Habitat Management: Habitat acquired as conservation easements or fee title (i.e., areas adjacent to Highway 50 under-crossings and PCAs as described above) would be managed for targeted biological purposes (ground-dwelling wildlife movement and core habitat values, respectively).

F. Monitoring: Habitat impact and acquisition acreages, development compliance with "permeable to wildlife" conditions, and vegetation management in acquired conservation easements and lands would be monitored and reported on annually to the Board of Supervisors by County staff.

G. Public Participation: Public education, landowner vegetation management incentives, and volunteer organizations would be established and encouraged to participate in maintenance activities through the County resource conservation districts.

H. Funding: Funding for habitat easements/acquisitions and management of habitat acquisitions would be through mitigation fees associated with development activities. Funding for complementary conservation actions including public education would be through grant funding opportunities.

Figure B1 INRMP Landscape Permeability Emphasis Example



3. RESTORATION EMPHASIS EXAMPLE

A Restoration Emphasis Plan would promote improving wildlife habitat in the INRMP study area by concentrating on restoration efforts in the areas defined as large expanses of native vegetation. The goal of this strategy would be to preserve and restore contiguous blocks of important habitat. Mitigation would be focused on making improvements that protect or enhance existing conditions. Acquisition efforts would be directed at parcels that provide critical links to wildlife movement corridors and that are in need of restoration. Monitoring would be focused on evaluating the success of the restoration efforts to guide future restoration activity. Funding for acquisitions and capital improvements (such as road crossing infrastructure) would be provided by mitigation in-lieu fees and grant opportunities. Figure B2 is a conceptual drawing of this example.

A. Habitat Inventory: Primarily completed in Phase I, would require prioritizing important habitat focused on parcels that would benefit from restoration, additional corridor modeling, and periodic updates with new data.

B. Habitat Protection Strategy: Develop incentive program for developers and property owners to make wildlife beneficial improvements on their properties. Develop list of capital improvements needed for restoration and prioritize them in terms of associated wildlife benefit, cost, ease of implementation, etc. As money becomes available, top priority items would be implemented first.

C. Mitigation Assistance: Mitigation fees would be collected and directed toward the projects identified in the habitat prioritization study. Mitigation fees for habitat and species impacts will be directed to banks within the study area. Encourage habitat restoration plans to be developed and included as part of development proposals.

D. Habitat Acquisition: Focus on properties that have strategic importance such as those adjacent to major roadways where wildlife crossings are needed.

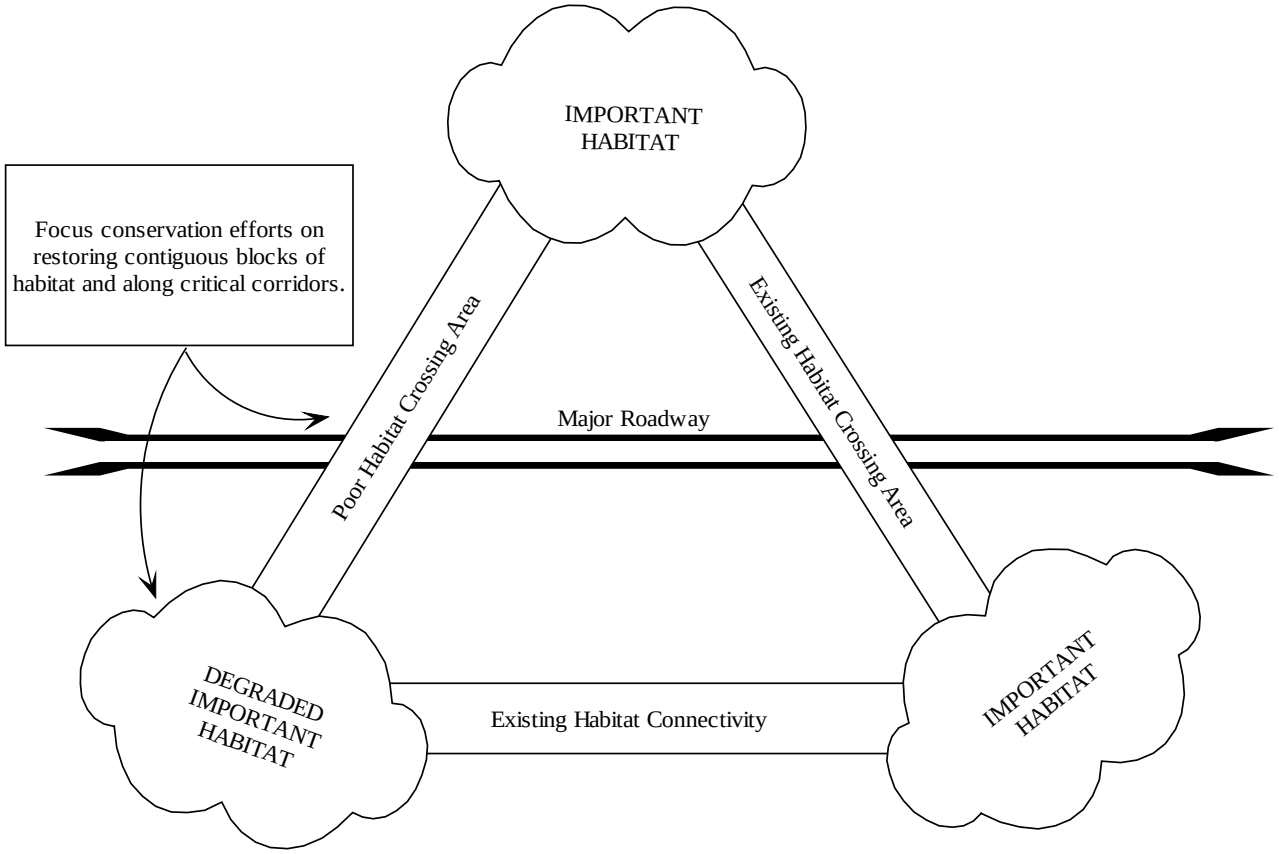
E. Habitat Management: County develops wildlife sensitive design guidelines and incorporates them into the Design Standards Improvement Manual. Crossing structures, including vegetated underpasses, wildlife sensitive culvert improvements and fencing to be constructed with mitigation and grant funds. Emphasis placed on restoration efforts including control of invasive weeds, water delivery systems, habitat improvement plans, planting of native vegetation and coordinated effort with vegetative management for fire control.

F. Habitat Monitoring: Emphasis would be placed on monitoring the success of restoration efforts within the study area by conducting before and after studies.

G. Public Participation: No explicit new public involvement process would be required but meetings with the current ISAC and PAWTAC committees should be continued.

H. Funding: Money from the County General Fund would be needed as seed money to initiate the program. The program would utilize in-lieu mitigation fees and grant funding where available to construct wildlife improvements within the study area.

Figure B2 INRMP Restoration Emphasis Example



4. CORRIDOR NETWORK PLAN EXAMPLE

A Corridor Network Plan would use newly delineated IBCs as the basis for conservation planning within the INRMP study area. An interlinked set of corridors would be protected through both regulatory and mitigation-based processes. A regulatory structure would be implemented to reduce impacts within designated IBCs, while off-site mitigation actions associated with development impacts to species or habitats covered by the INRMP outside IBCs would be focused within the IBCs. The spatially explicit and regulatory nature of this approach would lessen the necessity for multi-stakeholder involvement. Additional funding for plan elements (such as road crossing infrastructure) would be sought through external sources. Figure B3 is a conceptual drawing of this example.

A. Habitat Inventory: Primarily completed in Phase I, additional corridor modeling to be used to systematically identify and delineate new IBCs; periodic updates with new data.

B. Habitat Protection Strategy: Most IBC-based habitat protection would rely on land use regulations for areas delineated within IBCs (see GP for these regulations). Corridor delineation and regulation would be the focus of this strategy. Strategic areas within designated IBCs would be protected through either fee title or easement acquisition.

C. Mitigation Assistance: Mitigation fees for habitat and species impacts would be directed to mitigation banks or parcel acquisition within delineated IBCs.

D. Habitat Acquisition: The explicit nature of the IBCs means that certain critical properties would be targeted for acquisition from willing sellers.

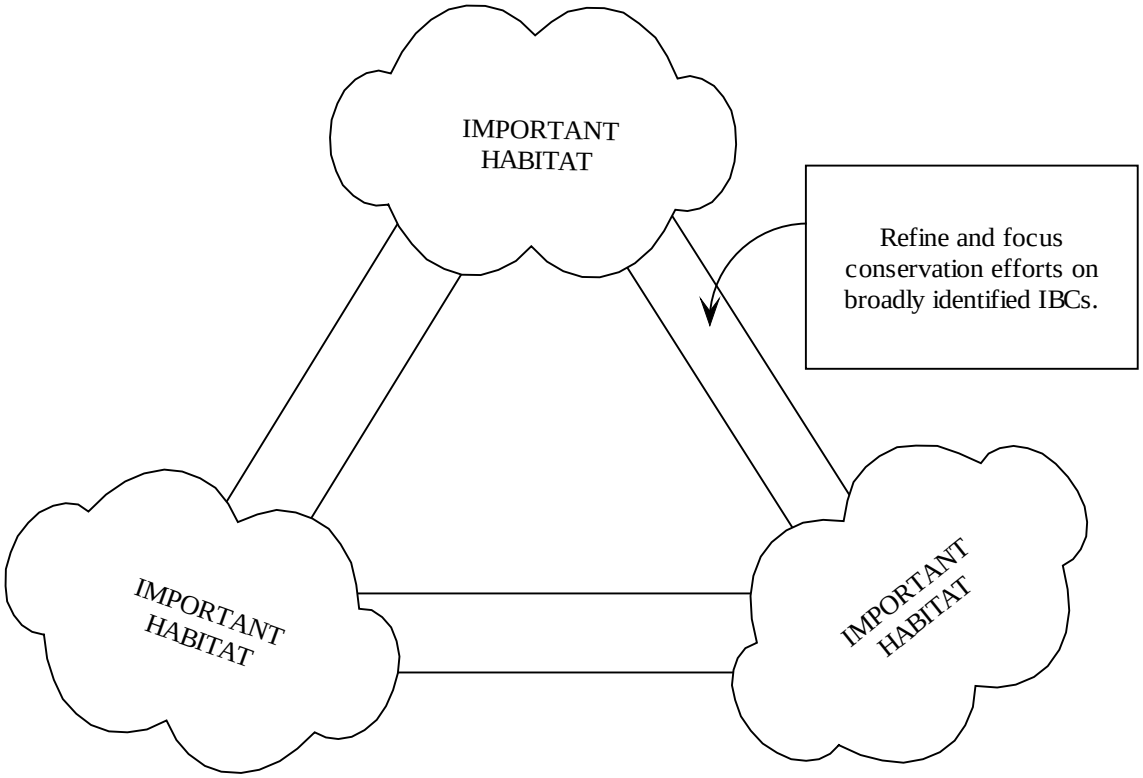
E. Habitat Management: Design elements such as canopy structure and fencing would be important components in an IBC-based plan. Crossing structures would be required where IBCs cross major transportation corridors. IBC's will be less effective if there is no cross-parcel management for wildlife movement, so strategies would focus on increasing overall landscape permeability near IBC's.

F. Habitat Monitoring: Monitoring would focus on assessment of landscape structural connectivity within IBCs rather than indicator species.

G. Public Participation: No explicit new public involvement process would be required for implementation of an IBC-based plan.

H. Funding: A variety of outside funding sources could be tapped for connectivity enhancement within IBCs (e.g. federal money for highway crossing structures). Mitigation fees associated with impacts outside IBCs would be directed to areas within designated IBCs.

Figure B3 INRMP Corridor Network Plan Example



5. RARE PLANT PRESERVE (ECOLOGICAL PRESERVE-TYPE) EXAMPLE

In this approach, modeled after the existing rare plant program, areas identified as important habitat would be classified into zones, which would reflect specific mitigation requirements. Important habitat would include some portion of the lands identified in the initial inventory along with areas representing important connectivity. In addition to identifying these important habitats and categorizing them into zones, a separate program would be needed to address future impacts due to roads and other development to wildlife movement. Figure B4 is a conceptual drawing of this example.

A. Habitat Inventory: Primarily completed in Phase I, would require prioritizing important habitat, additional corridor modeling, and periodic updates.

B. Habitat Protection Strategy: This strategy uses tiered fees to make it costlier to develop lands that are determined to be important to wildlife movement and other areas of important habitat. Fees collected from this program would go toward purchasing lands or development rights of these important habitats. GIS modeling and mapping completed in Phase I would be used to determine priority areas for acquisition.

C. Mitigation Assistance: A mitigation fee would be established based on the zones determined above to purchase land or development rights within priority habitats. Additional mitigation measures would be developed to increase habitat permeability and provide options for on-site mitigation to reduce fees.

D. Habitat Acquisition: The County would acquire land in the form of conservation easements or fee title using funds from the mitigation fees charged to developers. Lands designated as Zone 1 (most important habitats) would be purchased (or conservation easements are obtained) from willing sellers. Lands would be acquired in consultation with appropriate agencies.

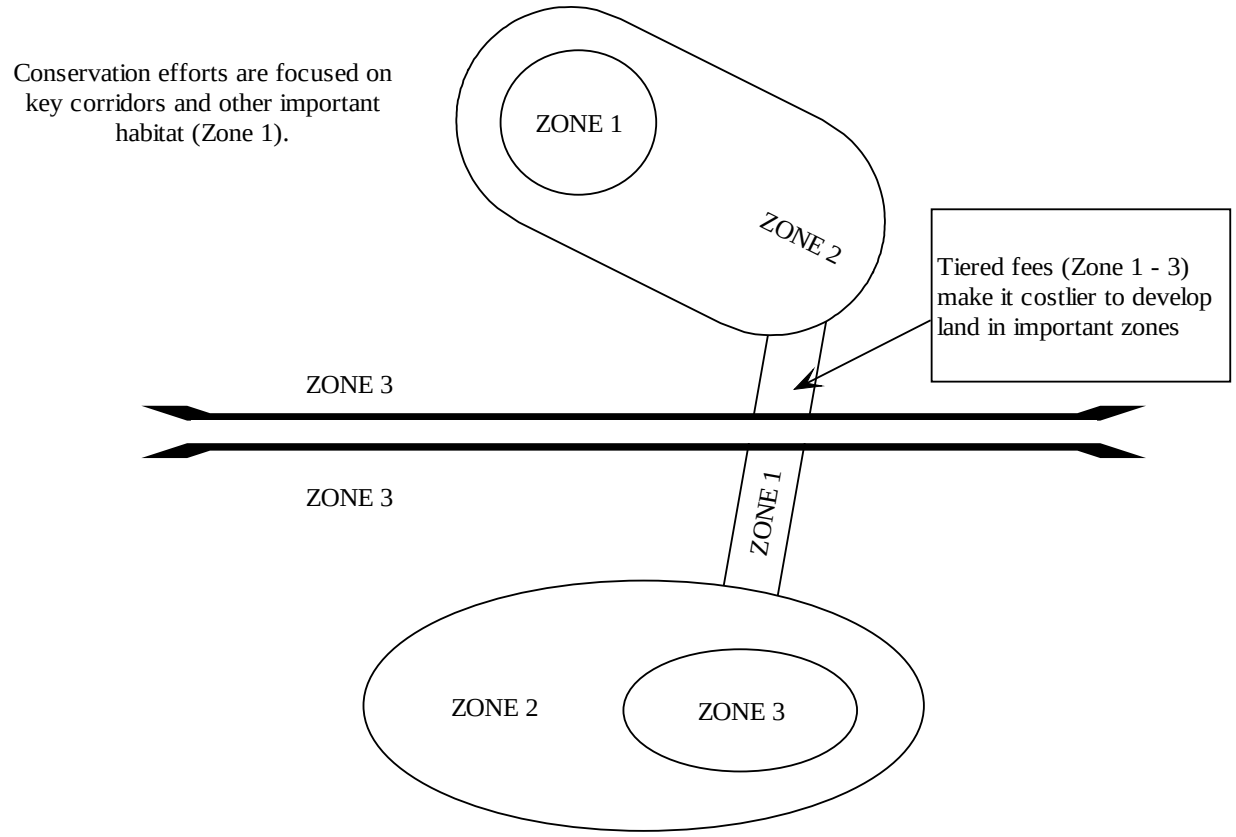
E. Habitat Management: Management of the land would be turned over to a public agency such as BLM or CDFG, or other designee of the agency. An MOU or similar cooperative management agreement could be set-up to guide the management of the preserve area. The agency would determine best management practices for fuels treatment, restoration, habitat enhancement and other management activities. Some portion of the fees collected by the County as part of mitigation could be used to maintain purchased lands. This would be determined in consultation with the agency managing the lands.

F. Monitoring: Monitoring of the preserve would rest primarily with the agency, which would use volunteers and its own staff. Monitoring efforts would focus on evaluating habitat conditions within the preserves and the agency would share monitoring results with the County.

G. Public Participation: County would work with agency representatives to achieve goals of the Plan. Regular meetings of the current ISAC and PAWTAC committees could be used to achieve public participation goals.

H. Funding: Funding comes primarily from the fees collected by the mitigation program and from the public agency managing the preserve. Additional sources of funding from grants and other federal and state programs should be sought to enhance and compliment the mitigation fees.

Figure B4 INRMP Rare Plant Preserve Example



6. HABITAT-EMPHASIZED (OWMP-TYPE) EXAMPLE

This plan would define mitigation standards/ratios and thresholds for mitigation activities. Priority conservation areas would be identified for each of the five named habitats plus areas promoting wildlife movement through corridors. The existing IBCs might become part of the priority areas, but likely would be redrawn. Willing sellers in the PCAs would be identified. The plan would allow for flexibility in assessing fees to accommodate on-site efforts of design change, restoration, and on-site protection of habitat and encourage voluntary conservation and management to maintain existing important habitats. The plan would identify grant funding sources to offset costs of management and protection of habitats. Figure B5 is a conceptual drawing of this example.

A. Habitat Inventory: Primarily completed in Phase I; would require prioritizing important habitat, additional corridor modeling, and periodic updates. Add land-use overlay to exclude lands slated/zoned for development.

B. Habitat Protection Strategy: Set goals for proportion/percentage of habitats to preserve and determine threshold for action. Set standards/thresholds for mitigation. Local ordinances would apply, as in the case of IBCs. Promote stewardship, voluntary efforts through education

C. Mitigation Assistance: Prioritize lands in study area using land-use overlay (above) and establish fee structure based on impact. Create mitigation banks/districts for 5 habitat types, identify the Important Biological Corridors where land-use ordinances would apply, as well as additional corridor opportunities. Identify on-site mitigation opportunities, restoration, design options that can be credited against fees.

D. Habitat Acquisition: Identify willing sellers to participate in the banking programs. Lands would be acquired through fee title, conservation easements and would reflect the mitigation ratios defined. Prioritize sellers/lands based on C work (above).

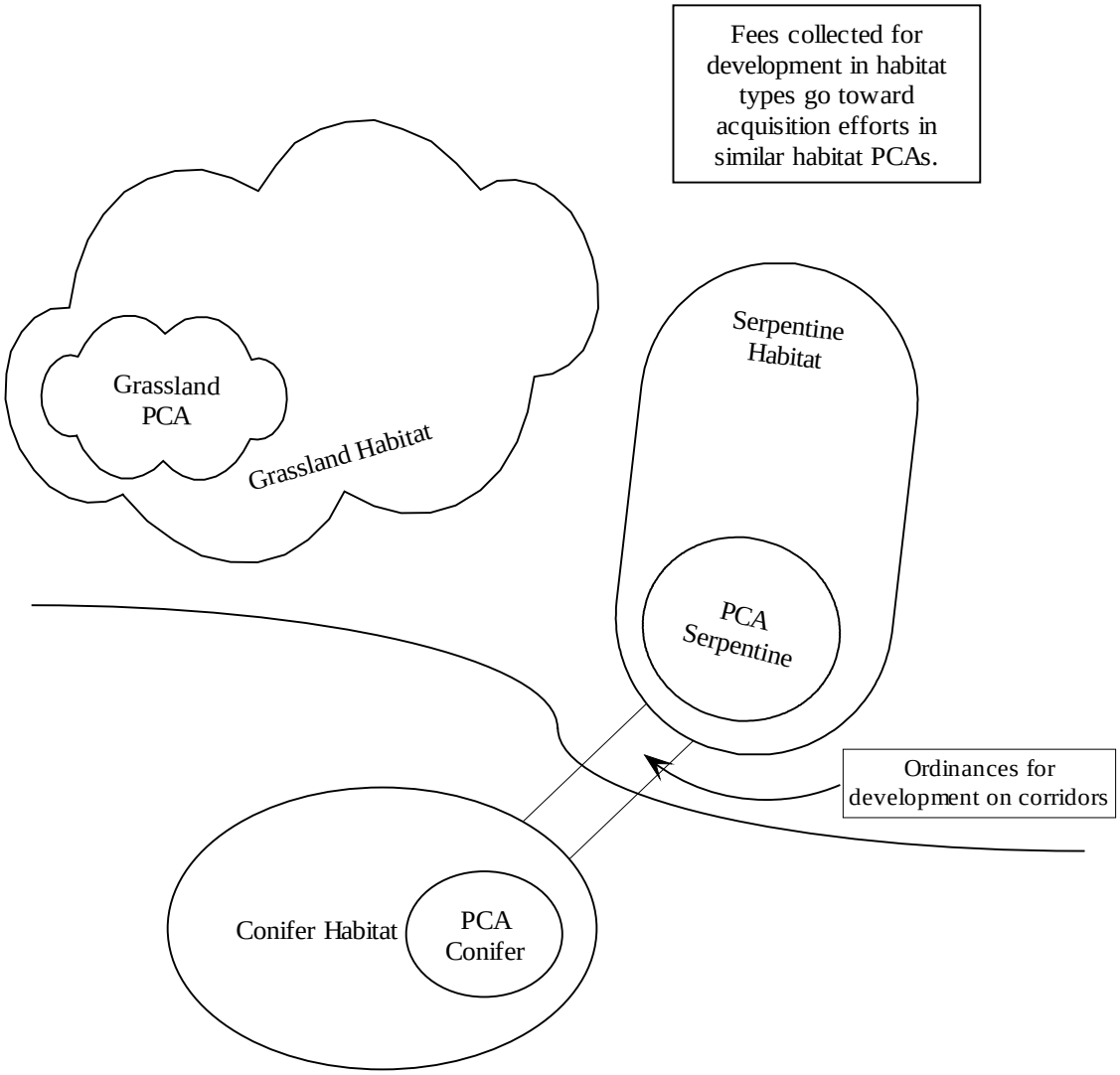
E. Habitat Management: Establish BMPs relevant to the habitat. Identify public agency, or private partners to oversee management.

F. Monitoring: Establish Indicator Species population/presence study and time frame to conduct study.

G. Public Participation: Enhance both stakeholder participation and public involvement to identify the PCAs and corridors.

H. Funding: In-lieu fees assessed to development, assessment districts would provide funding for acquisition; grants for stewardship would be identified to assist with on-going management.

Figure B5 INRMP Habitat Replacement Example



Appendix C
Strategy for Preparing Phase 2 Scope of Work

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1. SUMMARY

Phase II of the INRMP consists of developing an implementable plan for mitigating impacts of General Plan development, composed of multiple methods for the County to use to protect and manage lands and natural systems. According to the General Plan, the INRMP plan must contain the following elements: habitat inventory, habitat protection strategy, mitigation assistance, habitat acquisition, habitat management, monitoring, public participation, and funding. Each of these contains multiple optional strategies and activities to meet the goals of the INRMP. Tying them together is the function of the Phase II plan. The outcome of Phase II would be a plan that has had broad input, is adaptable to change, and can immediately be implemented and administered by the County.

2. MOVING FORWARD

There are several possible ways forward for Phase II, given various constraints. One is for the County staff to take on developing the Phase II plan, using existing resources and advisory committees. This would be the least costly, probably take longer than other options (because of staff availability), and may not meet the County's schedule or other needs. A second possibility would be for the County to extend the existing process using contract extensions and the existing or modified advisory committees. This process could then be phased by task to meet critical needs first and less critical needs later. This option would be more costly than the first, but would take less time than other options, and would more quickly meet the County's needs. A third possible approach would be for the County to develop a Request for Qualifications or Proposals, solicit competitive proposals, and select a consultant group to carry out Phase II. This option could be the most expensive, would lose the momentum developed through Phase I tasks, take an intermediate amount of time (compared to the other options), and would likely meet the County's needs. The strategy described here could be applied to any of these three options.

3. STRATEGIC STEPS

Step 1 Identification of Goals and Objectives
The General Plan contains broad goals for the INRMP, yet considerable time was devoted with committee members during Phase I on reviewing and further defining these goals. Objectives are the actionable and measurable tactics within each goal. These have yet to be stated clearly, leaving a gap between General Plan goals and on-the-ground actions under the INRMP. A clear statement by the Board on the goals and corresponding objectives that is provided to the committees would help subsequent steps and choices. This identification would best occur in an iterative process with staff, consultants, and advisory committees.

Step 2 Administrative and Advisory Structures
The organizational model under Phase I seemed to be particularly functional in meeting Phase I needs. This includes: a) the technical consultant team formulating and writing possible scientific and technical reports for the County; b) two advisory committees that provide input early in the report generation and 2 cycles of review of the report products; c) County staff directing the consultant group, administering the overall program, and interfacing between the County, consultants, and advisory committees; and d) the Board of Supervisors providing the overall

vision and guidance for the process and reviewing reports for consistency with that vision. Modifications to the Phase I process that may help with small issues that have arisen include earlier discussions with the Board about proposed approaches and combining the two advisory committees into one committee for Phase II that then also ultimately advises on implementation of the program.

Step 3 Prioritization of Actions

There are short-term and long-term needs under the INRMP that can be addressed in different time frames. For example, opportunities will be lost if during a 2-year period of INRMP Phase II development, no conservation action occurs. A triage process that identifies critical near-term mitigation, conservation, fiscal and administrative needs, and opportunities should be conducted first. If adopted, this step would be followed by a process of identifying at least three tiers of priorities, (see Figure 1 in the main body of this report) from the most critical to least critical areas and actions. Priority actions would occur initially in some part of the developed and developing Highway 50 corridor and community areas. Certain actions, such as new or revised conservation ordinances, may be prioritized because of the time it can take to implement them.

Step 4 Plan Formulation

Formulation of an implementable plan should be based on the goals and objectives, guiding and technical process, and priorities. The plan would describe options for meeting various INRMP elements described above. The raw material for the optional strategies is contained in the main report and would be enhanced as the implementable plan was formulated. The plan itself would not contain a single strategy, but would be a structured toolbox, providing alternative ways to meet conservation and other goals and including a planning and learning process that ensures effectiveness. Important elements of the plan may require highlighting because of conservation concern (e.g., lower foothills connectivity), political concerns (e.g., landowner rights), cost (e.g., developing ordinances, highway crossings for wildlife), and complexity (e.g., impacts from the whole General Plan vs. just individual projects). Strategically bringing these elements forward early in the process would give various interests time to consider them thoroughly during plan development.

Step 5 Plan Implementation

Without knowing the content of the ultimate INRMP, there are predictable actions that will need to happen to implement the INRMP. These primarily include identifying an administrative structure within or controlled by the County to carry out the Plan, identifying resource streams to meet different plan needs, and identifying County personnel and others who would be responsible for administering the fiscal, legal, public information, and environmental components of the program.