APPENDIX B

Referenced Attachments provided by Friends of the Swainson's Hawk

memo

[Company name]

To: Jude Lamare, Jim Pachl

From: Melinda Bradbury

CC:

Date: 3/15/2010

Re: Assessing Elk Grove SOI expansion on historical Swainson's Hawk locations and comparing it to the information provided in the Gibson and Skordal letters developed for the City of Elk Grove.

Comments: I reviewed the information available on Swainson's Hawk nesting locations in the SOI area and developed a summary.

Background

There are several documents that show in general where Swainson's Hawks are nesting in the area south of Elk Grove. Both nesting habitat and forage habitat are important in determining how Swainson's Hawks may be impacted by proposed SOI changes south of Elk Grove. Swainson's Hawk population trends are normally assessed by the number of pairs in the region, their nesting success and the number of chicks they are able to fledge. All of these indicators can change on a yearly basis depending on things such as whether prey is available and weather (did wind knock nests out of trees?). Nesting population numbers in a region can change depending on the year but urbanization has the effect of both removing foraging habitat and nest sites (if trees are removed). Urbanization can also make nest sites less suitable by increasing the distance adults have to fly to find food for young and for birds that may not be used to disturbance make nest sites less desirable because of noise and harassment.

Although the Gibson and Skordal letters only look at an additional 5,000 acres to annex, the City of Elk Grove actually is pursuing annexing 10,000 acres.

Project

The Gibson and Skordal cover letter just addresses whether 5,000 acres south of Elk Grove can be added to the planning area of the HCP, whether HCP chapters need to be updated to accommodate the larger planning area and what revisions need to occur to include the expanded area. The conclusion is that it can be done if enough mitigation land is available somewhere else in the region.

The letter that addresses the Swainson's Hawk in particular was prepared by Miriam Green and Associates. They reviewed the most recent version of CNDDB at the time (2007) and developed a new map of locations. Based on that, they came to the conclusion that if mitigation land is available then the area should be included in the SSHCP. They identified 5 CNDDB records that overlap with the 5,000 acres south of Kammerer road and 5 new records within the the SSHCP area, but outside the Elk Grove SOI area.

memo

The letters are just letters, and are not a study of the feasibility of annexing additional land. The letters do not include an impacts analysis, they only do a review of existing documents. They are not a complete picture of the proposal for several reasons:

- The consultants did not include the information gathered by Jim Estep in his reports and unduly relied on CNDDB records as a complete picture of Swainson's Hawks in the region
- Without knowing how where mitigation land will be conserved the conclusion cannot be reached that it would be okay to include this area.
- Not only is the number of nesting pairs in the area important, but the density of nesting pairs within the area and outside of the area are key to understanding the importance of the nesting and foraging habitat.
- Acknowledgement that if nesting trees and forage are removed, the birds using that area don't just "move" somewhere else as that impacts the nesting success of surrounding pairs. No difference may be seen for several years but then as pairs die the old nest sites are not reused by young birds and populations decline. As an example of this you can site Fisherman's Lake – where pairs held on for a few years but then abandoned the historical nest site after a few years.

Specific Swainson's Hawk Information

Distribution, Abundance, and Habitat Associations of Swainson's Hawk. Results of 2006 census level surveys in South Sacramento County

- There were approximately 12 nest territories reported in the section east of I-5 and west of 99 south to Eschinger road (Figure 6)
- There were approximately 18 nest territories reported in the section east of 99 and north of the Cosumnes River.
- There were many nesting territories along the Cosumnes River and just south that would have the potential to forage north or south of the river depending on available habitat. Those birds would be impacted by loss of foraging habitat north of the Cosumnes River.
- A majority of the nesting sites in South County were concentrated within the interior portion of the study area between approximately I-5 and Clay Station Road on the east side (74.5%)
- Jim Estep remarks in the report that the "territory density is lower than in Yolo County, but is high compared with other portions of the species' range and indicated the value of the agricultural habitats within this region to Swainson's hawks and the importance of the 'core' Central Valley population."
- He also concludes, and other studies have also concluded, that rural residential does not make good habitat, and should be avoided as a conservation measure.
- The 10,000 acres is primarily the best forage type for Swainson's Hawks – Irrigated cropland/irrigated pasture
- Table 8 estimates 110,000 acres of irrigated cropland/pasture. Removal of 10,000 acres of that is almost 10% of the available habitat type. 10,000 acres of the same habitat would have to be added (not just preserved) in a suitable area in the interior area to mitigate for the loss.
- A study would have to be undertaken to determine whether there is enough acreage that could be converted to irrigated pasture to offset the impacts within the immediate interior zone that isn't already in that habitat type. Land would have to be preserved within the same zone. Soil types, water availability, willingness of land owners etc. would all have to be assessed.
- Territory density is also the highest in the interior zone, so removing habitat has a greater impact. Also the reason to add 10,000 acres of habitat and not just preserve existing habitat. Preservation would lead to a loss of 50% of the habitat at a 1:1 mitigation ratio (10,000 acres removed, 10,000 preserved is 50% of 20,000 acres lost.
- Not only would Swainson's Hawks be impacted but other nesting raptors too.

memo

Monitoring Swainson's Hawk (Buteo swainsoni) Nesting Activity in South Sacramento County Results of 2008 Surveys. Follow up of 2006 surveys by Jim Estep

- Areas surveyed did not include areas proposed for annexation.

A Review of the City of Elk Grove and South Sacramento County Swainson's Hawk Mitigation Programs

The City of Elk Grove and Sacramento County have implemented ordinances to address loss of Swainson's Hawk foraging habitat from development through the CEQA process. The County of Sacramento has a Swainson's Hawk Mitigation Fund. They have tracked projects that have contributed money as well as conservation easements purchased. The County has not sufficiently tracked projects in an organized manner which may have used mitigation banks or provided their own mitigation lands. The County of Sacramento is in deficit for habitat compensation at a 1:1 ratio. Since 2005 the City of Elk Grove has also had a mitigation fund. In 2005 the City of Elk Grove purchased a vineyard and removed the vines to create foraging habitat to use as mitigation. Prior to the project the City of Elk Grove was in deficit for mitigation, but since they purchased the vineyard they have been able to provide mitigation at a 1:1 ratio. The City of Elk Grove has records for the credits purchased at mitigation banks as well as a record of all the easements purchased. Some ideas are provided that could help the programs be implemented better and provide better regional conservation for the species.

1/25/2011

A Review of the City of Elk Grove and South Sacramento County Swainson's Hawk Mitigation Programs

Final Report

By Melinda Dorin Bradbury
Environmental Consulting
melindabradbury@sbcglobal.net

This project made possible with a grant from the California Wildlands Grassroots Fund

Acknowledgements

Thank you to Jude Lamare and Jim Pachl for providing background information and assistance throughout the project. Shannon McClure provided valuable information on the conservation easements and Frank Gray helped with site visits and document review. Thank you to everyone who provided information for and edits on the report and clarification on the mitigation programs.

Background

Friends of the Swainson's Hawk (FOSH), a California 501(c)(3) organization, was incorporated in 1994. It incorporated in response to the need to protect the Swainson's Hawk, a Threatened species under California law. Swainson's Hawks became listed as Threatened under the California Endangered Species Act (CESA) in 1983. FOSH has historically focused their conservation efforts in the Sacramento region as the Swainson's hawk breeding population in California is concentrated in Yolo, Sacramento, Solano, and San Joaquin counties making its survival a responsibility of this region.

This project supports the FOSH organization's adopted conservation strategy for the species and furthers FOSH's mission to see the California population of the species flourish for generations to come. One of FOSH's conservation objectives is to work with the resources agencies, partner organizations, and the public to preserve agriculture and promote quality mitigation for loss of farmland within the Swainson's Hawk's range. By conducting an independent analysis of the City of Elk Grove (Elk Grove) and Sacramento County Swainson's Hawk mitigation programs and sharing recommendations with the local governments and partner organizations the programs can be improved with the goal of maximizing quality habitat for Swainson's Hawks in the Sacramento area.

Sacramento County and Elk Grove have implemented their own Swainson's Hawk ordinances to address impacts to Swainson's Hawk foraging habitat that occur from development. Mitigation is assessed through the California Environmental Quality Act (CEQA) review process. Under their mitigation programs thousands of acres have been developed and protected with conservation easements for the purpose of providing wildlife habitat in perpetuity. FOSH has tracked the Elk Grove and Sacramento County programs for years and has occasionally contacted Elk Grove and the County when concerns have arisen about the programs. FOSH has written several letters with concerns about the programs operating at deficits. FOSH had collected data on the mitigation programs but had not analyzed the information. This report contains the results of the first phase of analysis.

Since the existing programs are conducted under CEQA they do not have the same monitoring and reporting framework that a Habitat Conservation Plan (HCP) normally provides. A HCP is approved by State and Federal regulatory agencies as part of a permit to take the covered listed species and their habitat. A HCP is being developed for the same area. Any information that FOSH can provide to the implementation team to help with the success of the HCP will be a benefit to the people living in the area, the local governments, and for the species' longevity in the region. For more information on HCPs see the FOSH Swainson's Hawk Conservation Strategy available at www.swainsonshawk.org.

The boundaries of the project are Elk Grove and South Sacramento County south of the American River. Our project goals included developing a database of mitigation projects, a review of legal filings and the easement language, tracking of fee collection and expenditures, an examination of land use on mitigation sites, a review of nesting site proximity from known records, a comparison of mitigation sites with pre-development habitat values on developed sites, and a discussion of the parts of the program that are successful and the parts that need improving. Not all of the project goals were completed because some information was hard to obtain. As a result of this review, additional issues have been identified that could be addressed in a later phase of the project.

FOSH plans to use the materials developed to carry on an informed dialog about the open space conservation programs with Sacramento County, Elk Grove and the non-profits that hold the easements. FOSH will determine how to use the project findings to inform the public, the media and interested

groups and use them as a tool and an example when looking into other jurisdictions that are using similar conservation strategies.

Local Swainson's Hawk Ordinances that Comply With CEQA

The Sacramento County and Elk Grove ordinances that require preservation of habitat are key to understanding the program. Summaries of the ordinances and mitigation programs are below.

City of Elk Grove Swainson's Hawk Mitigation Ordinance

Elk Grove inherited the County program on incorporation (in 2000) and adopted its own revised project in 2004 (Chapter 16.130). The ordinance finds that expansion into agricultural land within the City that is also foraging habitat for Swainson's Hawks is a significant impact to the hawk under CEQA and requires mitigation. Impacts can come from zoning changes that reduce parcel sizes to less than 5 acres or conversion of land to nonagricultural uses. The California Department of Fish and Game (CDFG) determined that parcel sizes 5 acres or greater are the minimum size for viable foraging habitat. Therefore, the ordinance applies to any parcel 5 acres or larger that is within 10 miles of a Swainson's Hawk nest site.

The ordinance splits projects into two categories; impacts greater than 40 and less than 40 acres. The ordinance requires that projects 40 acres or greater provide direct preservation of equally suitable foraging habitat, either fee-title or easement on an acre-per-acre ratio, prior to disturbance and by the development project proponent. Along with the land provided, the proponent pays a fee, set by the Elk Grove City Council, which will provide an endowment for property management, monitoring and enforcement. For less than 40 acres the fees paid will be based on the cost set by the City Council, which as of January 2011 is $18,325. For parcels less than 40 acres project proponents have the option of paying an impact mitigation fee to Elk Grove. The money is used to acquire available land (fee-title or conservation easement) with suitable Swainson's Hawk foraging habitat values.

Replacement habitat needs to be provided within the known foraging area for the hawk. The location and management organization needs to be acceptable to the CDFG as well as Elk Grove. The ordinance also states that the benefits of preserving land in proximity to other protected land will be considered. The ordinance applies to any project that goes through the environmental review process (CEQA process) and has been found to have a potentially significant impact on Swainson's Hawk foraging habitat. In order to streamline the process of finding suitable parcels CDFG preapproved areas that mitigation lands could be provided (see Figure 1). Elk Grove holds the conservation easements on the mitigation parcels and conducts the compliance with and enforcement of the easement. The Department of Fish and Game is a beneficiary of the easement.

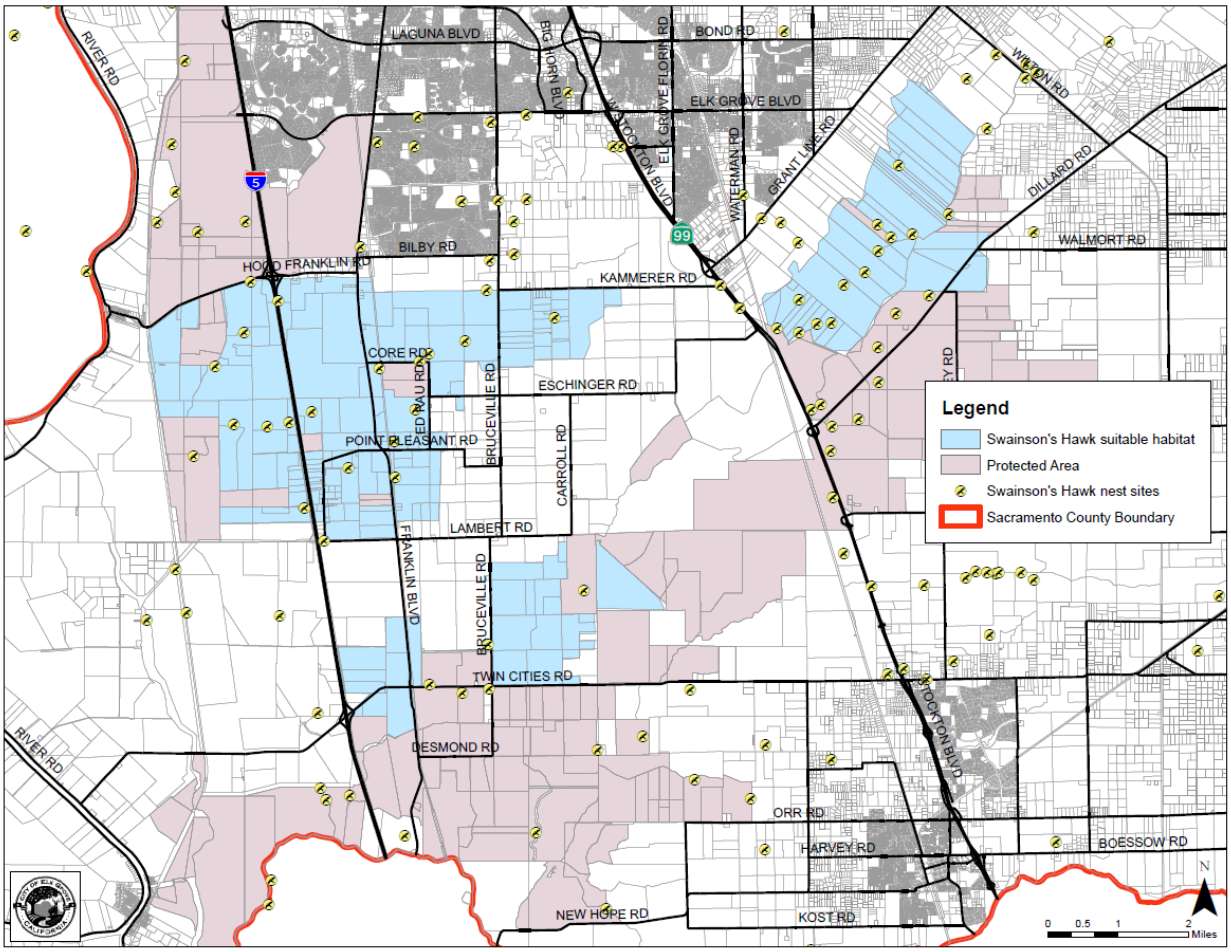
Sacramento County Swainson's Hawk Protection Program

As part of the CEQA process the County Department of Environmental Review and Assessment (DERA) determines whether and how much a project will potentially impact Swainson's Hawk foraging habitat. The calculation is based on the existing zoning of the property and what the new zoning will be. Projects that don't request a zoning change mitigate based on the impact. The Swainson's Hawk Mitigation Program Fund is one of three ways habitat compensation can be provided. The Swainson's Hawk Mitigation Fund is a Planning Department program. If another option is used then it is DERA's responsibility to track.

Projects that have been determined to impact 40 acres and greater must provide fee title or easement to suitable Swainson's Hawk mitigation lands on an acre-per-acre basis prior to any site disturbance.

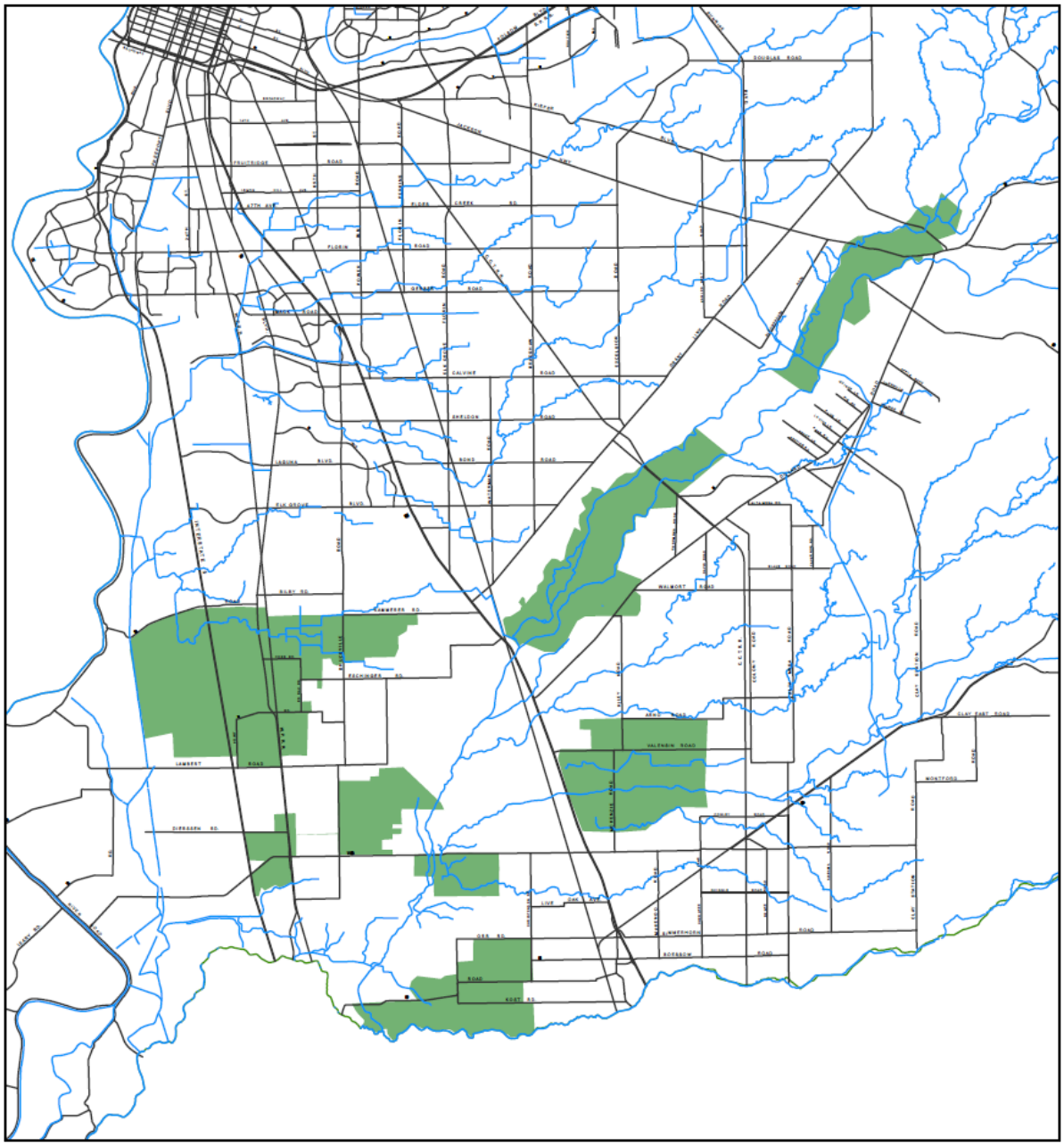
Mitigation sites must be within Sacramento County and outside the Urban Services Boundary. The land must also be owned or managed by a conservation organization and in locations acceptable to CDFG. In order to provide guidance CDFG and the County developed a map of where mitigation lands are pre-approved for mitigation (Figure 2). Any parcels within these areas still need to be inspected for the adequacy as foraging habitat. The project applicant is required to transfer the easement or fee title to the County, CDFG and a third party conservation organization. If the foraging habitat quality is tied to existing agricultural uses then the water rights also have to be protected. The County assesses fees to set up an endowment account for monitoring and enforcement plus a one-time $500 administrative fee.

Figure 1: CDFG preapproved areas for Swainson's Hawk foraging habitat mitigation for development within Elk Grove.



For projects that impact less than 40 acres the project applicant may pay into the Swainson's Hawk Mitigation Fund (impact mitigation fee) or provide title or easement to suitable Swainson's Hawk mitigation lands on an acre-per-acre basis. Projects with impacts less than 40 acres have to meet the same requirements as those for 40 acres or more if they choose the easement/fee title option. The fees for paying into the fund are $10,550 per acre, $2375 per acre endowment fee and a one-time $500 administrative fee.

Figure 2: CDFG preapproved areas for Swainson's Hawk foraging habitat mitigation of Sacramento County development.



Potential Swainson's Hawk Mitigation Areas

Disclaimer: The green regions on this map represent information provided to the Planning Department from the California Department of Fish and Game. The purpose is to guide project applicants in selecting areas for potential Swainson's Hawk mitigtion lands. Not all areas shown in green will be acceptable, however the green regions represent geographic areas where there is a high likelyhood that a particular parcel will be approved for Swainson's Hawk mitigation. It is possible that areas outside the green regions will be approved as mitigation as well. All requests for approval of a particular parcel for mitigation should be directed to the Planning Department. A form and instructions to request approval of a parcel(s) for mitigation is available at www.saccounty.net/planning/swainsons-hawk-ordinance/index.html.

Prepared by the Sacramento County Planning and Community Development Department
Updated November 8, 2005

N W E S

There are two other ways habitat compensation can be provided. Credits can be purchased at a mitigation bank or an applicant can develop a mitigation plan acceptable by CDFG. If CDFG approves the CEQA mitigation then Sacramento County will too.

Methodology

FOSH has been gathering information on the aforementioned mitigation programs over the years and has had an interest in tracking and analyzing the data. This review of the program is being conducted to determine whether the programs are being implemented as they are intended to be.

We obtained project and mitigation information as well the conservation easements from Sacramento County, Elk Grove, The Nature Conservancy (TNC), The Sacramento Valley Conservancy (SVC) and CDFG. We reviewed the databases, the financial transactions, and the easement language and set up meetings with the easement holders, as feasible, to discuss how they conduct monitoring and easement compliance. We also conducted drive-by site visits to have a "snap shot in time" as to the condition of the parcels. The work was all done within the time period of March 2010 to January 2011.

We wanted to complete additional analysis that did not get done for this phase of the project. We wanted to assess the quality of habitat using aerial photos. We wanted to use that information to compare the preserved versus developed land and look at historical nest locations but the information was not readily available. Elk Grove has records for all of the transactions that include Swainson's Hawk mitigation. Sacramento County has records for projects that have paid into the Swainson's Hawk Mitigation Fund, but does not keep written records for projects that may have mitigated with their own land, used a mitigation bank, or had a mitigation package that was acceptable to CDFG. We hope that additional analysis can be conducted in a later phase of the project.

Products and Results

As a result of this project FOSH has the following tools to help keep track of the mitigation programs:

- Copies of the easements that provide mitigation for Swainson's Hawks in Elk Grove and South Sacramento County
- Database of mitigation areas with key information and site visit results for all areas that were visited
- Database of projects and fees collected that has been cross checked with the mitigation acreage
- Potential findings to recommend to the local agencies to improve the programs performance
- Program pros and cons that can be used to comment on the South Sacramento County HCP
- A framework to look at other programs and to continue to analyze parts of the Elk Grove and Sacramento County programs

Sacramento County Results

Sacramento County has three options for providing habitat compensation for Swainson's Hawk foraging habitat.

- The developer can write a check to the County for impacts less than 40 acres and the County is responsible for providing the habitat compensation. The fund is a fee program.
- If the impact is determined to be more than 40 acres the developer provides acreage in fee title or with a conservation easement on it.

- Developers also have the option of mitigating with a custom agreement with CDFG. The compensation can occur at a mitigation bank. We are not aware of any projects using this option.

Sacramento County Swainson's Hawk Mitigation Fund

FOSH is aware of 97 development projects that have mitigated using the Sacramento County Swainson's Hawk Mitigation Fund – See Table 1. The fund is managed by the Sacramento County Planning Department. For earlier projects the data pertain to projects which passed the grading stage. Currently, because the mitigation is based on zoning it is not dependent on permits and earth moving activities. Sacramento County staff has done a good job tracking the projects that have used the fund, and accounting for the money that has been used to purchase easements.

Table 1: Summary of Sacramento County Swainson's Hawk Mitigation Program

	Sacramento County
Year the fund was initiated	1997
Year the ordinance was developed and amended	1998 – clarify terms and conditions 2002 – expand areas where monies could be spent 2003 – raise mitigation fee and add endowment fee 2005 – set fees, mitigation ratio and change to impacts over 40 acres to provide land 2009 –reduce fees
Number of development projects using the mitigation fund	97
Number of development acres*	2037.99
Number of conservation easement parcels	6
Conservation easement parcel names and acreage	Allen 323.00 acres Larkin 310.00 acres Van Steyn 197.00 acres Stokes 119.00 acres Sloughhouse 11.85 acres McKenzie 34.14 acres
Acres under conservation easement	994.99
Number of fee-title parcels	0
Acres of fee- title land owned	0
Number of mitigation banks used	Potentially 2 or more
Acres purchased on mitigation banks	unknown
Fees collected for land/easement purchase**	$2,988,017.75
Fees expended for land/easement purchase	$3,052,963.82
O&M fees collected	$259,135.10
O&M fees expended	$249,433

*Does not include all of the development acres in the County. Only includes the acres that we have identified as contributing money used to purchase conservation easements.

**County shows a higher balance due to including interest accrued on the account

Sacramento County has worked with TNC and SVC to acquire conservation easements in perpetuity. All of the conservation easements besides McKenzie were purchased with money from the Swainson's Hawk Mitigation Fund. The McKenzie easement was purchased using a separate fund. Allen, Larkin, Van Steyn and Stokes easements were all purchased with parcel fees. Sloughhouse was a joint effort with the City of Rancho Cordova. Sacramento County used operations and management (O&M) money from the Swainson's Hawk Mitigation Fund for that purchase. McKenzie was conserved using an in-kind development and then sold the extra acres to other projects.

Allen, Larkin, Van Steyn and Stokes easements are all held by TNC. According to TNC staff Larkin and Allen did not come with endowments. O&M money was not collected by Sacramento County until 2003; Allen and Larkin conservation easements were purchased prior to that. TNC does an annual review of the easement and a compliance visit. They have an organization wide database to keep track of all of the easements they monitor. TNC staff said they have had no major violations on the parcels being managed for the County. Allen, Larkin, Van Steyn and Stokes are all located within the mitigation zone preapproved by CDFG in Figure 2.

Sloughhouse and McKenzie easements are held by SVC. Sloughhouse is a joint purchase in a larger parcel called Westerberg. SVC conducts easement compliance visits. SVC also uses a management plan as part of their easements. The management plans are not legally enforceable, but they are developed when the easements are recorded so all of the parties know how the parcel should be managed. Management plans for the parcels seem like a good management tool.

The McKenzie conservation easement was not purchased using money from the Swainson's Hawk Mitigation Fund. The easement was placed on that parcel to off-set impacts from a project adjacent to the site. The mitigation parcel was larger than the development so there were excess acres that were available to be used for other projects. The original project was 6.14 acres. Another 8 projects purchased credits at McKenzie between 2007 and 2010 at $4,143 per acre. The money was tracked separately by planning department staff since the easement was not purchased through the mitigation fund. It seems like the McKenzie conservation easement was developed with a different set of criteria:

- The projects that mitigated at the site paid a fraction of the cost that projects paid using the Swainson's Hawk Mitigation Fund during the same time period
- The site is outside the CDFG preapproved areas in Figure 2
- Turn-key projects are normally a relatively quick turnaround, but projects were mitigating at the site over several years.

Sacramento County also has another turn-key site called the George Dairy Property, but we have not received information on the easement or the projects that have used that mitigation site. This is another project that should be followed up on.

Sacramento County's fee based mitigation program has not been able to keep pace with development. The County has spent most of the money that is in the Swainson's Hawk Mitigation Fund, but they have not been able to purchase enough to maintain a 1:1 mitigation ratio. The program is running at an over 50% deficit in conservation easement acquisitions. Fees were raised several times but the deficit has stayed relatively constant since 2004 – See Table 2 for a summary of the fee structure. A summary by year of the developed and conserved acres can be found in Table 3. Sacramento County's fee program is out of compliance with its own ordinance which requires a 1:1 habitat compensation ratio.

Table 2: Summary of the History of the Sacramento County Fee Structure

Year	Description	Land Fee/Acre	Operations and Management Fee/Acre	Administrative Fee
1996	Mitigation Fund	$750	$0	$382
2003	Mitigation Fund	$2500	$333	$382
2005	Mitigation Fund	$16,000	$2,375	$500
2007-2010	McKenzie	$4,143	n/a	n/a
2010	Mitigation Fund	$10,550	$2,375	$500

Swainson's Hawk Mitigation Fund fees should reflect the current costs of purchasing conservation easements so enough money is collected to mitigate at the ratio set in the ordinance. Conservation easements should be purchased every time the fund has enough money to purchase one. Money should not be held. Otherwise, in many cases the money in the fund can be devalued with inflation and as land prices rise. Prior to 2006 the entire mitigation program was a fee based program. In 2006 that was changed to projects with impacts less than 40 acres. Projects with impacts greater than 40 acres had to provide their own mitigation. According to Sacramento County records most of the projects that paid into the fund were small projects even prior to the amended ordinance. Of the 97 projects only 12 were over 40 acres. Since conservation easements are not purchased until enough money is collected the acres preserved will always be behind the acres developed. The ordinance should be revised to require the acres preserved to stay ahead of the acres developed for future transactions.

Table 3: Swainson's Hawk Fund Summary of Land Developed and Preserved by Year in South Sacramento County

Year	Acres Developed	Acres Preserved	Cumulative Deficit
1998	186.87	0	-186.87
1999	155.42	225	-117.29
2000	391.25	98	-410.54
2001	335.39	0	-745.93
2002	257.56	0	-1003.49
2003	155.28	310	-848.77
2004	118.26	0	-967.03
2005	373.84	197	-1143.87
2006	28.48	119	-1053.35
2007	8.64*	11.85	-1050.14
2008	7.15	34.14	-1023.15
2009	16.6	0	-1039.75
2010	3.25	0	-1043
Totals	**2037.99**	**994.99**	**-1043**

*McKenzie acres are added beginning in 2007

Habitat Compensation Deficit

For this project it was assumed that all projects were mitigating at a 1:1 ratio as part of their CEQA mitigation requirement. The Sacramento County Ordinance did not require a compensation ratio of 1:1 until 2005. Sacramento County staff asserts that after the ordinance was changed in 2005 a 1:1 habitat compensation ratio has been achieved, and prior to that it was not required.

The Swainson's Hawk Fund should not have land deficits and still expect the mitigation to be adequate for the species or legal under CEQA. Because the study is still basing the value on a 1:1 ratio we still determine that over 1000 acres are owed through the fund. That is 50% of the mitigation obligation. Every time an acre of foraging habitat is developed Swainson's Hawks lose 50% of their habitat with a 1:1 acre habitat compensation ratio. With the current mitigation deficit, only 25% of the habitat is being preserved.

To determine what the true deficit is a review of CEQA documents from 1998 – 2005 needs to be done and project impacts and required mitigation amounts recorded. If Sacramento County had a comprehensive tracking system in place for their CEQA program a determination of compliance could be tracked easily. It is still assumed that a deficit up to 1000 acres has occurred.

Unfortunately, Sacramento County has made themselves responsible for ensuring mitigation is implemented by taking fees and establishing a mitigation fund. Fee based programs are not legal or adequate under CEQA. Somehow the County program has to make up the deficit and provide the additional habitat that has been required through the CEQA process. Operating at a deficit is also a good reason to start thinking about higher than 1:1 mitigation ratios. Other habitats such as wetlands, vernal pools, and riparian are mitigated at higher ratios.

Some ideas that could help correct the deficit include:

- Provide permanent Swainson's Hawk easements on county owned land such as Regional Sanitation District although the habitat would have to be managed as Swainson's Hawk foraging habitat and could not be on land unlikely to be developed
- Require higher than 1:1 mitigation ratios in the HCP to ensure enough habitat is preserved to maintain and recover the Swainson's Hawk population in South Sacramento County
- Seek money through foundations and partner organizations to purchase land/easements
- Assess a reconveyance fee for development approved but not fully mitigated

Sacramento County Non-Fund Swainson's Hawk Mitigation

The amount and location of mitigation required and fulfilled outside of the Sacramento County Mitigation Fund has been hard to track. Although Sacramento County has a process for approving Swainson's Hawk mitigation required in the CEQA process, it is decentralized and without comprehensive oversight. If projects do not use the mitigation fund they can either find their own parcel or implement a compensation package approved by CDFG. These projects are tracked by DERA; not by the planning department. DERA checks off whether all of a project's CEQA mitigation measures have been implemented through their Mitigation Monitoring and Reporting Program (MMRP). They do not keep a centralized database of how mitigation measures were implemented. We have not been able to comprehensively identify projects outside the Swainson's Hawk Mitigation Fund that have provided mitigation.

Developers have to provide their own mitigation for projects that have been determined to have greater than 40 acres of impacts. This can be either fee-title or easement. This option has only been available since 2006. The process does not seem to be well exercised. The requirements are laid out in the County Ordinance (summary above) or full Ordinance on the Sacramento County website www.msa2.saccounty.net/planning/Pages/Swainsons-Hawk-Ordinance.aspx. Developers have to fill out a form requesting approval of the parcel they would like to set aside. We have copies of the forms for 4 projects but there is no indication whether the projects moved forward and parcels were set aside.

A complete review of Sacramento County's CEQA process for Swainson's Hawk mitigation needs to be completed. All of the CEQA documents that required Swainson's Hawk mitigation need to be identified and cataloged. Then the mitigation needs to be tracked to determine what option was used. Mitigation needs to be checked to determine whether it was completed. Contacting CDFG, mitigation banks and conducting title searches to see if easements were recorded might be the only way to determine whether mitigation was implemented as required in the CEQA document. All of the CEQA documents for South Sacramento County need to be reviewed to determine how mitigation was implemented for projects that did not pay into the Swainson's Hawk Mitigation Fund.

Summary of Elk Grove Results

Elk Grove has two options for providing habitat compensation for Swainson's Hawk foraging habitat. For projects less than 40 acres the developer can write a check to Elk Grove and the City becomes responsible for providing the habitat compensation. For projects more than 40 acres the developer has to provide the compensation by either using a mitigation bank, or providing acreage in fee title or with a conservation easement. Elk Grove took over their Swainson's Hawk habitat compensation program from Sacramento County when they incorporated – see Table 4. Between 2000 and 2005 no habitat compensation or easements were purchased even though 2344 acres were developed. In 2005 the Carli easement was purchased with almost everything available in the fund. In 2005 Elk Grove's program improved and they created Swainson's Hawk habitat with the establishment of Delta Breeze. They changed from a fee program to a land based mitigation program that has allowed Elk Grove to stay ahead of development with their mitigation program.

City of Elk Grove Swainson's Hawk Mitigation Program

Elk Grove keeps records of all the projects that have had to provide Swainson's Hawk mitigation. They keep track of all projects that have paid into the Swainson's Hawk Fund, have mitigated at Delta Breeze, and Bryte Ranch mitigation bank or provided easements to the City for habitat compensation. In the past the money was used to purchase easements. But now the money is used primarily for reimbursement and management of the Delta Breeze vineyards project – See Table 4.

FOSH has tracked the Elk Grove program for years. In 2004 it wrote several letters to the City and to the Local Agency Formation Commission (LAFCO) expressing concern that Elk Grove was out of compliance with CEQA. FOSH pointed out to Elk Grove that CEQA findings that impacts would be mitigated to less than significant by payment of a mitigation fee did not comply with CEQA. This was because the fee was too small to provide reasonable assurance that the desired mitigation measures (1 to 1 mitigation ratio) would be carried out. FOSH raised the concern in connection with Elk Grove's Laguna Ridge project. That project resulted in the current Elk Grove mitigation program. The current program requires that projects greater than 40 acres provide land plus the appropriate O&M fee before a grading permit is issued.

When Elk Grove changed from a fee program to reimbursement for Delta Breeze in 2005 there was some money left in the Swainson's Hawk account that was not enough to purchase additional easements. The City was not planning to collect more money for easements so they used the money for several Swainson's Hawk surveys.

Elk Grove has kept track of all the projects that provided their own land for compensation or used mitigation banks. Carli is the only easement purchased by Elk Grove. All of the other easements have been transferred from developers to Elk Grove to mitigate for impacts to Swainson's Hawks. Elk Grove holds all of the conservation easements on the parcels; not a third party conservation organization. Elk Grove completed monitoring and compliance reports on all of the easement parcels in 2010 and is

working on a webpage where all of the easement information will be accessible by the public. Elk Grove also tracks all of the projects that have bought credits at Bryte Ranch mitigation bank.

Table 4: Summary of Elk Grove's Swainson's Hawk Mitigation Program

Category	**City of Elk Grove**
Year the City initiated mitigation program	2000
Year policy was developed and amended	2000
Number of development projects that have paid fees to Elk Grove	102
Number of development acres including those that compensated at Delta Breeze	4190.43
Number of development acres excluding Delta Breeze	3173.42
Number of conservation easement parcels	8
Conservation easement parcel names and acreage	Kirkham 169.0 Goodwin 80.0 Carli 84.93 Reynen and Bardis 56.34 Treasure Homes 91.8 Delta Breeze 1104.65 Mohamed 80.0 (Mahon 62.35)*
Acres under conservation easement Acres used in Delta Breeze Total acres set aside	562.07 763.0** 1729.07
Number of fee-title parcels	1 (Delta Breeze)
Acres of fee- title land owned	736
Number of mitigation banks used	1
Acres purchased at mitigation banks***	178.92
Average per acre amount charged and range	$3996.00 ($750-$18,375)
Fees collected for land/easements purchase	$14,563,705.03
O&M fees collected	$ 1,781,332.75
Total fees collected****	$16,747,370.33

*Mahon easement is not included in the total since it has not been used for mitigation yet

**Delta Breeze was purchased in advance of development and is operated as a mitigation bank. The only acres included are the ones already accounted for by development

***The only mitigation bank used is Bryte Ranch.

****Total is a combination of administrative fees, fees for acreage and O&M

Delta Breeze

Elk Grove purchased a vineyard in 2005 and removed all of the vines with the intent of creating Swainson's Hawk habitat; not just preserving it. Because of the creation component, CDFG in May 2005 approved a 1.5:1 ratio of development to habitat compensation for the projects mitigating at the site. Elk Grove can sell 1104.65 credits although the parcel is only 736 acres. TNC holds the easement on Delta Breeze and is responsible for compliance and enforcement of the easement terms. According to a

CDFG letter in the FOSH file, TNC intended to manage the parcel too, but now they are just holding the easement. The vines have all been removed but the parcel is fallow. Elk Grove has had delays in converting it from a fallow parcel to one that is actively managed as foraging habitat. Elk Grove has recently partnered with the Bureau of Land Management for management of the property. A request for proposals was open in the summer of 2010.

Since Delta Breeze became available for mitigation 30 projects have used it. See Table 5 for a summary. Most of the projects using the site have been small. They have paid their mitigation credits prior to development occurring. Delta Breeze is the reason why Elk Grove's mitigation program successfully sets aside habitat in a large block of land which is more useful as foraging habitat then small parcels.

Delta Breeze is owned in fee-title by the City of Elk Grove which is a different approach then the other parcels. The other parcels all have conservation easements on them which are held by the City of Elk Grove. The easements allow parcels to be conserved, but managed by landowners at their discretion as long as the easement terms are not violated. Delta Breeze can be managed solely as Swainson's Hawk habitat since the money collected in mitigation fees will pay off the parcel and create the endowment. There is no reason to take into account the market value of crops as part of the management strategy so the best management plan for Swainson's Hawks can be implemented.

Table 5: Summary of Delta Breeze

Category	Result
Number of projects	30
Number of projects that were city projects	8
Number of projects over 40 acres	2
Money collected in fees	$13,101,202.20
Fees collected per acre	$18,325.00
Acres mitigated	763.0

Swainson's Hawk Habitat Compensation Deficit

The City of Elk Grove had early habitat compensation deficits too. There are 4190.43 acres that have been developed, but easements have only been provided on 562.07 acres plus the 763 acres accounted for in Delta Breeze. The City of Elk Grove has recently started keeping track of operations and management money separately, but did not collect money for that early on. The range of fees that the City of Elk Grove has collected is from $750/acre to the current $18,325/acre for mitigating at Delta Breeze. As late as 2003 the City was still only collecting $750 which is one of the reasons why they have operated at such a large deficit. A summary by year of the acreage developed and conserved can be found in Table 6. From 2000 – 2005 the deficit became larger and larger and the City did not take action to provide habitat compensation. After 2005 more acres have been preserved then developed, but it still does not make up the deficit.

The City of Elk Grove has found a way with Delta Breeze to come into compliance with their ordinance and CEQA. Purchasing land up front and then selling credits ensures that:

- Adequate habitat compensation occurs.
- Mitigation acres stays ahead of development acres
- Mitigation can occur at the ratio required in the ordinance and CEQA documents

Owning the land in fee-title and managing it for Swainson's Hawk habitat ensures that it will be managed for the greatest benefit to the species and not what the market or the needs of the land owner dictate.

Table 6: Summary of Swainson's Hawk Foraging Land Developed and Preserved by Year in Elk Grove

Year	Acres Developed	Acres Preserved	Cumulative Deficit
2000	10.62	0	-10.62
2001	479.19	0	-489.81
2002	774.63	0	-1,264.44
2003	914.67	0	-2.179.11
2004	165.68	0	-2,344.79
2005	1196.64	850.57	-2,690.86
2006	51.83	93.43	-2,649.26
2007	29.65	136.19	-2,542.72
2008	19.96	99.96	-2,462.72
2009	16.94	81.99	-2,397.67
2010	n/a	n/a	
Multiple*	482.56		-2,880.23
City Projects**	48.06	48.06	-2,880.23
Total	**4190.43**	**1310.2**	**-2880.23**

*Several projects are listed as multiple years with no date listed. It is assumed they were all permitted prior to 2003 since the fees collected are at the $750 rate

**No date is listed for city projects, but all are listed as mitigating at Delta Breeze

Prior to Delta Breeze the City of Elk Grove collected money and began to record conservation easements (only Carli was purchased and recorded). When the City switched over to using Delta Breeze there was money left in the fund for habitat compensation. The City did not believe there was enough money to purchase another easement, and so they used the funds to conduct a Swainson's Hawk nesting survey within City boundaries and in the South Sacramento County region.

Role of CDFG

CDFG is a trustee agency under CEQA that is responsible for conservation of the state's resources, including Swainson's Hawks which are listed as Threatened under the California Endangered Species Act. CDFG has worked with Elk Grove (Figure 1) and Sacramento County (Figure 2) to identify areas where mitigation is preapproved. Not every parcel within the preapproved areas is good Swainson's Hawk mitigation but it allows developers and local governments a starting point of where to look.

CDFG also approves mitigation banks; the species that can be off-set, the amount of credits that can be sold, and the service area. CDFG also keeps track of how many credits are sold and whether banks are operating according to their management plans. Unfortunately, the mitigation bank service areas are not always consistent with the other parts of the program. The only mitigation bank that includes Elk Grove and Sacramento County in its service area at this time is Bryte Ranch. Bryte Ranch is outside the preapproved areas found in Figures 1 and 2. Other mitigation banks do not have blanket approval, but mitigation has been approved there by CDFG on a case by case basis. More data needs to be collected and analyzed to develop a complete picture of the role of mitigation banks, their locations and habitat types compared to the location and habitat type of development.

CDFG can also hold endowment money and easements, or be a beneficiary to an easement. Because of the programmatic level of oversight CDFG does not track each individual transaction by a local government. It is the responsibility of the permitting agency to ensure that mitigation measures are fulfilled. CDFG's responsibility is to make sure the mitigation bank program and the conservation easements are operating as they are required to.

Mitigation Banking

Mitigation banking is a popular option due to the ease by developers of fulfilling their mitigation obligations. Developers can write a check to the bank operator and have their mitigation obligations completed. There are pros and cons to mitigation banks. If they are used right they can increase the value of land set aside. If they are not used correctly then the mitigation value can drop. Some of the ways that mitigation banks can benefit species are:

- Having the ability to conserve larger tracts of land than would otherwise be conserved with small projects that only need a couple of acres
- They require a resources agency approved management plan. The management plan requires the parcel to be managed for the species and habitats being covered
- When used for in-kind habitat the value of habitat at a bank can be equal or greater value than land being lost. For example, projects that impact vernal pool/grassland complexes can mitigate at banks that provide that habitat type.

Some of the concerns with using mitigation banks for projects in Sacramento County and Elk Grove include:

- When large projects use mitigation banks for their habitat compensation instead of providing separate parcels
- Mitigation banks that provide credits for both federal and state listed species are tracked separately (by the separate agencies) and layering or an incomplete accounting of credits can occur
- In some cases credits are sold in areas where it would be unlikely for development to occur. For example, credits for uplands at a vernal pool sites which have already been protected
- When they are located outside of the region/habitat type that the impact is occurring
- No Swainson's Hawk mitigation banks are in the zones preapproved by CDFG (Figures 1 and 2).
- Elk Grove and CDFG have kept track of credits sold at Bryte Ranch. Elk Grove reported to the project that 178.92 have been purchased there and CDFG reported to FOSH that for Elk Grove projects 180.69 acres have been purchased.

The only bank that has Elk Grove and South Sacramento County in its service area is Bryte Ranch. Van Vleck Ranch is located in Sacramento County. Several others have received approval for Swainson's Hawk mitigation or may have approval on a case by case basis - see Table 7. Elk Grove does give approval to use mitigation banks and has identified 12 projects that have mitigated at Bryte Ranch. The Elk Grove school district has mitigated at Van Vleck Ranch for a project. Elk Grove could deny the use of Bryte Ranch because it is outside the service area in Figure 1. It does not provide in-kind habitat compensation for impacts in agricultural areas. Elk Grove and CDFG should work on way to resolve the discrepancy between service areas.

Additional analysis on the use of mitigation banks should be done in a future phase of this project. Because Sacramento County DERA does not keep a database of projects and how they mitigated we have incomplete information on how many projects may have used banks. If a project in Sacramento

County wants to mitigate at a bank they would need CDFG approval. The County Ordinance does not give blanket approval for using mitigation banks.

Table 7: CDFG Approved Swainson's Hawk Mitigation Banks that can potentially be used in Sacramento County

Name of Mitigation Bank	Owner/Contact	Total Acres
Laguna Terrace	Wildlands	200
Bryte Ranch	Brian Johnson	431
Van Vleck Ranch	Westervelt	
Deer Creek Swainson's Hawk Preserve	Wildlands	183
Twin Cities Mitigation Wetland Preserve	Wildlands	255
Laguna Creek	Conservation Resources	1000

Site Visits to Conservation Easement Parcels

Most of the parcels that have been conserved through the Sacramento County or Elk Grove program were visited in late June or early July 2010 to conduct a drive by assessment. Using google earth the parcel was identified. We also had the conservation easement to verify whether the parcels appeared to be in compliance with the easement crop restrictions. The site visit methodology was neither comprehensive enough to determine whether Swainson's Hawk were nesting on the site or in the vicinity nor was it comprehensive enough to determine whether parcels are being used for foraging habitat. The site visit was to determine potential suitability as foraging habitat. Incidental sightings of Swainson's Hawks were noted. A summary of the site visits are in Table 8. Not all parcels were visited since not all of them have a public road adjacent to the site.

Easements

The parcels seem to be in compliance with the easement language. The easement language is not necessarily restrictive enough to guarantee that the best crops for Swainson's Hawks are planted every year. Even accounting for crop rotation, the crops best suited for Swainson's Hawks are either alfalfa or other irrigated pasture which is mowed or managed. Other crops can be planted but crops such as corn and rice should be excluded. The easements do exclude orchard and vineyard but the excluded list should be more comprehensive since the habitat needs to be as high value as possible. There have been several foraging studies conducted in Sacramento, San Joaquin and Yolo Counties which all conclude that Swainson's Hawks use alfalfa the most frequently and then other crops such as irrigated pasture and some row crops.

The Allen parcel, which is the first easement recorded allows rice. Some of the easement prohibit certain crops and others do not. Some of the easements are restrictive on such things as water right transfers, mineral extraction, noise, and other uses, but there is leeway. Just because the parcels are in compliance with the easements, does not mean that they are being managed for Swainson's Hawks to the best extent possible.

Table 8: Summary of site visit information

Conservation Parcel	Parcel for Elk Grove/ Sacramento County	Date of Site Visit	Crops/Habitat Type	Other Observations
Allen	Sacramento County	6/26/2010	Fallow, corn	Alfalfa on adjacent parcel
Bryte Ranch	Mitigation Bank	5/23/2010	None	Vernal pool complex with associated upland grassland
Carli	Elk Grove	7/5/2010	Alfalfa	
Delta Breeze	Elk Grove	6/30/2010	Fallow, weeds	unmanaged
Goodwin	Elk Grove	6/26/2010	Dry pasture	
Kirkham	Elk Grove	6/30/2010	Wet pasture	Adjacent to Cosumnes Preserve
Larkin	Sacramento County	No public access		
Mahon	Elk Grove	7/5/2010	Alfalfa	
McKenzie	Sacramento County	7/5/2010	Pasture wet/dry	Actively being grazed
Mohamed	Elk Grove	7/5/2010	Cut hay	
Reynan and Bardis	Elk Grove	No access		
Stokes	Elk Grove	7/5/2010	Alfalfa	
Treasure Homes	Elk Grove	No access		
Van Steyn	Elk Grove	6/26/2010	Irrigated pasture/corn	

Sacramento County Findings

The review of the Sacramento County program has identified several positives and negatives about the program. Some of the things that are going well in the program include:

- All easements purchased with the Swainson's Hawk Fund money are recorded
- Easement language seems to be improving with each recording
- The third party land management organizations seem organized, are conducting compliance visits with dedicated staff, and have been transparent in sharing their procedures
- The program was changed from a nominal fee based program to one that includes O&M and realistic fees which allows more habitat to be preserved with easements
- Projects with impacts larger than 40 acres are required to provide their own habitat compensation

The following are some suggestions to improve Sacramento County's Swainson's Hawk mitigation program:

- The Swainson's Hawk Fund should determine what the actual deficit is (if less than 1000 acres) and look for a way to reconcile their historical deficit
- Better oversight, tracking, coordination and transparency need to be implemented in the non-fund transactions
- Habitat compensation in the County needs to have centralized oversight to ensure preserve design is the best for Swainson's Hawks and to ensure one entity is tracking all jurisdictions and facets of the program

- Mitigation banks not on the valley floor (outside the area in Figure 2) should not be approved by local agencies or CDFG for habitat compensation
- Sacramento County should be requesting an annual report from the third party conservation organizations to ensure that easements are in compliance and so the County can track mitigation parcels. It doesn't appear that the County has tracked the status of the parcels
- McKenzie is outside the target area preapproved by CDFG. It may have been in-kind for the original project, but the extra credits should not have been sold to other projects if impacts were in a different habitat type
- A stay-ahead clause should be required so that land is always available at the current rate. The mitigation program should be a land based program, not a fee based program
- Mitigation areas should be areas that would otherwise be developed. In other words, areas that cannot be developed such as within the flood plain should be excluded unless habitat improvement of the property occurs.

Non-Fund Transactions

Better oversight, tracking, coordination and transparency need to be implemented in the non-fund transactions. Sacramento County has kept track of fund transactions in an organized way but the non-fund transactions are not tracked in a central location. Getting information on the projects that have provided their own mitigation, their location, and whether the mitigation obligation has been met has been a challenge. The County has not been able to provide information on whether conservation easements have been recorded for projects not using the mitigation fund. Conservation parcels through this part of the program could be small, could have easement language that does not benefit the species to the greatest extent possible, and their locations could be piecemealed throughout the County. Both the Department of Environmental Review and Assessment (DERA) and the Planning Department have different roles and they need better coordination with each other as well as the other Cities in the County. Working together would result in fewer impacts to the species and would help provide the best mitigation possible.

Elk Grove Findings

The review of the Elk Grove program has identified several positives and negatives about the program. Some of the things that are going well in the program include:

- Taking out vineyards and restoring habitat for Swainson's Hawk at the Delta Breeze site is one of the only ways that the species will gain any foraging habitat
- The Elk Grove program has been able to operate with no deficit since the purchase of Delta Breeze since land can be accounted for and set aside prior to the grading permit being issued
- Elk Grove conducted compliance monitoring on the conservation easement parcels in 2010 and the reports were available for review
- All easements purchased were recorded
- Has kept records of all aspects of the mitigation; mitigation bank credits purchased, developer provided conservation easements, money and land as part of the Swainson's Hawk fund and acres sold at Delta Breeze.

The following are some suggestions to improve Elk Grove's Swainson's Hawk mitigation program:

- The City should plan ahead and before the next housing boom set aside large areas that can sell credits

- Parcels that are being considered for easements should be larger than in the existing program prior to Delta Breeze
- Mitigation banks not on the valley floor (outside target area) should not get approval from Elk Grove to mitigate impacts
- Conservation organizations should hold the conservation easements, not the City itself so an independent entity can do the compliance and monitoring
- Prior to the next housing boom Delta Breeze should be closed to big projects
- Elk Grove can learn from Delta Breeze and do the next project even better
- The historical deficit should be addressed and reconciled

Although the City of Elk Grove has not operated in a deficit on an annual basis since 2005 there is still a large deficit that has not been addressed by the City. Add the approximately 2800 acre deficit to the 1000 acre County deficit and it is apparent that mitigation programs have not been fully implemented.

Easement or Fee-Title?

Easement language should be more restrictive, or land needs to be purchased in fee-title so the parcels can be managed as the best Swainson's Hawk foraging habitat possible. Easements are a cheaper option for developers and local governments. It does allow landowners who want to conserve their property but still have ownership and management that option. If conservation easements are still going to be used they need to be restrictive enough to benefit Swainson's Hawks every year.

Fee title has benefits as the land can be managed solely for Swainson's Hawks. Owning property as mitigation removes any conflict that can occur from land owners needing to plant crops they can sell. Fee title can also be complicated as local governments are not necessarily the best group to develop a parcel into Swainson's Hawk foraging habitat. Properties can be held in fee-title by conservation organizations too.

Instead of promoting easements or fee title we found, based on the review, that several things can make either program successful:

- Either program should have a stay ahead requirement to ensure no additional deficit occurs
- Fees should reflect the market value of the program chosen to ensure that enough money is collected to purchase adequate acreage, for operations and management, and cover administrative needs
- Criteria for potential mitigation parcels should accompany the maps already developed
- Management Plans should be developed that establish criteria to manage the parcel for Swainson's Hawk foraging habitat – and follow-up should occur to confirm management plans are being implemented
- A third party conservancy, set up to run the mitigation program, could be the clearing house for all projects in the County. This would help all the local governments keep track and reduce the likelihood of double counting

Biological Significance

Swainson's Hawks are continually losing their foraging habitat in South Sacramento County. The early habitat compensation programs that just took fees for development and did not provide habitat compensation not only were out of compliance with CEQA and the ordinances they contributed to the decline of regional habitat values for the Swainson's Hawk. The current programs collect more money for compensation and money for operations and management but the deficits remain and for the

County program can still get bigger. If Elk Grove changes the development parcel size that can mitigate using Delta Breeze and they go back to a fee program they too could increase their deficit.

One of the reasons why projects such as Delta Breeze become important is its size. Biologically it is important to have parcels large enough to provide quality habitat. Smaller parcels have a larger edge habitat to interior ratio. Depending on where the parcels are and the matrix of conserved lands and the crops being grown small parcels do not provide the foraging opportunities that large uninterrupted parcels do. Some of the parcels that have easements on them are small. Preserve design, size and location are important attributes in a conservation program when the available land cover is shrinking by 50% every time land is set aside.

To limit any potential impacts to the population size in South Sacramento County a regional approach should be taken to habitat compensation. Management of mitigation parcels should be conducted to benefit the Swainson's Hawk with alfalfa being the primary crop grown and other crops used as forage identified as part of the crop rotation.

Centralized Oversight

Habitat compensation in the County needs to have centralized oversight to ensure preserve design is the best for Swainson's Hawks and to ensure one entity is tracking all jurisdictions and facets of the program. The County has not kept adequate track of what projects outside of the mitigation fund have needed Swainson's Hawk mitigation. The County is using a form on their website for parcels outside the mitigation fund to ensure that the appropriate habitat is used as mitigation and that easements or title restrictions don't already occur.

The Swainson's Hawk program for the County and all the jurisdictions could be more streamlined and have a better biological result for the species if there was a coordinated program. An HCP could help alleviate some of the disjointedness of the programs. Having one entity:

- Oversee implementation of the program,
- Keep track of where habitat compensation has been provided,
- Have a conservancy who is responsible for managing the parcels specifically for the covered species, and
- Make sure easements are recorded, and holds all the easements

Additional items that could be researched

The scope of this project was large, but based on the information that we could gather some aspects of the mitigation programs were not analyzed. Other phases of the project are not limited to this list, but below are several areas that further analysis could be conducted to benefit the programs.

- Follow up with a review of mitigation banks to determine their role in Swainson's Hawk mitigation in Sacramento County and Elk Grove
- Review CEQA documents for projects in Sacramento County prior to 2005 to determine mitigation ratios, what the true deficit is and whether habitat compensation was provided
- Develop a spatial analysis of where development has occurred and where mitigation has occurred in relation to what is known about nesting sites
- Follow up on the Sacramento County turn-key project; George Dairy Project
- Conduct a similar analysis of other jurisdictions within Sacramento County that have been mitigating for Swainson's Hawk

MELINDA DORIN BRADBURY
2367 Marina Glen Way Sacramento California 95833
Cell Phone: (916) 212-6589 Email: Melindabradbury@sbcglobal.net

Professional Experience

SEQUOIA ECOLOGICAL CONSULTING (PRESENT), CONSULTANT PROJECT MANAGER
Occasional surveys for Swainson's Hawks and project management activities including report writing and editing.

SWAINSON'S HAWK TECHNICAL ADVISORY COMMITTEE (PRESENT), ENVIRONMENTAL CONSULTANT
Organize data and map GPS locations for a Swainson's Hawk migration study so the results can be published. Satellite data was collected over several years and the data needs to be reviewed and transformed into a usable database and mapped for publication in a peer reviewed journal.

FRIENDS OF THE SWAINSON'S HAWK (JUNE 2008 – PRESENT), ENVIRONMENTAL CONSULTANT
Provide the organization expertise for several projects including the organization's strategic plan, their Swainson's Hawk Conservation Strategy, Local Government Mitigation Program Review Program, CEQA comments on biological issues, and for wind energy projects.
Specific Projects:

- Provide ongoing technical expertise as needed on wind and wildlife issues including:
  - Review of California Environmental Quality Act (CEQA) required Environmental Impact Reports for wind energy projects in the Montezuma Hills. Have provided technical comments for at least four proposed wind projects;
  - Developed a summary of the issues surrounding wind and wildlife interactions for the Friends of the Swainson's Hawk Board to consider.
  - Also serve as a public interest member on the Solano County Wind Technical Advisory Committee (since 2010 meeting).
- Project Manager and author of a review of Sacramento County's, City of Elk Grove's and City of Rancho Cordova's Swainson's Hawk Mitigation Programs
  - Reviewed project databases and mitigation databases to determine whether mitigation was being implemented to benefit the species. The review found that an almost 3000 acre historical deficit occurs;
  - Conducted site visits and reviewed reporting requirements and determined that annual reporting requirements have not always been met;
  - Worked with City and County staff as well as staff from non-profit organizations which manage the mitigation land for local governments;
  - As a result of the project and project findings additional grant money was received to expand the review to other local government mitigation programs in the Sacramento area.
- Wrote the organization's Conservation Strategy for Swainson's Hawks. Included talking with stakeholders, and receiving input from Board Members.
  - Conducted a review of the current research on Swainson's Hawks;
  - Developed priority issues and policies for the organization to address;
  - Developed measures for the organization to implement to help with conservation of the species.

- Wrote a strategic plan for the organization that was adopted in Aug 2008. Facilitated Board Member discussion and ideas and received input from stakeholders important to the organization.

THE WILDLIFE SOCIETY – NATIONAL (SUMMER 2011), PEER REVIEWER
Selected by The Wildlife Society to be part of a five person professional peer review team to review and evaluate the U.S. Fish and Wildlife Service's Draft Land Based Wind Energy Guidelines. The review was conducted after the comment period was closed, and was the only one conducted through a professional organization.

ENVIRONMENTAL COUNCIL OF SACRAMENTO (2009), ENVIRONMENTAL CONSULTANT
Developed and organized a Land Use Planning Workshop for ECOS. Developed the agenda, the budget, contacted speakers and organized all aspects of the workshop including food and location. Topics included a summary of the California Environmental Quality Act, Endangered Species Acts and Resource Agency roles, County and City of Sacramento Planning Processes, the relationship between Councils of governments and local land use decisions, and how the public can get involved in local planning issues. The goal for the workshop was to educate participants on how land use planning works so they could get involved and make informed comments at planning meetings.

SACRAMENTO TREE FOUNDATION (JUNE 2007 – JANUARY 2008), ENVIRONMENTAL CONSULTANT
Wrote a plan describing a new Urban Forest Ecology Center in Sacramento that the Sacramento Tree Foundation could use to initiate building design and for fundraising. The Sacramento Tree Foundation is planning to open new headquarters and build an interpretive center. The project included facilitating meetings to develop key ideas on displays, target audience, children's area activities, and interpretive center lay out. Topics developed included the benefits of trees, the relationship between the urban canopy and open space, urban tree ecosystems and the physiology of trees.

CALIFORNIA ENERGY COMMISSION, ENERGY COMMISSION SPECIALIST
PUBLIC INTEREST ENERGY RESEARCH (PIER), ENVIRONMENTAL AREA PROGRAM (JUNE 2005-MARCH 2009)
General duties: Facilitated research to develop cost effective approaches to evaluating and resolving environmental effects of energy production, delivery, and use in California. Used research to determine the extent of and ways to reduce impacts from electricity generation, transmission and use, and recommend related policy.
Specific responsibilities:
- Worked on a team to research avian impacts from wind facilities and electrocution and collisions with transmission line infrastructure. Used the research to develop policy recommendations to reduce the energy production and delivery effects on avian species;
- Technical lead for the Once-Through Cooling Program. Reviewed research proposals and developed a program that researched the effects of once-through cooling technology on the marine environment. Used research to inform the Clean Water Act 316(b) regulatory process and California Energy Commission policies and permitting;
- Technical lead for the Nitrogen Deposition Program. Reviewed final research reports and recommended additional research to address nitrogen deposition from power plant emissions on sensitive habitats in California;
- Technical lead for Wave Energy White Paper. Worked in collaboration with the California Coastal

Commission to assemble a team of researchers to write an environmental knowledge gaps paper pertaining to potential wave energy development off the coast of California;
- Technical lead for Biofuels and Biodiversity Research. Developed a research plan and contracted with researchers to address potential range response of several endangered species to different large scale crop pattern scenarios based on biofuel crop needs within California;

Other duties:
- Developed new areas of research;
- Coordinated with other groups such as California Department of Fish and Game, State Water Resources Control Board, Ocean Protection Council, local governments, non-profits, industry groups and other stakeholders;
- Hired and supervised students;
- Worked with planning staff on the California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development;
- Worked with staff throughout the Energy Commission to develop policy recommendations for Policy Reports

CALIFORNIA ENERGY COMMISSION, ENVIRONMENTAL PLANNER
SYSTEMS ASSESSMENT AND FACILITIES SITING DIVISION (JUNE 2001-JUNE 2005)

General duties: Worked as part of an interdisciplinary team which surveyed for sensitive species and habitats,, analyzed environmental impacts from proposed power plants, monitored power plant construction to assure compliance with biological conditions of certification, wrote planning documents to meet legislative mandates, and provided comments on CEQA documents related to energy development. Recipient of a team service award for working on power plant siting cases.

Specific responsibilities:
- Reviewed and edited documents on current endangered species' research, applications for power plant certification, and Environmental Impact Reports. Coordinated with federal and State resource agencies and local land-use agencies to identify permit requirements and information needs. Facilitated and/or attended public workshops to determine project impacts and sufficient mitigation for them. This often included working in an adversarial setting with project applicants, interveners, and other resource agencies. Wrote testimony and testified, as needed, in defense of proposed mitigation at public hearings and before the Commissioners;
- Wrote several biological resources sections in Energy Policy Reports including: The Electrical Integrated Energy Policy Report; the Petroleum Infrastructure Environmental Performance Report; and the Environmental Performance Report in support of the Electrical Report;
- Lead author on the staff white paper on Avian Collision and Electrocution Impacts in the State which included policy recommendations for consideration by the Commission;
- Prepared briefings for the Commissioners and Management. This required good analytical and writing skills to present the issues and provide information used in determining policy recommendations by the Commission.

Other duties:
- Assumed responsibility for reviewing energy related environmental documents and providing comments on biological resource impacts on wind energy related projects under CEQA;
- Led the Interagency Wind Working Group Meetings to disseminate knowledge and promote

coordination of research between resource agencies;
- Worked with the PIER-EA staff to define potential areas of research that could be used to identify energy related impacts and mitigation.

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, ENVIRONMENTAL SPECIALIST
BAY DELTA BRANCH, DIVISION OF WATER RIGHTS SACRAMENTO (APRIL 2000- JUNE 2001)
General duties: Worked on the Bay-Delta Water Rights hearing assembling the administrative record. Developed an intricate knowledge of the water code in order to process water rights applications. Wrote California Environmental Quality Act documents.
Specific responsibilities:
- Represented the SWRCB at Interagency Meetings including the Interagency Ecological Program. As part of the review process for the existing water rights decision, I developed and gave Power Point presentations to interagency working groups on the water rights process. Attended interagency conferences and water rights seminars to stay current on water rights issues in the State;
- Responsible for processing water rights requests by local landowners. This included conducting site visits, writing the appropriate CEQA documents, determining whether a project had significant impacts, and the mitigation for the impact;
- On larger water rights projects such as the Victor Valley Reclamation Authority on the Mojave River and an El Dorado Irrigation District project, worked as part of a multi-disciplinary hearing team, including geologists, lawyers, engineers and archeologists, to gather data, address concerns and protests prior to issuing a water right permit. We worked with the Board Members to write the SWRCB Decision based on the administrative record. Good oral and written communication skills were essential to collect evidence through the administrative hearing process, and write an Order or Decision with permit terms.

CALIFORNIA DEPARTMENT OF FISH AND GAME, FISH AND WILDLIFE SCIENTIFIC AIDE
BAY DELTA BRANCH STOCKTON (JULY 1996-APRIL 2000)
General duties: As a seasonal employee of the California Department of Fish and Game (CDFG), I worked on several projects that had short term contract funding. I gained valuable experience working with different species, learned many different survey protocols and had the opportunity to design, lead, and implement a study.
Specific responsibilities:
- Developed and implemented a study program in the Suisun Marsh mandated by the Suisun Marsh Plan of Protection. Represented the CDFG at interagency meetings, developed interagency work plans and guidance documents outlining wetland restoration success criteria for the Department to follow on restoration parcels. Conducted trapping for the federally-listed salt marsh harvest mouse, developed a genetics research program with CalPoly, and worked with species experts to develop survey protocols for fish species, and black rails. Developed and maintained a database of survey results. Presented results at conferences and wrote annual reports to meet permit requirements;
- Participated in baseline surveys of State and federally-listed species such as San Joaquin kit fox, avian species, California red-legged frog and bats;
- Led field crews during salmon and delta smelt entrainment studies in Suisun Marsh. Compiled survey results, maintained databases and wrote weekly and final reports. Hired and trained field crew on the

sampling protocol;
- Worked autonomously in a satellite office for two years.

U.S. Fish and Wildlife Service, Biological Sciences Technician, Sacramento-San Joaquin Delta Field Office, Stockton (October 1995- July 1996)
General duties: Worked as field crew and crew lead on the Salmonid monitoring program assessing populations and juvenile migration through the delta. Responsible for data validation, summary reports, quality control of database files, and drafted tables and graphs for project reports. Received a service award for accepting and completing work above and beyond required duties.

Research Assistant
Santa Rosa National Park, Costa Rica (September 1994-May 1995)
Specific responsibilities:
- Collected and analyzed data for a Ph.D. student and for a post doctorate study. Captured yellow-naped amazon parrots to study dialects within the species. Compiled and analyzed vocal response data and co-authored a paper on the results;
- Captured iguanas to tag, draw blood and measure other physical characteristics. Monitored and observed tagged individuals for a behavior study;
- Assisted in the production of a natural history film titled "Crossroads of Nancite". The movie documented interactions of monkeys, turtles, coyotes and other animals that live in the dry forest along the beach in Northwestern Costa Rica.
- Collected olive ridly, green and leatherback turtle nesting data within the park to monitor population and nesting success for the University of Costa Rica species management plan.

Education
- University Of California, San Diego, (September 1990 - June 1994)
  Bachelors of Science Degree: Ecology Behavior and Evolution

Professional Development and Community Volunteering
The Sacramento Shasta Chapter of The Wildlife Society Board Member (2000-present)
Currently Membership Chair for the Chapter. I have also served as secretary of the Chapter and President of the Chapter. I also served as the Chapter Representative to the Western Section. Develop, coordinate and facilitate workshops and conference sessions, and associated budgets such as the Chapter's annual Natural Resources Symposium, Swainson's Hawk Workshop, California Red-legged Frog Symposium, Giant Garter Snake Workshop, and a Habitat Conservation Planning Workshop.

Hawk Research (1998-2000), volunteer
- Volunteer on several Swainson's Hawk studies including migration study, trapping and banding using several different capture techniques throughout California, took blood and measurements.
- Swainson's Hawk census of the central valley
- Banded Goshawks in Northern California.

THE ENVIRONMENTAL COUNCIL OF SACRAMENTO (ECOS) BOARD MEMBER (2007-2011)
BOARD MEMBER AND ORGANIZATIONAL DEVELOPMENT COMMITTEE CHAIR
ECOS is a council that seeks to organize multiple environmental and social organizations in Sacramento to address issues such as County and City growth strategies, SB375 implementation, open space and endangered species habitat preservation as well as air quality, transportation, climate change and other categories of environmental issues that affect the Sacramento region.

- Wrote the 5-year strategic plan for the organization with input from the executive director, board members and stakeholders
- Wrote policy guidance documents
- Developed a fundraising plan framework

BOARD MEMBER OF RIVER OAKS COMMUNITY ASSOCIATION (2004-2005)
CHAIR OF THE RIVER OAKS COMMUNITY ASSOCIATION LAND USE COMMITTEE (2005 – PRESENT)
The Association reviews California Environmental Quality Act (CEQA) documents and is involved in land use planning, community safety and outreach. We work with developers and City of Sacramento staff to review projects.

Appendix E

California Department of Fish and Game Mitigation Guidelines for Swainson's Hawk

State of California

Memorandum

To : Div. Chiefs - IFD, BDD, NHD, WMD
Reg. Mgrs. - Regions 1, 2, 3, 4

Date : November 8, 1994

From : Department of Fish and Game

Subject: Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California

I am hereby transmitting the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California for your use in reviewing projects (California Environmental Quality Act [CEQA] and others) and in developing 2081 Management Authorizations and 2090 Biological Opinions which may affect Swainson's hawk habitat in the Central Valley. The staff report has been developed during the last 18 months by the Environmental Services Division (ESD) in cooperation with the Wildlife Management Division (WMD) and Regions 1, 2, and 4. It has been sent out for public review on several occasions and redrafted as appropriate.

Either the mitigation measures in the staff report may be used or project specific measures may be developed. Alternative project specific mitigation measures proposed by the Department Divisions/Regions or by project sponsors will also be considered. However, such mitigation measures must be submitted to ESD for review. The review process will focus on the consistency of the proposed measure with Department, Fish and Game Commission, and legislative policy and with laws regarding raptors and listed species. ESD will coordinate project specific mitigation measure review with WMD.

If you have any questions regarding the report, please contact Mr. Ron Rempel, Program Supervisor, Habitat Conservation Planning and Endangered Species Permitting, Environmental Services Division at (916) 654-9980.

COPY Original signed by
A. Petrovich, Jr.

For
Boyd Gibbons
Direction

Enclosure

cc: Mr. Ron Rempel
Department of Fish and Game
Sacramento

file; d, exfile, esd, chron
Vouchilas/seh/pdl SRPBUTEO.DS1

Staff Report regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California

INTRODUCTION

The Legislature and the Fish and Game Commission have developed the policies, standards and regulatory mandates which, if implemented, are intended to help stabilize and reverse dramatic population declines of threatened and endangered species. In order to determine how the Department of Fish and Game (Department) could judge the adequacy of mitigation measures designed to offset impacts to Swainson's hawks in the Central Valley, Staff (WMD, ESD and Regions) has prepared this report. To ensure compliance with legislative and Commission policy, mitigation requirements which are consistent with this report should be incorporated into: (1) Department comments to Lead Agencies and project sponsors pursuant to the California Environmental Quality Act (CEQA); (2) Fish and Game Code Section 2081 Management Authorizations (Management Authorizations); and (3) Fish and Game Code Section 2090 Consultations with State CEQA Lead Agencies.

The report is designed to provide the Department (including regional offices and divisions), CEQA Lead Agencies and project proponents the context in which the Environmental Services Division (ESD) will review proposed project specific mitigation measures. This report also includes "model" mitigation measures which have been judged to be consistent with policies, standards and legal mandates of the Legislature and Fish and Game Commission. Alternative mitigation measures, tailored to specific projects, may be developed if consistent with this report. Implementation of mitigation measures consistent with this report are intended to help achieve the conservation goals for the Swainson's hawk and should complement multi-species habitat conservation planning efforts currently underway.

The Department is preparing a recovery plan for the species and it is anticipated that this report will be revised to incorporate recovery plan goals. It is anticipated that the recovery plan will be completed by the end of 1995. The Swainson's hawk recovery plan will establish criteria for species recovery through preservation of existing habitat, population expansion into former habitat, recruitment of young into the population, and other specific recovery efforts.

During project review the Department should consider whether a proposed project will adversely affect suitable foraging habitat within a ten (10) mile radius of an active (used during one or more of the last 5 years) Swainson's hawk nest(s). Suitable Swainson's hawk foraging habitat will be those habitats and crops identified in Bechard (1983), Bloom (1980), and Estep (1989). The following vegetation types/agricultural crops are considered small mammal and insect foraging habitat

for Swainson's hawks:

- alfalfa
- fallow fields
- beet, tomato, and other low-growing row or field crops
- dry-land and irrigated pasture
- rice land (when not flooded)
- cereal grain crops (including corn after harvest)

The ten mile radius standard is the flight distance between active (and successful) nest sites and suitable foraging habitats, as documented in telemetry studies (Estep 1989, Babcock 1993). Based on the ten mile radius, new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The ten mile foraging radius recognizes a need to strike a balance between the biological needs of reproducing pairs (including eggs and nestlings) and the economic benefit of development(s) consistent with Fish and Game Code Section 2053.

Since over 95% of Swainson's hawk nests occur on private land, the Department's mitigation program should include incentives that preserve agricultural lands used for the production of crops, which are compatible with Swainson's hawk foraging needs, while providing an opportunity for urban development and other changes in land use adjacent to existing urban areas.

LEGAL STATUS

Federal

The Swainson's hawk is a migratory bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in Section 50 of the Code of Federal Regulations (C.F.R.) Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 C.F.R. 21).

State

The Swainson's hawk has been listed as a threatened species by the California Fish and Game Commission pursuant to the California Endangered Species Act (CESA), see Title 14, California Code of Regulations, Section 670.5(b)(5)(A).

LEGISLATIVE AND COMMISSION POLICIES, LEGAL MANDATES AND STANDARDS

The FGC policy for threatened species is, in part, to: "Protect and preserve all native species...and their habitats...." This policy also directs the Department to work with all interested persons to protect and preserve sensitive resources and their habitats. Consistent with this policy and direction, the Department is enjoined to implement measures that assure protection for the Swainson's hawk.

The California State Legislature, when enacting the provisions of CESA, made the following findings and declarations in Fish and Game Code Section 2051:

> a) "Certain species of fish, wildlife, and plants have been rendered extinct as a consequence of man's activities, untempered by adequate concern and conservation";
>
> b) "Other species of fish, wildlife, and plants are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment because of overexploitation, disease, predation, or other factors (emphasis added)";and
>
> c) "These species of fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern" (emphasis added).

The Legislature also proclaimed that it "is the policy of the state to conserve, protect, restore, and enhance any endangered or threatened species and its habitat and that it is the intent of the Legislature, consistent with conserving the species, to acquire lands for habitat for these species" (emphasis added).

Section 2053 of the Fish and Game Code states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" (emphasis added).

Section 2054 states "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided" (emphasis added).

Loss or alteration of foraging habitat or nest site disturbance which results in:

(1) nest abandonment; (2) loss of young; (3) reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), may ultimately result in the take (killing) of nestling or fledgling Swainson's hawks incidental to otherwise lawful activities. The taking of Swainson's hawks in this manner can be a violation of Section 2080 of the Fish and Game Code. This interpretation of take has been judicially affirmed by the landmark appellate court decision pertaining to CESA (DFG v. ACID, 8 CA App.4, 41554). The essence of the decision emphasized that the intent and purpose of CESA applies to all activities that take or kill endangered or threatened species, even when the taking is incidental to otherwise legal activities. To avoid potential violations of Fish and Game Code Section 2080, the Department recommends and encourages project sponsors to obtain 2081 Management Authorizations for their projects.

Although this report has been prepared to assist the Department in working with the development community, the prohibition against take (Fish and Game Code Section 2080) applies to all persons, including those engaged in agricultural activities and routine maintenance of facilities. In addition, sections 3503, 3503.5, and 3800 of the Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

To avoid potential violation of Fish and Game Code Section 2080 (i.e. killing of a listed species), project-related disturbance at active Swainson's hawk nesting sites should be reduced or eliminated during critical phases of the nesting cycle (March 1 - September 15 annually). Delineation of specific activities which could cause nest abandonment (take) of Swainson's hawk during the nesting period should be done on a case-by-case basis.

CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 21083, Guidelines Sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports findings of Overriding Consideration. The CEQA Lead Agency's Findings of Overriding Consideration does not eliminate the project sponsor's obligation to comply with Fish and Game Code Section 2080.

NATURAL HISTORY

The Swainson's hawk (*Buteo swainsoni*) is a large, broad winged buteo which frequents open country. They are about the same size as a red-tailed hawk (*Buteo jamaicensis*), but trimmer, weighing approximately 800-1100 grams (1.75 - 2 lbs). They have about a 125 cm. (4+foot) wingspan. The basic body plumage may be highly variable and is characterized by several color morphs - light, dark, and rufous. In dark phase birds, the entire body of the bird may be sooty black. Adult birds generally have dark backs. The ventral or underneath sections may be light with a characteristic dark, wide "bib" from the lower throat down to the upper

breast, light colored wing linings and pointed wing tips. The tail is gray ventrally with a subterminal dusky band, and narrow, less conspicuous barring proximally. The sexes are similar in appearance; females however, are slightly larger and heavier than males, as is the case in most sexually dimorphic raptors. There are no recognized subspecies (Palmer 1988).

The Swainson's hawk is a long distance migrator. The nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most populations migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). The species is included among the group of birds known as "neotropical migrants". Some individuals or small groups (20-30 birds) may winter in the U.S., including California (Delta Islands). This round trip journey may exceed 14,000 miles. The birds return to the nesting grounds and establish nesting territories in early March.

Swainson's hawks are monogamous and remain so until the loss of a mate (Palmer 1988). Nest construction and courtship continues through April. The clutch (commonly 3-4 eggs) is generally laid in early April to early May, but may occur later. Incubation lasts 34-35 days, with both parents participating in the brooding of eggs and young. The young fledge (leave the nest) approximately 42-44 days after hatching and remain with their parents until they depart in the fall. Large groups (up to 100+ birds) may congregate in holding areas in the fall and may exhibit a delayed migration depending upon forage availability. The specific purpose of these congregation areas is as yet unknown, but is likely related to: increasing energy reserves for migration; the timing of migration; aggregation into larger migratory groups (including assisting the young in learning migration routes); and providing a pairing and courtship opportunity for unattached adults.

Foraging Requirements

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. These open fields and pastures are the primary foraging areas. Major prey items for Central Valley birds include: California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae)*, deer mice (*Peromyscus maniculatus*), California ground squirrels (*Spermophilus beecheyi)*, mourning doves (*Zenaida macroura*), ring-necked pheasants (*Phasianus colchicus*), meadowlarks (*Sturnella neglecta*), other passerines, grasshoppers (*Conocephalinae* sp.), crickets (*Gryllidae* sp.), and beetles (Estep 1989). Swainson's hawks generally search for prey by soaring in open country and agricultural fields similar to northern hariers (*Circus cyaneus*) and ferruginous hawks (*Buteo regalis*). Often several hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations. During the breeding season, Swainson's hawks eat mainly vertebrates (small rodents and reptiles), whereas during migration vast numbers of insects are consumed (Palmer 1988).

Department funded research has documented the importance of suitable foraging habitats (e.g., annual grasslands, pasture lands, alfalfa and other hay crops, and combinations of hay, grain and row crops) within an energetically efficient flight distance from active Swainson's hawk nests (Estep pers. comm.). Recent telemetry studies to determine foraging requirements have shown that birds may use in excess of 15,000 acres of habitat or range up to 18.0 miles from the nest in search of prey (Estep 1989, Babcock 1993). The prey base (availability and abundance) for the species is highly variable from year to year, with major prey population (small mammals and insects) fluctuations occurring based on rainfall patterns, natural cycles and agricultural cropping and harvesting patterns. Based on these variables, significant acreages of potential foraging habitat (primarily agricultural lands) should be preserved per nesting pair (or aggregation of nesting pairs) to avoid jeopardizing existing populations. Preserved foraging areas should be adequate to allow additional Swainson's hawk nesting pairs to successfully breed and use the foraging habitat during good prey production years.

Suitable foraging habitat is necessary to provide an adequate energy source for breeding adults, including support of nestlings and fledglings. Adults must achieve an energy balance between the needs of themselves and the demands of nestlings and fledglings, or the health and survival of both may be jeopardized. If prey resources are not sufficient, or if adults must hunt long distances from the nest site, the energetics of the foraging effort may result in reduced nestling vigor with an increased likelihood of disease and/or starvation. In more extreme cases, the breeding pair, in an effort to assure their own existence, may even abandon the nest and young (Woodbridge 1985).

Prey abundance and availability is determined by land and farming patterns including crop types, agricultural practices and harvesting regimes. Estep (1989) found that 73.4% of observed prey captures were in fields being harvested, disced, mowed, or irrigated. Preferred foraging habitats for Swainson's hawks include:

- alfalfa;
- fallow fields;
- beet, tomato, and other low-growing row or field crops;
- dry-land and irrigated pasture;
- rice land (during the non-flooded period); and
- cereal grain crops (including corn after harvest).

Unsuitable foraging habitat types include crops where prey species (even if present) are not available due to vegetation characteristics (e.g. vineyards, mature orchards, and cotton fields, dense vegetation).

Nesting Requirements

Although the Swainson's hawk's current nesting habitat is fragmented and unevenly distributed, Swainson's hawks nest throughout most of the Central Valley floor. More than 85% of the known nests in the Central Valley are within riparian systems in Sacramento, Sutter, Yolo, and San Joaquin counties. Much of the potential nesting habitat remaining in this area is in riparian forests, although isolated and roadside trees are also used. Nest sites are generally adjacent to or within easy flying distance to alfalfa or hay fields or other habitats or agricultural crops which provide an abundant and available prey source. Department research has shown that valley oaks (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*), willows (*Salix* spp.), sycamores (*Platanus* spp.), and walnuts (*Juglans* spp.) are the preferred nest trees for Swainson's hawks (Bloom 1980, Schlorff and Bloom 1983, Estep 1989).

Fall and Winter Migration Habitats

During their annual fall and winter migration periods, Swainson's hawks may congregate in large groups (up to 100+ birds). Some of these sites may be used during delayed migration periods lasting up to three months. Such sites have been identified in Yolo, Tulare, Kern and San Joaquin counties and protection is needed for these critical foraging areas which support birds during their long migration.

Historical and Current Population Status

The Swainson's hawk was historically regarded as one of the most common and numerous raptor species in the state, so much so that they were often not given special mention in field notes. The breeding population has declined by an estimated 91% in California since the turn of the century (Bloom 1980). The historical Swainson's hawk population estimates are based on current densities and extrapolated based on the historical amount of available habitat. The historical population estimate is 4,284-17,136 pairs (Bloom 1980). In 1979, approximately 375 ($\pm$ 50) breeding pairs of Swainson's hawks were estimated in California, and 280 (75%) of those pairs were estimated to be in the Central Valley (Bloom 1980). In 1988, 241 active breeding pairs were found in the Central Valley, with an additional 78 active pairs known in northeastern California. The 1989 population estimate was 430 pairs for the Central Valley and 550 pairs statewide (Estep, 1989). This difference in population estimates is probably a result of increased survey effort rather than an actual population increase.

Reasons for decline

The dramatic Swainson's hawk population decline has been attributed to loss of

native nesting and foraging habitat, and more recently to the loss of suitable nesting trees and the conversion of agricultural lands. Agricultural lands have been converted to urban land uses and incompatible crops. In addition, pesticides, shooting, disturbance at the nest site, and impacts on wintering areas may have contributed to their decline. Although losses on the wintering areas in South America may occur, they are not considered significant since breeding populations outside of California are stable. The loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs. Smith (1977) estimated that in 1850 over 770,000 acres of riparian habitat were present in the Sacramento Valley. By the mid-1980s, Warner and Hendrix (1984) estimated that there was only 120,000 acres of riparian habitat remaining in the Central Valley (Sacramento and San Joaquin Valleys combined). Based on Warner and Hendrix's estimates approximately 93% of the San Joaquin Valley and 73% of the Sacramento Valley riparian habitat has been eliminated since 1850.

MANAGEMENT STRATEGIES

Management and mitigation strategies for the Central Valley population of the Swainson's hawk should ensure that:

- suitable nesting habitat continues to be available (this can be accomplished by protecting existing nesting habitat from destruction or disturbance and by increasing the number of suitable nest trees); and

- foraging habitat is available during the period of the year when Swainson's hawks are present in the Central Valley (this should be accomplished by maintaining or creating adequate and suitable foraging habitat in areas of existing and potential nest sites and along migratory routes within the state).

A key to the ultimate success in meeting the Legislature's goal of maintaining habitat sufficient to preserve this species is the implementation of these management strategies in cooperation with project sponsors and local, state and federal agencies.

DEPARTMENT'S ROLES AND RESPONSIBILITIES IN PROJECT CONSULTATION AND ADMINISTRATION OF CEQA AND THE FISH AND GAME CODE

The Department, through its administration of the Fish and Game Code and its trust responsibilities, should continue its efforts to minimize further habitat destruction and should seek mitigation to offset unavoidable losses by (1) including the mitigation measures in this document in CEQA comment letters and/or as

management conditions in Department issued Management Authorizations or (2) by developing project specific mitigation measures (consistent with the Commission's and the Legislature's mandates) and including them in CEQA comment letters and/or as management conditions in Fish and Game Code Section 2081 Management Authorizations issued by the Department and/or in Fish and Game Code Section 2090 Biological Opinions.

The Department should submit comments to CEQA Lead Agencies on all projects which adversely affect Swainson's hawks. CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 21083. Guidelines 15380, 15064, 15065). Impacts must be: (1) avoided; or (2) appropriate mitigation must be provided to reduce impacts to less than significant levels; or (3) the lead agency must make and support findings of overriding consideration. If the CEQA Lead Agency makes a Finding of Overriding Consideration, it does not eliminate the project sponsor's obligation to comply with the take prohibitions of Fish and Game Code Section 2080. Activities which result in (1) nest abandonment; (2) starvation of young; and/or (3) reduced health and vigor of eggs and nestlings may result in the take (killing) of Swainson's hawks incidental to otherwise lawful activities (urban development, recreational activities, agricultural practices, levee maintenance and similar activities. The taking of Swainson's hawk in this manner may be a violation of Section 2080 of the Fish and Game Code. To avoid potential violations of Fish and Game Code Section 2080, the Department should recommend and encourage project sponsors to obtain 2081 Management Authorizations.

In aggregate, the mitigation measures incorporated into CEQA comment letters and/or 2081 Management Authorizations for a project should be consistent with Section 2053 and 2054 of the Fish and Game Code. Section 2053 states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" . Section 2054 states: "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided."

State lead agencies are required to consult with the Department pursuant to Fish and Game Code Section 2090 to ensure that any action authorized, funded, or carried out by that state agency will not jeopardize the continued existence of any threatened or endangered species. Comment letters to State Lead Agencies should also include a reminder that the State Lead Agency has the responsibility to consult with the Department pursuant to Fish and Game Code Section 2090 and obtain a written findings (Biological Opinion). Mitigation measures included in Biological Opinions issued to State Lead Agencies must be consistent with Fish and Game

Code Sections 2051-2054 and 2091-2092.

NEST SITE AND HABITAT LOCATION INFORMATION SOURCES

The Department's Natural Diversity Data Base (NDDB) is a continually updated, computerized inventory of location information on the State's rarest plants, animals, and natural communities. Department personnel should encourage project proponents and CEQA Lead Agencies, either directly or through CEQA comment letters, to purchase NDDB products for information on the locations of Swainson's hawk nesting areas as well as other sensitive species. The Department's Nongame Bird and Mammal Program also maintains information on Swainson's hawk nesting areas and may be contacted for additional information on the species.

Project applicants and CEQA Lead Agencies may also need to conduct site specific surveys (conducted by qualified biologists at the appropriate time of the year using approved protocols) to determine the status (location of nest sites, foraging areas, etc.) of listed species as part of the CEQA and 2081 Management Authorization process. Since these studies may require multiple years to complete, the Department shall identify any needed studies at the earliest possible time in the project review process. To facilitate project review and reduce the potential for costly project delays, the Department should make it a standard practice to advise developers or others planning projects that may impact one or more Swainson's hawk nesting or foraging areas to initiate communication with the Department as early as possible .

MANAGEMENT CONDITIONS

Staff believes the following mitigation measures (nos. 1-4) are adequate to meet the Commission's and Legislature's policy regarding listed species and are considered as preapproved for incorporation into any Management Authorizations for the Swainson's hawk issued by the Department. The incorporation of measures 1-4 into a CEQA document should reduce a project's impact to a Swainson's hawk(s) to less than significant levels. Since these measures are Staff recommendations, a project sponsor or CEQA Lead agency may choose to negotiate project specific mitigation measures which differ. In such cases, the negotiated Management Conditions must be consistent with Commission and Legislative policy and be submitted to the ESD for review and approval prior to reaching agreement with the project sponsor or CEQA Lead Agency.

Staff recommended Management Conditions are:

1. No intensive new disturbances (e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing

activities) or other project related activities which may cause nest abandonment or forced fledging, should be initiated within 1/4 mile (buffer zone) of an active nest between March 1 - September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained for the project. The buffer zone should be increased to 1/2 mile in nesting areas away from urban development (i.e. in areas where disturbance [e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities] is not a normal occurrence during the nesting season). Nest trees should not be removed unless there is no feasible way of avoiding it. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained with the tree removal period specified in the Management Authorization, generally between October 1- February 1. If construction or other project related activities which may cause nest abandonment or forced fledging are necessary within the buffer zone, monitoring of the nest site (funded by the project sponsor) by a qualified biologist (to determine if the nest is abandoned) should be required . If it is abandoned and if the nestlings are still alive, the project sponsor shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s). Routine disturbances such as agricultural activities, commuter traffic, and routine facility maintenance activities within 1/4 mile of an active nest should not be prohibited.

2. Hacking as a substitute for avoidance of impacts during the nesting period may be used in unusual circumstances after review and approval of a hacking plan by ESD and WMD. Proponents who propose using hacking will be required to fund the full costs of the effort, including any telemetry work specified by the Department.

3. To mitigate for the loss of foraging habitat (as specified in this document), the Management Authorization holder/project sponsor shall provide Habitat Management (HM) lands to the Department based on the following ratios:

(a) Projects within 1 mile of an active nest tree shall provide:

- one acre of HM land (at least 10% of the HM land requirements shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% of the HM lands protected by a conservation easement [acceptable to the Department] on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk) for each acre of development authorized (1:1 ratio); or

- one-half acre of HM land (all of the HM land requirements shall be met by fee title acquisition or a conservation easement

[acceptable to the Department] which allows for the active management of the habitat for prey production on the HM lands) for each acre of development authorized (0.5:1 ratio).

(b) Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acres of HM land for each acre of urban development authorized (0.75:1 ratio). All HM lands protected under this requirement may be protected through fee title acquisition or conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

(c) Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acres of HM land for each acre of urban development authorized (0.5:1 ratio). All HM lands protected under this requirement may be protected through fee title acquisition or a conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

4. Management Authorization holders/project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands) at the rate of $400 per HM land acre (adjusted annually for inflation and varying interest rates).

Some project sponsors may desire to provide funds to the Department for HM land protection. This option is acceptable to the extent the proposal is consistent with Department policy regarding acceptance of funds for land acquisition. All HM lands should be located in areas which are consistent with a multi-species habitat conservation focus. Management Authorization holders/project sponsors who are willing to establish a significant mitigation bank (> 900 acres) should be given special consideration such as 1.1 acres of mitigation credit for each acre preserved.

PROJECT SPECIFIC MITIGATION MEASURES

Although this report includes recommended Management Measures, the Department should encourage project proponents to propose alternative mitigation strategies that provide equal or greater protection of the species and which also expedite project environmental review or issuance of a CESA Management Authorization. The Department and sponsor may choose to conduct cooperative, multi-year field studies to assess the site's habitat value and determine its use by nesting and foraging Swainson's hawk. Study plans should include clearly defined criteria for judging the project's impacts on Swainson's hawks and the methodologies (days of monitoring, foraging effort/efficiency, etc.) that will be used.

The study plans should be submitted to the Wildlife Management Division and ESD for review. Mitigation measures developed as a result of the study must be reviewed by ESD (for consistency with the policies of the Legislature and Fish and Game Commission) and approved by the Director.

EXCEPTIONS

Cities, counties and project sponsors should be encouraged to focus development on open lands within already urbanized areas. Since small disjunct parcels of habitat seldom provide foraging habitat needed to sustain the reproductive effort of a Swainson's hawk pair, Staff does not recommend requiring mitigation pursuant to CEQA nor a Management Authorization by the Department for infill (within an already urbanized area) projects in areas which have less than 5 acres of foraging habitat and are surrounded by existing urban development, unless the project area is within 1/4 mile of an active nest tree.

REVIEW

Staff should revise this report at least annually to determine if the proposed mitigation strategies should be retained, modified or if additional mitigation strategies should be included as a result of new scientific information.

LITERATURE CITED

Babcock, K.W. 1993. Home range and habitat analysis of Swainson's hawks in West Sacramento. Michael Brandman Associates report prepared for the Southport Property Owner's Group, City of West Sacramento, CA. 21pp.

Bechard, M.J. 1983. Food supply and the occurrence of brood reduction in Swainson's Hawk. Wilson Bull. 95(2):233-242.

Bloom, P.H. 1980. The status of the Swainson's Hawk in California, 1979. Federal Aid in Wildlife Restoration, Project W-54-R-12, Nongame Wildl. Invest. Job Final Report 11-8.0. 24p + appendix.

Estep, J.A. 1989. Biology, movements, and habitat relationships of the Swainson's Hawk in the Central Valley of California, 1986-87. Calif. Dept. Fish and Game, Nongame Bird and Mammal Section Report, 53pp.

Palmer, R.S. 1988a. Handbook of North American birds. Vol. 4: diurnal raptors (part 1). Yale Univ. Press, New Haven, CT.

Palmer, R.S. 1988b. Handbook of North American birds. Vol. 5: diurnal raptors (part 2). Yale Univ. Press, New Haven, CT.

Schlorff, R.W. and P.H. Bloom. 1983. Importance of riparian systems to nesting Swainson's Hawks in the Central Valley of California. pp 612-618. In: R.E Warner and K.M. Hendrix, (Eds.). 1984. California Riparian Systems. University of California Press, Berkeley.

Smith, F. 1977. Short review of the status of riparian forests in California. In: Stet, A. (Ed.). Riparian forests in California: Their ecology and conservation. Inst. of Ecology Publ. 15. Univ. of Calif. , Davis.

Warner, R.E. and K. M. Hendrix, Eds. 1984. California riparian systems; ecology, conservation, and productive management. University of California Press, Berkeley.

Woodbridge, B. 1985. Biology and management of Swainson's Hawk in Butte Valley, California. U.S. Forest Service Report, 19pp.

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
http://www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
JOHN McCAMMAN, Director

March 25, 2010

Michele McCormick, Liaison
South Sacramento Habitat Conservation Plan
Circle Point
455 Capitol Mall
Sacramento, CA 95814

Dear Ms. McCormick:

The Department of Fish and Game (DFG) has reviewed the current preliminary draft, South Sacramento Habitat Conservation Plan (Draft Plan), and wishes to offer our feedback and guidance for covered species, particularly the California threatened Swainson's hawk (*Buteo swainsoni*), within the mixed agricultural habitats primarily located in the western portion of the Draft Plan area. We intend to continue to provide additional feedback on other species and aspects of the Draft Plan in subsequent correspondence and venues.

As trustee for the State's fish and wildlife resources, the DFG has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of such species. In that capacity the DFG administers the California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), and other provisions of the California Fish and Game Code that affords protection to the State's fish and wildlife trust resources. The DFG also considers issues as related to the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712) (MBTA).

The DFG has historically worked collaboratively with Sacramento County, the cities of Elk Grove, Galt, Rancho Cordova, and the U.S. Fish and Wildlife Service, as well as other agency staff, private landowners, and concerned citizens in an open transparent manner, to provide a foundation to develop the Draft Plan. However, we've had limited involvement and input over most of the past year during the drafting of this Plan and have concerns regarding the current conservation strategy for species which depend on mixed agriculture, primarily in the western Plan Area. We are particularly concerned with impacts to cover types identified in the Draft Plan as cropland and irrigated pasture-grassland.

The DFG recently met with County staff to better understand the intended conservation strategy for the Swainson's hawk. County staff provided specific acreages for the above cover types expected to be impacted by authorized activities associated with the Draft Plan, and expected to be preserved to offset these impacts. Ultimately, the strategy presented relies on acquiring approximately 86% of all cropland and irrigated pasture-grassland within Zone 9 of the Plan Area, as well as acquiring some additional lands with these cover types in Zones 8 and 11, for impacts to these same cover types throughout the Plan Area. The DFG believes that it may be difficult to acquire nearly 86% of all cropland and irrigated pasture-grassland within Zone 9 considering the Draft Plan relies on willing sellers to acquire preserved lands, and that the Draft Plan may not adequately portray this assessment. We understand areas that currently contain cropland and irrigated pasture grassland, which are anticipated to be impacted include portions of Zones 4 and 5, and approximately a 5,000-acre area south of Kammerer Road and west of Highway 99 that is currently under study for annexation in the City of Elk Grove referred to as the proposed Elk Grove Sphere of Influence (SOI), and the City of Galt's proposed SOI.

Inclusion of analyzing impacts to these SOI areas is an aspect of the Draft Plan that we were not aware of until our recent meeting with County Staff and review of the current Draft Plan.

Within the Plan Area, the highest densities of nesting Swainson's hawks occur within and adjacent to cover types identified in the Draft Plan as cropland and irrigated pasture-grassland in the western portion of the Plan Area (Zones 4, 5, 8, 9, 11, 12). The DFG believes that these cover types are essential to the continued persistence of the hawk within their California breeding range and any conservation strategy for this species should place high value on these cover types.

The DFG believes that the current Draft Plan's conservation strategy is not specific regarding this issue and may not ensure adequate cropland and irrigated pasture-grassland reserve lands to accommodate the Swainson's hawks adequate persistence over time in the Plan Area. Ultimately this may not meet California Fish and Game Code Section 2081(b) standards of minimizing and fully mitigating the impacts associated with the Draft Plan; a standard which must be met in order to issue the County's anticipated incidental take authorization for this species. In order to meet these standards, we recommend that the Plan accommodate and guarantee preservation and maintenance of a minimum of an equal amount of cropland and irrigated pasture-grassland to that being impacted within the Plan Area. We believe this could be accomplished by accommodating a combination of the following three suggested solutions:

- Decrease the size of the above referenced SOI's
- Decrease the take coverage area impacting cropland and irrigated pasture-grassland
- Expanding the Plan Area to increase guaranteed reserves containing cropland and irrigated pasture-grassland

We understand the difficulties involved in orchestrating the aspects necessary to produce a viable conservation plan, and hope to participate in a transparent process which involves all stakeholders and agencies when developing biological solutions associated with the Draft Plan.

Thank you for the opportunity to provide our input on this effort. If the DFG can be of further assistance, please contact Mr. Todd Gardner, Staff Environmental Scientist, at (209) 745-1968.

Sincerely,

Jeff Drongesen

Jeff Drongesen
Acting Environmental Program Manager

cc: Eric Tattersall
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W2605
Sacramento, CA 95825-1888

(cc cont'd)

cc: Peter Brundage
Executive Officer
Don Lockhart
Assistant Executive Officer
Sacramento Local Agency Formation Commission
1112 'I' Street, Suite 100
Sacramento, CA 95814

ec: Jeff Drongesen
Todd Gardner
Department of Fish and Game

jdronges@dfg.ca.gov
tgardner@dfg.ca.gov

STATE OF CALIFORNIA - THE RESOURCES AGENCY GRAY DAVIS, Governor
DEPARTMENT OF FISH AND GAME
SACRAMENTO VALLEY AND CENTRAL SIERRA REGION
1701 NIMBUS ROAD, SUITE A
RANCHO CORDOVA, CALIFORNIA 95670
Telephone (916) 358-2900

Flex your POWER

September 17, 2003

Mr. Patrick Angell
City of Elk Grove
8400 Laguna Palms Way
Elk Grove, CA 95758

Dear Mr. Angell:

The Department of Fish and Game (DFG) has reviewed the Draft Environmental Impact Report (DEIR) for the City of Elk Grove's 2003 draft General Plan. The project consists of an update of the existing General Plan, which was adopted before the City of Elk Grove's incorporation in July 2000. For the next 20 years the proposed General Plan will provide land use designations and guide future development within the City of Elk Grove, as well as the 93,560 acre City of Elk Grove Planning Area (Planning Area) which extends outside the city limits and for which City of Elk Grove has applied to Sacramento County Local Agency Formation Commission (LAFCO) as a Sphere of Influence. The project is located in and around the City of Elk Grove in Sacramento County.

Wildlife habitat resources within the Planning Area consist of a mixture of natural habitat, agricultural lands, and urban development. Significant natural resources of the project include habitat for sensitive species, the Cosumnes River, tributary streams, vernal pools, grasslands, wetlands, and woodland and riparian habitat. Natural resources within the Planning Area are of considerable significance and value. The Nature Conservancy (TNC), Bureau of Land Management, Ducks Unlimited, DFG, U. S. Fish and Wildlife Service, and Sacramento County have all invested significant funds to protect land within the Planning Area expressly because of the high habitat values found there.

Given the significance of the natural resources that occur within the Planning Area, we are concerned that the DEIR does not provide an accurate picture of natural resources in the project area. Unfortunately, DFG finds that the DEIR fails to adequately describe natural resources present in the Planning Area, fails to discuss the potential impacts that may result from the proposed General Plan, and fails to provide mitigation that will off-set probable impacts. Following is a list of the DEIR's deficiencies:

I. Biological Resources Section 4.10:

The Biological Resources section of the DEIR fails to adequately describe wildlife resources. In order to accurately describe the impacts to fish and wildlife that may reasonably be expected to result from the proposed Elk Grove General Plan, the Biological Resources section must be revised to contain information about the actual distribution of species and habitats within the Planning Area. The Biological Resources section consists of information gathered during a single day's field survey conducted on September 27, 2002, and a records-search of databases kept by the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS). Review of the Biological Resources section's methodology (Page 4.10-38) reveals that the DEIR's biological analysis, with little or no exception, consists of merely reciting database records.

This approach to impact analysis is flawed for a variety of reasons. The CNDDB contains "positive observations" only. That is, CNDDB records will not tell you whether a given species of plant or animal occupies a particular area, or not. It merely records where species were once observed, provided that a record was submitted. In its License Agreement with its users the CNDDB cautions that:

> *"...we cannot, and do not, portray the CNDDB as an exhaustive and comprehensive inventory of rare species and natural communities. Field verification for the absence and presence of sensitive species will always be an important obligation of our customers*."

While CNDDB records are useful in identifying the list of species likely to inhabit the project site, database searches should never be used in place of actual field surveys or contact with knowledgeable individuals. The above CNDDB caveat warns that use of CNDDB information alone, can in many cases grossly misrepresent the distribution of wildlife. In addition to the inherent limitation of CNDDB noted above, the database incorrectly describes the distribution of more common species of wildlife simply because they are under-reported, and there is the well known lack of CNDDB records on private property because of limited access. These criticisms are not meant to denigrate CNDDB, but rather to point out the improper use of CNDDB records in the preparation of this DEIR. CNDDB does not provide a comprehensive inventory of wildlife within the Elk Grove Planning Area because it was never designed for this purpose.

The DEIRs analysis of impacts to the greater sandhill crane serves to illustrate the types of errors and attendant non-disclosure of impacts which results from using CNDDB as the only source of biological information. The DEIR states that "No records for this species (greater sandhill crane) are listed in the CNDDB". First of all, a check with the CNDDB revealed that prior to August 2003; the CNDDB did not track wintering sandhill cranes. Secondly, while prior to August 2003, the CNDDB contained no records for wintering sandhill cranes, DFG was, none-the-less, actively monitoring

greater sandhill crane use in the vicinity. Surveys conducted by DFG during November 2001, located sandhill crane nocturnal roosts within 2 miles of the Planning Area, at which time over 1,200 cranes were counted. Furthermore, in 2001, TNC prepared a report which identified important sandhill crane foraging areas surrounding the Cosumnes Preserve. All of this information was available upon request. Our point here is that in addition to database records the DEIR should contain all relevant information, such as, contact with State or Federal wildlife agency biologists, contact with local experts and conservation organizations (TNC, Audubon Society, CNPS, etc), as well as, focused surveys that are designed to identify suitable habitats and describe wildlife resources within the Planning Area.

In order to remove the deficiencies noted above and provide the information necessary to inform decision makers about the potential significant impacts of the proposed General Plan, we recommend that the Biological Resources Section be revised to include:

1. Information about the distribution of wildlife within the Planning Area. At a minimum, the DEIR should identify suitable habitat areas within the Planning Area and its vicinity. Suitable habitat areas should be assessed to determine there value to target species. When there is doubt of the habitat area's value to target species, then the DEIR should contain the results of field surveys that are designed to disclose the presence and status of State- or Federally-listed rare, threatened, or endangered species, and other species of concern. These surveys should be conducted at the time of year when endangered or threatened species are both evident and identifiable. As part of its analysis, the DEIR should also contact local wildlife agencies, conservation groups, and experts with knowledge of the distribution of wildlife within the Planning Area.

2. A map or maps showing the location and amounts of the various habitats types within the Planning Area. Figure 4.10-1 shows habitat with the Elk Grove City limits only. The DEIR should contain a map that shows the location of the various habitats throughout the Planning Area. Particular attention should be given to unique habitats like wetlands, riparian corridors, vernal pool grasslands, or habitats known to support sensitive species, such as, Sandhill crane roosts/foraging area, Swainson's hawk nests, etc.

3. Proper use of CNDDB information. Citation of the CNDDB records should be used to augment other data and aid in the accurate description of the distribution of species within the Planning Area. As written, however, the Biological Resources section consists of a recitation of "No records for this species are listed" giving an overall impression that there are no new natural resources within the Planning Area. Our experience with the planning area is that this is not an accurate depiction, and the understatement of natural resource value results from an improper use of CNDDB. Also, the use of CNDDB information should be

limited to species that are currently being tracked by CNDDB. The DEIR uses CNDDB records information to analysis the status of the oak titmouse (*Baeolophus inornatus*), Nutall's woodpecker (*Picoides nuttallii*), and grasshopper sparrow (*Ammodramus savannarum*) within five miles of the Planning Area. For each of the species the DEIR observes that "No records for this species are listed in the CNDDB within the Planning Area vicinity". However, a check with the staff at CNDDB revealed that these three species are not even tracked by CNDDB. And the database would, therefore not contain any records for them.

II. Project Impacts and Proposed Mitigation Measures:

The DEIR identifies the impacts to wildlife resulting from the proposed General Plan (Impacts 4.10-1 through 4.10-4). To summarize the DEIR's description of the project impacts, they consist of: direct or indirect impacts to habitat of special status plants, special status animals and associated habitat, sensitive habitat areas, and cumulative impacts to special status plants and wildlife through habitat loss. The DEIR provides mitigation for these impacts in two forms, either through Policies and Action Items within the General Plan, and/or mitigation proposal contained in the DEIR (Mitigation Measures MM 4.10-1 through MM 4.10-3).

MM 4.10-1a:

This Mitigation Measure consists of a proposal to, "*…seek to preserve areas, where feasible, where special-status plant and animal species and critical habitat areas are known to be present or potentially occurring ...*" Similarly, Parks Trails and Open Space policy PRO- 5 of the draft General Plan proposes to preserve open space lands for a variety of needs including wildlife habitat. However, neither the General Plan, nor the DEIR give the location of areas that are planned to mitigate the effects of the project upon wildlife, either in the City Limits, or within the greater Planning Area.

MM 4.10-1a has an additional inadequacy related to the source of information proposed to locate special status resource areas. The location of these special status resource areas are to be based on information contained in the, *"…City biological resource mapping and data provided in General Plan EIR or other technical material...".* As noted above, neither the General Plan nor the DEIR currently contain accurate information about the distribution of special status species or their habitats, and the "other technical materials" mentioned in the DEIR were not made available for review. What the DEIR does contain is CNDDB records information, and as noted, these records alone will not provide the information needed to plan preserves that benefit special status plants and animals. Since the location of special status plants and animals and their habitat remain undisclosed, Mitigation Measure MM4.10-1a is infeasible.

We recommend that Mitigation Measure 4.10-1a be revised to include information about the location of special status species and their habitat (see comments on the Biological Resources section), as well as the location and extent of areas that are to be set-aside to mitigate the impact to them. This information should be in sufficient detail to be useful in identifying the location and extent of preserves which would function to off-set the impacts identified in Impacts 4.10-1, 4.10-2 and 4.10-3.

MM 4.10-1b:

Similar to MM 4.10-1a, this measure relies on resource information purportedly contained in the General Plan or the DEIR. Measure MM 4.10-1b requires that a biological resources evaluation be conducted on private and public development projects in areas where, based on the *"…City's biological resource mapping and data provided in General Plan EIR…"* special status resources occur onsite. As mentioned in MM 4.10-1a and comments on the Biological Resources section above, the DEIR doesn't contain adequate information regarding the distribution of special status species or their habitats, and therefore would not be useful in identifying where biological resources evaluations should be preformed. For these reasons we find this mitigation measure infeasible without the revisions noted above in comments on the Biological Resources section.

We recommend that Mitigation Measure 4.10-1b be revised to:

1. Revise the DEIR to include information about the location of habitat for special status species (see comments on the Biological Resources section). This information should be in sufficient detail to be useful in identifying areas where a biological resource evaluation may be necessary in order to avoid impacting special status plants or animals.
2. Remove the provision calling for "relocation of the species to another suitable habitat area." Be removed from 4.10-1b. This measure may result in "take" under the State Endangered Species Act, as well as, having no positive benefit as a mitigation measure.

MM 4.10-3:

This mitigation measure is intended to off-set impacts to sensitive habitats. Sensitive habitat is described on page 4.10-37 of the DEIR, and includes: lakes, intermittent and perennial streams, rivers, irrigation ditches, seasonal marsh, seasonal wetlands, and vernal pools, native and some non-native trees, and riparian habitat. However, Mitigation Measure MM 4.10-3 only requires mitigation for impacts to riparian areas.

In addition to MM 4.10-3's requirement for mitigation of loss of riparian habitat, we recommend that the measure be revised to include a requirement to mitigate impacts to all sensitive habitats. We recommend that for streams, rivers, and lakes

mitigation be based on DFG's standard recommendations under 1600 of the Fish and Game Code. Intermittent streams should be affording a minimum 50 foot setback on either side of the stream, and perennial streams should be afforded a minimum 100 foot setback. Setbacks should be measured from the top of the bank, or the edge of riparian vegetation, which ever is greater. Within the setback no grading, construction, or destruction of vegetation should be allowed. Mitigation for unavoidable impacts to vernal pools, seasonal and perennial wetlands should be based on guidelines established by the U.S. Fish and Wildlife Service and the Army Corps of Engineers. Buffers should be expanded to protect any onsite riparian habitat or sensitive special status species (i.e. tiger salamander).

This project will have an impact to fish and/or wildlife habitat. Assessment of fees under Public Resources Code Section 21089 and as defined by Fish and Game Code Section 711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency.

Pursuant to Public Resources Code Sections 21092 and 21092.2, the DFG requests written notification of proposed actions and pending decisions regarding this project. Written notifications should be directed to this office.

Thank you for the opportunity to review the DEIR and draft General Plan. If the DFG can be of further assistance, please contact Mr. Dan Gifford, Senior Wildlife Biologist, telephone (209) 369-8851 or, Ms. Terry Roscoe, Habitat Conservation Supervisor, telephone (916) 358-2382.

Sincerely,

Larry L. Eng, Ph.D.
Deputy Program Manager

cc: U.S. Fish and Wildlife Service
2800 Cottage Way, Room W2605
Sacramento, CA 92825-1888

Ms. Terry Roscoe
Mr. Dan Gifford
Department of Fish and Game
Sacramento Valley - Central Sierra Region
1701 Nimbus Road, Suite A
Rancho Cordova, California

SACRAMENTO COUNTY GENERAL PLAN
CONSERVATION ELEMENT

SECTION V

VEGETATION AND WILDLIFE

E. RARE AND ENDANGERED SPECIES

GOAL: Increase population of threatened and endangered species found in Sacramento County.

INTRODUCTION

State and local biologists view most threatened (defined as likely to become endangered without special protection) and endangered (in danger of extinction) species populations as declining or stable, signaling a continuing degradation in the quality of the county's ecosystems. Expanding urban development and agricultural production are limiting successful habitat preservation and population gain efforts. In this document the term "special status" refers to threatened, endangered, and special status species.

The County's riparian environs along the Sacramento, American, and Cosumnes Rivers and other drainages provide some of the most important habitat areas for threatened and endangered species. One resident of the county's riparian area, the valley elderberry longhorn beetle which feeds only on blue elderberry, is in danger of extinction due to loss of habitat primarily from river channelization and levee stabilization. The threatened Swainson's hawk, another inhabitant of riparian areas, nests along the 32 mile stretch of the Sacramento River between Freeport up river to the county line. Fifteen nesting pairs have been observed along this stretch, the greatest concentration along the entire river. The Sacramento River system is also home to the endangered winter-run chinook salmon. This species, distinct from its fall and spring migrating cousins, dropped to only 600 individuals during the 1989 migration, compared to a presumed stable population of 2,000 during the last decade and the 60,000-120,000 spawners observed in the 1960s. Plant species, such as the California hibiscus and the Antioch Dunes evening primrose, are also severely threatened by riparian habitat destruction.

Wetland and vernal pool areas of the County provide habitat for a significant number of threatened and endangered species. The Beach/Stone Lakes area, currently being studied for National Wildlife Refuge status, is a vibrant habitat for many species in need of protection, including the giant garter snake, American white pelican, double-crested cormorant, northern harrier, and peregrine falcon. Vernal pool concentrations, found in the south central and southeastern section of the county sustain special and unique flora adapted to the ephemeral nature of these small unpretentious habitats. Several of the approximate 200 species associated with vernal pools are candidates for protection. They include, dwarf downingea, Boggs lake hedgehyssop, slender orcutt grass, and bearded popcorn flower.

There is a need to focus upon habitat requirements, restoration needs, habitat preservation, and population revitalization. Although the responsibilities for enhancing species survival should remain with state and federal agencies where staffing and expertise are available, county efforts should include preserving suitable habitat, establishing threatened and endangered species management policies for public lands, and encouraging state and federally sponsored population recovery programs.

This section describes policies and programs under two objectives:

1. Riparian and wetland environments managed with sensitivity to threatened species.

2. Habitat suitable for threatened and endangered species identified, protected, interlinked with natural corridors, and where possible reestablished with viable population of special status species.

MANAGEMENT OF RARE AND ENDANGERED SPECIES HABITAT

Objective: **Riparian and wetland environments managed with sensitivity to threatened species and maintained to the extent feasible in a manner that avoids conflicts with privately owned land and agricultural operations.**

Intent: Riparian and wetland areas of the county provide habitat for a significant number of threatened and endangered species. Yet, activities which may be detrimental to threatened species, such as active recreation, levee protection measures, and development are allowed to continue without due consideration of habitat requirements for special status species. Greater emphasis on and a stronger commitment to reversing the decline of species needs to be a priority when considering development options potentially destructive to threatened and endangered species habitat. Wildlife preserves, native grassland propagation, riparian area protection, and natural area buffer zones should be given priority over recreation, ranching, channelization, and development expansion in areas known to or having the potential to contain threatened and endangered species.

Policies:

CO-141. Manage vegetation on public lands with special status species to encourage native species and discourage nonindigenous invasive species.

CO-142. Public land shall be maintained to the extent feasible in a manner that avoids conflicts with privately owned lands and agricultural operations.

CO-143. Control human access to critical habitat areas on public lands to minimize impact upon and disturbance of threatened and endangered species.

CO-148. Habitat conservation plans shall be adopted by the county for any listed species that are year-round inhabitants of the county, are subject to significant cumulative impacts from development, and are not otherwise adequately protected by designated systems of riparian corridors, vernal pool and wetland preserves and mitigation banks, or other nature preserves or wildlife refuges.

CO-149. Acquisition programs for acquiring open space located within natural areas shall, wherever possible, review the significance of obtaining areas known to contain threatened, endangered, and special status species.

CO-150. To the extent feasible, plans for urban development and flood control projects shall incorporate habitat corridors connecting on-site or adjoining areas (if any) not designated for alteration.

Implementation Measures:

A. Identify habitat suitable for rare and endangered species. (PLANNING, in conjunction with STATE and FEDERAL AGENCIES)

B. Prepare a biannual report to the Board of Supervisors on rare threatened, endangered, special status species populations within the County. (PLANNING).

C. Coordinate with Department of Fish and Game in planning and developing programs to encourage species propagation. (PARKS and PLANNING)

D. Assist habitat management programs aimed at responding to declining populations of threatened and endangered species. (PLANNING and PARKS, in conjunction with STATE and FEDERAL AGENCIES)

E. Monitor populations of threatened and endangered species with assistance of staff from the Department of Fish and Game's Natural Diversity Data Base office. (Planning and Parks, in conjunction with state agencies)

Chapter 16.130
SWAINSON'S HAWK IMPACT MITIGATION FEES

Sections:

16.130.010 Purpose and intent.

The City of Elk Grove City Council finds that the continued expansion of urban uses into the agricultural lands within the City that are identified through the California Environmental Quality Act ("CEQA") process to provide suitable foraging habitat for the Swainson's hawk, a listed threatened species under the California Endangered Species Act, will, absent mitigation, result in a significant reduction of such foraging habitat. The reduction in foraging habitat can occur through requests for zoning changes of agriculturally zoned lands to land use designations that enable land to be reduced to parcel sizes too small to support Swainson's hawk foraging habitat or through requests for land use entitlements for nonagricultural uses that are incompatible with the maintenance of Swainson's hawk foraging habitat. The California Department of Fish and Game ("DFG") has determined that parcels of land of five (5) acres or more in size are recognized to be the minimum acreage required for viable foraging habitat. Requests to subdivide AR-1 or AR-2 zoned property with an original total acreage size of five (5) acres or more to the lot sizes permitted under these zoning designations can also result in the reduction of foraging habitat for the Swainson's hawk. For any such requests which are within ten (10) miles of a Swainson's hawk nest, the City Council desires to establish an additional means of mitigating for loss of Swainson's hawk foraging habitat.

The City has identified, in consultation with the California Department of Fish and Game, that suitable foraging habitat for the Swainson's hawk exists in established land conservation programs in Sacramento County and also in agricultural and open lands currently not part of a conservation program. The City finds that the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre ratio. Such preservation should occur, pursuant to this chapter, prior to the onset of development activities that cause the impact (i.e., land clearing and site grading). Development project proponents should be responsible for locating and acquiring the appropriate land or legal instruments (such as a conservation easement) that will ensure its preservation as Swainson's hawk foraging habitat in perpetuity. The City also finds that it may be infeasible to acquire easements for less than forty (40) acres and that proponents of projects less than forty (40) acres should have the option to mitigate adverse impacts to Swainson's hawk foraging habitat through the payment of an impact mitigation fee. An impact mitigation fee, as established pursuant to this chapter, will provide funds to acquire available land with suitable Swainson's hawk foraging habitat values. Such acquisition will create mitigation for the loss of this habitat through real property acquisition in fee or through conservation easements to facilitate the expansion of land conservation programs which include the preservation and management of Swainson's hawk foraging habitat.

The City Council recognizes that mitigation for foraging habitat for the Swainson's hawk is only feasible when replacement habitat is provided within the known foraging area for the hawk. In order to provide adequate mitigation for the loss of Swainson's hawk foraging habitat under CEQA through the provisions of this chapter, the City Council deems it necessary to expand the scope of this mitigation fee program to parcels located within the geographical foraging area of the Swainson's hawk that are owned and/or managed by a conservation organization where the location of mitigation parcels and the conservation organization are acceptable to the Department of Fish and Game.

The City Council finds that the direct preservation of suitable Swainson's hawk foraging habitat or the payment of an impact mitigation fee by project proponents for the actual acquisition of such habitat will meet the requirements of mitigation under CEQA by reducing the level of impact to Swainson's hawk foraging habitat to a less than significant level for those parcels falling within the scope of this chapter as set forth herein. The City Council intends that the requirement of direct preservation of suitable Swainson's hawk foraging habitat for projects forty (40) acres and greater and the requirement of an impact mitigation fee for projects less than forty (40) acres, in the amount set forth in this chapter, shall be included as mitigation options. Said mitigation shall arise when the environmental review process for a request falling within the scope of this chapter concludes that there would be a significant impact or a significant cumulative impact on the Swainson's hawk foraging habitat for which mitigation, pursuant to all applicable provisions of Section 21000 et seq., of the Public Resources Code and Title 24, Section 15000 et seq., of the California Code of Regulations, is required. The City Council also recognizes its continued authority to determine based on specific economic, social, legal, technical or other considerations that mitigation for Swainson's hawk foraging habitat is infeasible or that evidence has been presented to the City Council, which the Council determines eliminates the need for such mitigation. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 22-2004 §3, eff. 7-21-2004; Ord. 35-2003 §2, eff. 10-17-2003;

Ord. 2000-14A §1, eff. 10-25-2000; Ord. 2000-1 §1, eff. 7-1-2000]

16.130.020 Definitions.

"Agricultural designation" shall mean land which is zoned any of the following zoning designations or combinations thereof: AG-80, AG-20, AR-10, AR-5, A-10, and A-2.

"CEQA" means the California Environmental Quality Act.

"DFG" means the California Department of Fish and Game.

"Project" shall mean the total combined gross acreage of a parcel or parcels included in a development proposal subject to CEQA review.

"Urban designation" shall mean land which is zoned any of the following zoning designations or combinations thereof: a "residential land use zone" as set forth in Sacramento County Zoning Code Section 201-01, a "commercial land use zone" as set forth in Sacramento County Zoning Code Section 225-10 or an "industrial land use zone" as set forth in Sacramento County Zoning Code Section 230-10; a specific plan designation or a special planning area designation encompassing any of the aforementioned zoning designations or combinations thereof. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 22-2004 §4, eff. 7-21-2004; Ord. 2000-14A §1, eff. 10-25-2000; Ord. 2000-1 §1, eff. 7-1-2000]

16.130.030 Applicability.

A. This chapter shall apply to any project that has been determined through the CEQA process to result in a potential significant impact or potential significant cumulative impact on Swainson's hawk foraging habitat for which mitigation measures have been identified as necessary to reduce that impact to a less than significant level, and for which any of the following requests are being sought:

1. Any request for a change in land use designation from an agricultural designation to an urban designation; or

2. Any request to subdivide five (5) acres or more of contiguous land zoned AR-1 or AR-2; or

3. Any request for a land use entitlement for a nonagricultural use of land zoned with an agricultural designation; or

4. Any request for a land use entitlement for a nonagricultural use of land five (5) acres or more in size zoned AR-1 or AR-2; or

5. Any public improvement project proposed by any department or agency of the City of Elk Grove on land with an agricultural designation.

B. This chapter shall apply to any project approved prior to the effective date of the ordinance codified in this chapter which was conditioned to require mitigation for impacts to Swainson's hawk foraging habitat and which mitigation has not been completed through the payment of a fee or other mechanism included in such mitigation measure. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 22-2004 §5, eff. 7-21-2004; Ord. 35-2003 §3, eff. 10-17-2003; Ord. 2000-14A §1, eff. 10-25-2000; Ord. 2000-1 §1, eff. 7-1-2000]

16.130.040 Conditions.

A. On and after the effective date of the ordinance codified in this chapter, for any project forty (40) acres and greater falling within the provisions of EGMC Section 16.130.030, the following mitigation measure shall be required to reduce the impact to the Swainson's hawk foraging habitat of that particular project to a less than significant level:

The project applicant shall acquire conservation easements or other instruments to preserve suitable foraging habitat for the Swainson's hawk, as determined by the California Department of Fish and Game. The location of mitigation parcels as well as the conservation instruments protecting them shall be acceptable to the City and to the California Department of Fish and Game. The amount of land preserved shall be governed by a one-to-one (1:1) mitigation ratio for each acre developed at the project site. In deciding whether to approve the land proposed for preservation by the project applicant, the City shall consider the benefits of preserving lands in proximity to other protected lands. The preservation of land shall be done prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first. In addition, the City shall impose the following minimum conservation easement content standards:

1. The land to be preserved shall be deemed suitable Swainson's hawk foraging habitat by the California Department of Fish and Game.

2. All owners of the mitigation land shall execute the document encumbering the land.

3. The document shall be recordable and contain an accurate legal description of the mitigation land.

4. The document shall prohibit any activity which substantially impairs or diminishes the land's capacity as suitable Swainson's hawk foraging habitat.

5. If the land's suitability as foraging habitat is related to existing agricultural uses on the land, the document shall protect any existing water rights necessary to maintain such agricultural uses on the land covered by the document, and retain such water rights for ongoing use on the mitigation land.

6. The applicant shall pay to the City a mitigation monitoring fee to cover the costs of administering, monitoring and enforcing the document in an amount determined by the receiving entity, not to exceed ten (10%) percent of the easement price paid by the applicant, or a different amount approved by the City Council, not to exceed fifteen (15%) percent of the easement price paid by the applicant.

7. Interests in mitigation land shall be held in trust by an entity acceptable to the City in perpetuity. The entity shall not sell, lease, or convey any interest in mitigation land which it shall acquire without the prior written approval of the City.

8. The City shall be named a beneficiary under any document conveying the interest in the mitigation land to an entity acceptable to the City.

9. If any qualifying entity owning an interest in mitigation land ceases to exist, the duty to hold, administer, monitor and enforce the interest shall be transferred to another entity acceptable to the City.

Before committing to the preservation of any particular land pursuant to this measure, the project proponent shall obtain the City's approval of the land proposed for preservation. This mitigation measure may be fulfilled in combination with a mitigation measure imposed on the project requiring the preservation of agricultural land as long as the agricultural land is determined by the Department of Fish and Game to be suitable Swainson's hawk habitat.

B. On and after the effective date of the ordinance codified in this chapter, for any project less than forty (40) acres falling within the provisions of EGMC Section 16.130.030, the following mitigation measures shall be included within the mitigation measure options identified to reduce the impact to the Swainson's hawk foraging habitat of that particular project to a less than significant level:

1. Prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first, the project applicant shall preserve one acre of similar habitat for each acre lost. This land shall be protected through a fee title or conservation easement acceptable to the DFG and the City of Elk Grove as set forth in subsection (A) of this section as such may be amended from time to time and to the extent that said subsection remains in effect; or

2. Prior to any site disturbance, such as clearing or grubbing, or the issuance of any permits for grading, building, or other site improvements, whichever occurs first, the project applicant shall submit payment of Swainson's hawk impact mitigation fee per acre of habitat impacted, payment shall be at a one-to-one (1:1) ratio, to the City of Elk Grove in the amount set forth in this chapter as such may be amended from time to time and to the extent that this chapter remains in effect.

C. The requirement of direct land preservation or payment of an impact mitigation fee established pursuant to this chapter is also applicable to those projects that were approved prior to the effective date of the ordinance codified in this chapter and which are conditioned to require mitigation for impacts to Swainson's hawk foraging habitat to include the option to participate in a future Swainson's hawk mitigation policy/program adopted by the City Council, provided the property owner/developer of any such project has not yet completed an alternative mitigation measure for impacts to Swainson's hawk foraging habitat; and provided, that the parcel(s) included in such a previously granted request fall within the scope of this chapter as set forth in EGMC Section 16.130.030. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 22-2004 §5, eff. 7-21-2004; Ord. 2000-14A §1, eff. 10-25-2000; Ord. 2000-1 §1, eff. 7-1-2000]

16.130.045 Impact mitigation fee.

The impact mitigation fee shall be that amount established by resolution of the Elk Grove City Council as such may be amended from time to time. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 22-2004 §7, eff. 7-21-2004]

16.130.080 Use of impact mitigation fee funds.

A. The City shall establish a separate interest-bearing fund within the City Treasury, in which monies collected pursuant to this chapter shall be deposited.

B. Monies from said fund shall be transferred pursuant to the terms and conditions acceptable to DFG and the City of Elk Grove. Monies from said fund shall be used for the specific acquisition of lands, in fee simple or through a conservation easement.

C. Pursuant to the terms and conditions of said agreement, said lands shall be held in perpetuity for Swainson's hawk foraging habitat. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 35-2003 §4, eff. 10-17-2003; Ord. 2000-14A §1, eff. 10-25-2000; Ord. 2000-1 §1, eff. 7-1-2000]

16.130.110 Authority of City Council to override mitigation measures.

Nothing herein shall be construed to preclude the City Council's consideration or approval of other means of mitigating significant impact or significant cumulative impact on Swainson's hawk foraging habitat or to limit the City Council's authority to override mitigation measures for reasons permitted by CEQA. [Ord. 7-2009 §3, eff. 5-1-2009; Ord. 22-2004 §11, eff. 7-21-2004; Ord. 2000-14A §1, eff. 10-25-2000; Ord. 2000-1 §1, eff. 7-1-2000]

LAW OFFICES OF DONALD B. MOONEY

DONALD B. MOONEY

129 C Street, Suite 2
Davis, California 95616
Telephone (530) 758-2377
Facsimile (530) 758-7169
dbmooney@dcn.org

November 21, 2011

VIA ELECTRONIC MAIL
AND REGULAR MAIL
Email: *don.lockhart@sacLAFCo.org*

Don Lockhart
Sacramento Local Agency Formation Commission
1112 I Street, Suite 100
Sacramento, Ca. 95814

RE: Comment on City of Elk Grove Proposed Sphere of Influence Amendment Draft Environmental Impact Report [LAFC # 09-10] SCH No. 2010092076

Dear Mr. Lockhart:

This office represents the Friends of Swainson's Hawk ("FOSH"), which has an interest in the above-referenced City of Elk Grove Proposed Sphere of Influence Amendment Draft Environmental Impact Report ("Project"). As explained below, the draft Environmental Impact Report ("DEIR") does not comply with the requirements of the California Environmental Quality Act ("CEQA") (Public Resources Code § 2100 et seq.; *see also*, CEQA Guidelines § 15165.)[1] FOHS objects to the City's Sphere of Influence Amendment as the Draft EIR fails to comply with CEQA. These comments focus on the CEQA requirements.

I. Legal Standards

A. The California Environmental Quality Act

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). (See, e.g., Pub. Resources Code § 21100.) The EIR is the very heart of CEQA. (*Dunn-Edwards v. Bay Air Quality Management District* (1992) 9 Cal.App.4th

[1] The CEQA Guidelines (the "Guidelines") are found at California Code of Regulations, title 14, section 15000 et seq. Courts have found the Guidelines to be binding on public agencies. (See, e.g., *City of Santa Ana* v. *City of Garden Grove* (1979) 100 Cal.App.3d 521, 528-29.) The Guidelines must be interpreted "so as to afford the fullest possible protection to the environment within the reasonable scope of their language." (*San Franciscans for Reasonable Growth* v. *City and County of San Francisco* (1984) 151 Cal.App.3d 61, 74.)

644, 652.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.)

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. (14 Cal. Code Regs. ["Guidelines"] § 15002(a)(1).) "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564.) The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." (*Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs* (2001) 91 Cal. App. 4th 1344, 1354 ["*Berkeley Jets*"]; *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.)

"The environmental impact report, with all its specificity and complexity, is the mechanism prescribed by CEQA to force informed decision making and to expose the decision-making process to public scrutiny.." (*Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 910; citing *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 86.) This interpretation remains the benchmark for judicial interpretation of CEQA. (*Laurel Heights Improvement Association v. Regents of the University of California ("Laurel Heights I")* (1988) 47 Cal.3d 376, 390, quoting *Bozung* v. *Local Agency Formation Commission* (1975) 13 Cal.3d 263, 274.) As the *Laurel Heights I* court noted, "[i]t is, of course, too late to argue for a grudging, miserly reading of CEQA." (*Laurel Heights I, supra*, 47 Cal.3d at p. 390.) CEQA's fundamental goals are to foster informed decision-making and to fully inform the public about the project and its impacts. (CEQA Guidelines, § 15003.)

An EIR must provide public agencies and the public in general with detailed information about the effect that a project is likely to have on the environment, to list ways in which the significant effects of a project might be minimized, and to indicate alternatives to such a project. (Pub. Resources Code, § 21061.) CEQA Guidelines section 15126.2, requires that the Final EIR identify the significant environmental impacts of the project, including direct and indirect impacts. CEQA Guidelines section 15126.4 requires that the Final EIR describe all feasible measures that can minimize significant adverse impacts of the project. CEQA does not allow an agency to defer analysis of impacts and mitigation measures. (CEQA Guidelines, § 15126.4(a)(1)(B).)

Informed decision making and public participation are fundamental cornerstones of the CEQA process. (See *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights I, supra*, 47 Cal.3d 376.) With this primary purpose of CEQA in mind, the California Supreme Court has stated that "[t]he environmental impact

report ("EIR") is the primary means of achieving the Legislature's considered declaration that it is the policy of this State to take all action necessary to protect, rehabilitate, and enhance the environmental quality of the State" (*Sierra Club v. State Board of Forestry* (1994) 7 Cal.4th 1215, 1229 [emphasis added].)

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and mitigation measures. (CEQA Guidelines § 15002(a)(2) and (3); See also, *Berkeley Jets, supra*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley, supra*, 52 Cal.3d at 564.) The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." (Guidelines §15002(a)(2).) If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." (Pub. Resources Code § 21081; Guidelines § 15092(b)(2)(A) & (B).)

B. Deferral of analysis and/or formulation of mitigation measures violates the requirements of CEQA

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309.) An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." (*Sundstrom, supra,* 202 Cal.App.3d at 308; see also *Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 [mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible"].) A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 [finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available].) This approach helps "insure the integrity of the process of decision-making by precluding stubborn problems or serious criticism from being swept under the rug." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.)

Moreover, as discussed below, by deferring the development of specific mitigation measures, LAFCO has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the *Sundstrom* court:

An EIR "[is] subject to review by the public and interested agencies.

> This requirement of "public and agency review" has been called "the strongest assurance of the adequacy of the EIR." The final EIR must respond with specificity to the "significant environmental points raised in the review and consultation process." . . . Here, the hydrological studies envisioned by the use permit would be exempt from this process of public and governmental scrutiny. (*Sundstrom, supra,* 202 Cal.App.3d at 308.)

As noted below, LAFCO has proposed mitigation measures in such a way as to preclude public scrutiny.

C. Mitigation measures must be enforceable and effective

"Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments. In the case of adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design." (Guidelines § 15126.4(a)(2).)

In *Gentry v. City of Murrieta* the court of appeal explained that CEQA's normal requirement that mitigation be adopted prior to project approval may be met if an agency prepares a draft EIR that (1) analyzes the "whole" of the project; (2) identifies and disclosed with particularity the project's potentially significant impacts; (3) establishes measurable performance standards that will clearly reduce all of the identified impacts to less-than-significant levels; and (4) describes a range of particularized mitigation measures that, when taken in combination, are able to meet the specified performance standards. (*Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1394-1395, comparing and contrasting *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011 with *Sundstrom v. County of Mendocino, supra,* 202 Cal.App.3d 296.) The *Gentry* court further explained that promises by a lead agency to implement future recommendations that other agencies might make after project approval is not sufficient to find that a proposed project's potentially significant effects have been mitigated to less-than-significant levels. (*Id.*)

I. Specific Comments on the Draft EIR's Failure to Comply With CEQA

A. The Draft EIR Fails to Mitigate Impacts to Agricultural Resources

The requirement that mitigation measures be adopted depends upon the economic and technical feasibility and practicality of the measures, and whether they will substantially lessen the significant environmental effects of the project. (Pub. Resources, Code, §§ 21002, 21081(a)(3); *A Local & Regional Monitor v. City of Los Angeles* (1993) 12 Cal.App.4th 1773, 1790.) The requirement is not abated simply because the measures will not lessen the effects to below a level of significance. Accordingly, a statement of overriding considerations does not exempt a project from mitigation if there are feasible

measures that would reduce substantially, albeit not eliminate, the significant environmental effects of the project.

Mitigation may include "[c]ompensating for the impact by replacing or providing substitute resources or environments." (Guidelines, § 15370(e).) Conservation easements are an appropriate and desirable means of protecting agricultural lands against conversion to urban use. (Pub. Resources Code, §§ 10201-10202.) The Legislature has determined that the preservation of the limited supply of agricultural land is necessary for the maintenance of California's agricultural economy and the state's economy. (Gov't Code, § 51220.)[2] In 1979, the Legislature provided for the enforceability of conservation easements. (See Civ. Code, §§ 815-816.) The Legislature found and declared that "the preservation of land in its natural, scenic, agricultural, historical, forested, or open-space condition is among the most important environmental assets of California." (Civ. Code, § 815.) The Agricultural Land Stewardship Program Act of 1995 establishes a state program to promote the establishment of agricultural easements. (Pub. Resources Code, § 10200 et seq.)[3]

---

[2] The Williamson Act provides that:

> (a) That the preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources, and is necessary not only to the maintenance of the agricultural economy of the state, but also for the assurance of adequate, healthful and nutritious food for future residents of this state and nation. [¶] ... [¶] (c) That the discouragement of premature and unnecessary conversion of agricultural land to urban uses is a matter of public interest and will be of benefit to urban dwellers themselves in that it will discourage discontiguous urban development patterns which unnecessarily increase the costs of community services to community residents. [¶] (d) That in a rapidly urbanizing society agricultural lands have a definite public value as open space, and the preservation in agricultural production of such lands, the use of which may be limited under the provisions of this chapter, constitutes an important physical, social, esthetic and economic asset to existing or pending urban or metropolitan developments.... (Gov't Code, § 51220.)

[3] The Legislature found and declared that:

> (b) The growing population and expanding economy of the state have had a profound impact on the ability of the public and private sectors to conserve land for the production of food and fiber, especially agricultural land around urban areas. [¶] (c) Agricultural lands near urban areas that are maintained in productive agricultural use are a significant part of California's agricultural heritage. These lands contribute to the economic betterment of local areas and the entire state and are an important source of food, fiber, and other agricultural products. Conserving

The Legislature also declared the intent, among other things, to "(c) Encourage long-term conservation of productive agricultural lands in order to protect the agricultural economy of rural communities, as well as that of the state, for future generations of Californians. [¶] (d) Encourage local land use planning for orderly and efficient urban growth and conservation of agricultural land. [¶] (e) Encourage local land use planning decisions that are consistent with the state's policies with regard to agricultural land conservation...." (Pub. Resources Code, § 10202.)

CEQA does not limit mitigation measures to those that would entirely avoid the environmental impacts of a project. Instead, CEQA requires that mitigation include measures that would substantially lessen the significant environmental effects of the project. (Pub. Resources Code, § 21002.) Thus, a project converts farmland to urban use, conservation easements on other land may not replace the converted land, but such conservation easements can diminish the development pressures created by the conversion of farmland and provide important assistance to the public and private sectors in preserving other farmland against the danger of the domino effect created by the project.

While conservation easements do not create replacement farmland, they certainly qualify as feasible mitigate because easements ameliorate a range of impacts associated agricultural conversions. As set forth in the unpublished opinion of Third District Court of Appeals (*South County Citizens for Responsible Growth, et al., v. City of Elk Grove, et al.*, No. CO2302, 2004 WL 219789)(AR 844-869), conservation easements reduce the development pressures on agricultural lands created projects such as the SOIA.

In the present action, the Project will impact up to 7,360 acres of farmland. (Draft EIR at p. 3.2-2.) Appropriately, the Draft EIR identifies this impact as significant. (Draft at p. 3.2-3.) Mitigation Measure AG-1 provides that the mitigation for this impact is for the City of Elk Grove to identify lands to be aside in permanent conservation easements at a ratio of one open space area converted to urban land uses to one-half open space acre preserved and at a ratio of one agriculture acre converted to urban land uses to one-half agriculture acre preserved. (*Id.* at p. 3.2-8.) This mitigation measure is fatally flawed. First, the mitigation measure only requires the City to identify lands to be set aside in permanent conservation. The mitigation measure does not require that the land be set aside, it only requires the City to identify the lands. The mitigation measure also does not indicate what entity would hold the conservation easement. Will the City hold the

---

these lands is necessary due to increasing development pressures and the effects of urbanization on farmlands close to cities. [¶] (d) The long-term conservation of agricultural land is necessary to safeguard an adequate supply of agricultural land and to balance the increasing development pressures around urban areas...." (Pub. Resources Code, § 10201.)

conservation easements? Thus, there is no certainty to the mitigation and it is merely speculative at best. (See *Federation of Hillside & Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261.) This does not constitute enforceable or legally binding mitigation as required by CEQA and the CEQA Guidelines. (See Guidelines, § 15126.4(a)(1)(D)(2).) This is particularly egregious when the Legislature has repeatedly stressed the importance of preserving California's diminishing agricultural land through the use of conservation easements. (See Gov't Code, § 51220; Pub. Resources Code, § 10200, Civ. Code, § 815-816.)

The mitigation measure also mixes open space mitigation with agricultural land. The Draft EIR, however, fails to provide sufficient discussion or analysis of open space or identify the amount of acreage that would be deemed open space as compared to agricultural.

Additionally, Mitigation Measure AG-1 is fatally flawed in that the mitigation ratio for mitigating agricultural impacts should be at least 1:1. Such a mitigation ratio has become the minimum standard and is feasible. (See Mitigation policy AG-5 in the Sacramento County General Plan; see also *Building Industry Association of Central California v. County of Stanislaus* (2010) 190 cal.App.4th 582, 588.)

B. Biological Resources

The comment letters submitted by the FOSH, the Sacramento County Audubon Society, and the Environmental Council of Sacramento provide detailed comments regarding the Draft EIR failure to adequately disclose, analyze, and mitigate the Project's impacts to biological resources. These comments demonstrate the that Draft EIR failed to include important biological data that was readily available to LAFCO; improperly relied upon the California NDDB; fails to identify the project and adjacent area population of nesting Swainson's hawks; fails to identify availability of suitable habitat to mitigate for loss of foraging habitat in the SOI; and unlawfully defers mitigation of biological impacts.

The Draft EIR claims that since future development in the SOI will be subject to CEQA, implementation of LU-3, which requires participation in the South Sacramento County Habitat Conservation Plan", and "MM Bio-1a" a measure to demonstrate Elk Grove's compliance with four quite general measures required by LAFCO. (Draft EIR at pp. 3.4-37 to 38.) The discussion, however, does not deal with the loss of foraging habitat and essentially defers mitigation to post-approval studies. CEQA disallows deferring the formulation of mitigation measures to post-approval studies. (Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino, supra,* 202 Cal.App.3d at pp. 308-309.) An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." (*Id.*, at p. 308.)

In the present case, the Draft EIR defers mitigation for biological impacts to Swainson's Hawk to the future development of the habitat conservation plan and contains no performance standards by which to judge the deferred mitigation measures. (See *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 669-670.) As such, the Draft EIR must be revised to provide mitigation measures for nesting and foraging habitat of the Swainson's hawk. To the extent, such mitigation measures are deferred the EIR must contain specific performance standards for the mitigation measures.

C. Greenhouse Gas Emissions

The Draft EIR contains an inadequate discussion of Greenhouse Gas Emissions ("GHG") and fails to provide adequate mitigation measures regarding the Project's impacts emission reductions mandated by the State of California.

In April of 2010, the First District Court of Appeal published the first decision on greenhouse gas emissions and CEQA. In *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70 ("*CBE v. Richmond*"), the court set aside the EIR for Chevron's Richmond refinery upgrade, in part on the basis that the EIR did not adequately describe mitigation measures for greenhouse gas emissions. The court's ruling on greenhouse gas mitigation measures is significant in that the court applied *existing* CEQA rules on mitigation measures in determining that the mitigation was inadequate. The court cited to Guidelines section 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino, supra,* 202 Cal.App.3d at 311; *San Joaquin Raptor/Wildlife Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645670; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1396; *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261; and *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794. (*CBE v. Richmond, supra,* 184 Cal.App.4th at 92-93.) These authorities are not new, nor do they present a "moving target."

In *CBE v. Richmond,* the mitigation plan that was adopted required Chevron to hire an expert to prepare an inventory of greenhouse gas emissions and to identify emissions reduction opportunities. Chevron was required to consider various measures that were specified in the EIR, and to submit to the City a proposed plan to achieve a complete reduction of the increased greenhouse gas emissions from the project. (*Id.* at 90-92.) The First District Court of Appeal held that this mitigation scheme impermissibly deferred the required formulation of mitigation measures. The court rejected Chevron's arguments that the City had proceeded appropriately by setting a performance standard and setting forth a menu of potential mitigation measures. (*Id.* at 94.) Even though several cases have allowed such an approach, the court said that the City had offered no assurance that the plan was feasible and efficacious, and created no objective criteria for determining the success of the measures. (*Id.*) The mitigation strategy in the present case includes the same flaws.

In enacting Assembly Bill 32 ("AB 32"), the California Global Warming Solutions Act of 2006, the State of California confirmed that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." (Health & Safety Code § 38501(a).)

California has set greenhouse gas emission reduction targets in an effort to avoid the catastrophic impacts projected with higher emissions scenarios. AB 32 requires California to return to 1990 levels of greenhouse gas emissions by the year 2020. (Health & Safety Code § 38550.)[4] Looking beyond 2020, Executive Order S-3-05 sets an emissions reduction target of 80 percent below 1990 levels by 2050. (Exec. Order S-3-05.)

The discussion of GHG emissions fails to provide sufficient information regarding thresholds of significance. Additionally, Mitigation Measure GHG-1 fails to provide sufficient information as to what efforts will be made to reduce GHG emissions. The mitigation measure simply states that future development will be consistent with regional emission reduction targets in effect at the time of application for annexation. It should not be at the time of application, but at the time of development. The time of application and time of development may differ by years, in which time the reduction targets may have dramatically changed.

D. The Draft EIR Fails to Provide an Adequate Discussion and Analysis of the Alternatives

The EIR fails to provide an adequate discussion of the alternatives that fosters informed decision-making and informed public participation. Additionally, the alternatives analysis in the EIR does not meet the requirement of a reasonable range of alternatives that lessen the Project's significant environmental impacts as it does not focus on alternatives that either eliminate adverse impacts to Swainson's hawks or reduce the impacts to insignificance, even if they would to some degree impede the Project's objectives, as required by CEQA.

CEQA mandates a lead agency to adopt feasible alternatives or feasible mitigation measures that can substantially lessen the project's significant environmental impacts. (Pub. Resources Code, § 21002; CEQA Guidelines, §§ 15002(a)(3), 15126.6(a); *Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41.) For that reason, "[t]he core of an EIR is the mitigation and alternatives sections." (*Citizens of Goleta Valley v. Board of Supervisors, supra,* 52 Cal.3d at p. 564.) "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, *to identify alternatives to the project*, and to indicate the manner in which those significant effects

---

[4] In the first reported case on greenhouse gas emissions and CEQA, the court relied in large part upon Health & Safety Code section 38500 *et seq.* (*CBE v. Richmond, supra*, 184 Cal.App.4th at 90-91.)

can be mitigated or avoided. (Pub. Resources Code, § 21002.1(a) (emphasis added); see also Pub. Resources Code, § 21061.) In preparing an EIR, a lead agency must ensure "that all reasonable alternatives to proposed projects are thoroughly assessed." (*San Joaquin Raptor/Wildlife Rescue Center* v. *County of Stanislaus, supra*, 27 Cal.App.4th at p. 717; quoting *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 197; Pub. Resources Code, § 21001(g) (lead agency must "consider alternatives to proposed actions affecting the environment"); *Laurel Heights I, supra,* 47 Cal.3d at p. 400.)

The EIR must "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, and evaluate the comparative merits of the alternatives." (CEQA Guidelines, § 15126.6(a).) The alternatives discussion must focus on alternatives that avoid or substantially lessen any significant effects of the project. (*Id.*, § 15126.6(b); *Goleta Valley, supra,* 52 Cal.3d at 556, [EIR must consider alternatives that "offer substantial environmental advantages"].) The range must be sufficient "to permit a reasonable choice of alternatives so far as environmental aspects are concerned." (*San Bernardino Valley Audubon Soc'y* v. *County of San Bernardino* (1984) 155 Cal.App.3d 738, 750; see also *Sierra Club* v. *Contra Costa County* (1992) 10 Cal.App.4th 1212, 1217-18, 1222, [EIR that only considered two alternatives for less development was not a range of reasonable alternatives.].)

The range of potential alternatives to the proposed Project shall include those that could feasibly accomplish most of the basic objectives of the Project and could avoid or substantially lessen one or more of the significant effects. (CEQA Guidelines, § 15126.6(c); *see Citizens of Goleta Valley* v. *Board of Supervisors, supra,* 52 Cal.3d at 566.) The EIR must "include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." (CEQA Guidelines, § 15126.6(d); see also *Kings County, supra, 221* Cal.App.3d at 733, [The alternatives discussion must contain specific quantitative information for an adequate comparison.].) An EIR's discussion of alternatives must be reasonably detailed, but not exhaustive. (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1163, ["An EIR need not consider every conceivable alternative to a project or alternatives that are infeasible."]; CEQA Guidelines, § 15126.6.) The key issue is whether the alternatives discussion encourages informed decision-making and public participation. (*Laurel Heights I, supra*, 47 Cal.3d at p. 404.) The burden of identifying and evaluating alternatives rests with the agency, not the public. (*Laurel Heights I, supra,* 47 Cal.3d at pp. 405-406.) Contrary to CEQA's directive, LAFCO's alternative analysis fails to provide sufficient information and analysis of the alternatives for informed decision-making by the LAFCO Board and the public.

The alternatives analysis fails to include an alternative that would reduce of avoid the Project's significant impacts on Swainson's hawk. (See Comment letter from FOSH regarding Notice of Preparation.) FOSH proposed an alternative of a smaller SOI

amendment that would increase the SOI by 500 to 600 acres at Highway 99 and Kammerer Road that would be limited exclusively to development of office and industrial parks. By contrast, the alternatives considered in the Draft EIR do not reduce or avoid the impacts to Swainson's hawks. As such, the alternative's discussion and analysis fail to meet CEQA's requirements.

III. Conclusion

For the reasons stated in this comment letter, the comment letters submitted by Friends of Swainson's Hawk, the Sacramento Audubon Society, the Environmental Council of Sacramento, and others, the Draft EIR fails to meet the legal requirements of the California Environmental Quality Act. As such, LAFCO must recirculate the Draft EIR after it has made the necessary and required revisions.

Sincerely,

Donald B. Mooney
Attorney

cc: Jude Lamare

K. Shawn Smallwood, Ph.D.
3108 Finch Street
Davis, CA 95616

Don Lockhart, AICP, Assistant Executive Officer
Sacramento Local Agency Formation Commission
1112 I Street, Suite 100
Sacramento, CA 95814
Donald.Lockhart@SacLAFCo.org

21 November 2011

RE: **Comment on City of Elk Grove Sphere of Influence EIR**

Dear Mr. Lockhart,

Friends of the Swainson's Hawk asked me to comment on the City of Elk Grove Proposed Sphere of Influence Amendment Draft Environmental Impact Report (LAFC # 09-10) (Sacramento LAFCo 2011). My qualifications for preparing expert comments on this EIR are the following. I earned a Ph.D. degree in Ecology from the University of California at Davis in 1990, where I subsequently worked for 4 years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on the ecology of invading species, animal density and distribution, habitat selection, habitat restoration, interactions between wildlife and human infrastructure and activities, and on conservation of rare and endangered species. I have authored numerous papers on special-status species issues, including "Using the best scientific data for endangered species conservation," published in Environmental Management (Smallwood et al. 1999), and "Suggested standards for science applied to conservation issues" published in the Transactions of the Western Section of The Wildlife Society (Smallwood et al. 2001). I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was also Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management.

I have performed avian surveys in California for twenty-two years (Smallwood et al. 1996, Smallwood and Nakamoto 2009). Over these years, I studied the impacts of human activities and human infrastructure on birds and other animals, including on Swainson's hawks (Smallwood 1995), burrowing owls (Smallwood et al. 2007), white-tailed kites (Erichsen et al. 1996, Smallwood and Nakamoto 2009), and other species. I studied fossorial animals (i.e., animals that burrow into soil, where they live much of their lives), including pocket gophers, ground squirrels, kangaroo rats, voles, harvester ants, and many other functionally similar groups. My qualifications are further summarized in my curriculum vitae, which is attached.

SITE VISITS

I visited the western aspect of the proposed City of Elk Grove Sphere of Influence for 65 minutes, 16:00-17:05 hours, on 9 November 2011 (Photos 1 and 2). I had also visited the Sunset Skyranch Airport for 90 minutes on 12 August 1999. I observed 39 species of birds and mammals during my 2.5 hours on site, including two species listed as Threatened under the California Endangered Species Act (Table 1). From the roadway at Skyranch Airport, I observed what appeared to be vernal pools and

wetland swales (Photos 1 and 2). I also observed inundated ponds and a riverine environment suitable for giant garter snakes nearby the runway (Photo 3).

Photo 1. Long-billed curlew covering an alfalfa field in the study area for the proposed City of Elk Grove Sphere of Influence Amendment, on 9 November 2011.

Photo 2. Pasture in the study area for the proposed City of Elk Grove Sphere of Influence Amendment, on 9 November 2011.

Table 1. Species observed by Smallwood in 65 minute visit to western aspect of proposed new Elk Grove Sphere of Influence, 16:00-17:05 hours, 9 November 2011, and during a 90 minute visit to SkyRanch Airport on 12 August 1999.

Common name	Scientific name	Status[a]	Visit	Note(s)
Great blue heron	*Ardea herodius*		11/9/11	Several
Great egret	*Casmerodius albus*		8/12/99	
Snowy egret	*Egretta thula*		8/12/99	
Long-billed curlew	*Numenius americanus*	SSC	11/9/11	Hundreds
Sandhill crane	*Grus canadensis tabida*	CT	11/9/11	Several large flocks
Northern pintail	*Anus acuta*		8/12/99	18 birds
Willit	*Catoptrophorus semipalmatus*		8/12/99	25 birds
Killdeer	*Charadrius vociferus*		11/9/11	Several
Turkey vulture	*Cathartes aura*		8/12/99	
Cooper's hawk	*Accipter cooperii*	SSC	8/12/99	
Swainson's hawk	*Buteo swainoni*	CT	8/12/99	Several
Red-tailed hawk	*Buteo jamaicensis*		11/9/11	Scattered over site
Northern harrier	*Circus cyaneus*	SSC	11/9/11	3 birds
White-tailed kite	*Elanus leucurus*	CFP	11/9/11	5 birds
American kestrel	*Falco sparverius*		11/9/11	2 birds; 1 captured mouse
Mourning dove	*Zenaida macroura*		11/9/11	Multiple groups
California quail	*Callipepla californica*		11/9/11	Large covey
Common raven	*Corvus corax*		11/9/11	1 bird
American crow	*Corvus brachyrhynchos*		11/9/11	Some
Western scrub-jay	*Aphelocoma coerulescens*		11/9/11	Few birds
Yellow-billed magpie	*Pica nuttalli*		11/9/11	One bird
Northern mockingbird	*Mimus polyglottos*		11/9/11	Few birds
Black phoebe	*Sayornis nigricans*		11/9/11	1 bird
Loggerhead shrike	*Lanius ludovicianus*	SSC	11/9/11	1 bird
Song sparrow	*Melospiza melodia*		11/9/11	1 bird
White-crowned sparrow	*Zonotrichia leucophrys*		11/9/11	Several
Golden-crowned sparrow	*Zonotrichia atricapilla*		11/9/11	Several
Rufous-crowned sparrow	*Aimophila ruficeps*		11/9/11	Many
Brewer's blackbird	*Euphagus cyanocephalus*		11/9/11	Many
Red-winged blackbird	*Agelaius phoeniceus*		11/9/11	Many
Western meadowlark	*Sturnella neglecta*		11/9/11	Many
House finch	*Carpodacus mexicanus*		11/9/11	Some
European starling	*Sturnus vulgaris*		11/9/11	Many
Virginia opossum	*Didelphis virginianus*		8/12/99	Tracks
Botta's pocket gopher	*Thomomys bottae*		11/9/11	Burrow systems
Raccoon	*Procyon lotor*		11/9/11	Road-killed (3)
Striped skunk	*Mephitis mephitis*		11/9/11	Road-killed (1)
Black-tailed deer	*Odocoileus hemionus*		8/12/99	Tracks
Northern Pacific rattlesnake	*Crotalus viridis oreganus*		8/12/99	

[a] See Table 2 legend for a key to the acronyms indicating special status.

Photo 3. A wetland structure that looks like a vernal pool at Sunset Skyranch Airport, within the proposed Elk Grove Sphere of Influence Amendment study area, on 12 August 1999.

Photo 4. A wetland structure that looks like a vernal pool or swale at Sunset Skyranch Airport, within the proposed Elk Grove Sphere of Influence Amendment study area, on 12 August 1999.

Photo 5. A riverine environment at Sunset Skyranch Airport, within the proposed Elk Grove Sphere of Influence Amendment study area, on 12 August 1999.

SUFFICIENCY OF EIR AS AN INFORMATIVE DOCUMENT

Under CEQA,[1] "[A] paramount consideration is the right of the public to be informed in such a way that it can intelligently weigh the environmental consequences of any contemplated action and have an appropriate voice in the formulation of any decision." The public needs information that is thorough, relevant, unbiased, and honest; the public needs full disclosure of the environmental setting and possible cumulative impacts. Documents presenting information from a biased perspective will tend to include omissions, logical fallacies, internal contradictions, and unfounded responses to substantial issues. In my review of the EIR, I found these types of problems, indicating that the EIR was insufficient in its provision of relevant information to the public.

The EIR was insufficiently informative about the biological resources occurring on the study area. It was insufficient because it relied on (1) a very cursory field survey performed by one person, and (2) a flawed use of the California Natural Diversity Data Base (CNDDB) to identify biological resources likely occurring on the project area. It also made no effort to identify wildlife and fish movement corridors, nor did it use much of the available information on wildlife resources developed by professionals. Below I explain further.

Biological Resources Survey

On page 3.4-1, Dale Hameister performed reconnaissance survey on 11 October 2010. Thus, the most useful type of information on the biological resources occurring over 8,000 acres of project area was gathered by one person performing a single survey of unknown duration on one day in 2010. This level of effort gives new meaning to the term "reconnaissance" when applied to a professional survey of a proposed project site. However, not only was the survey much too cursory to be of much use, but the EIR did not even include a list of species detected by Mr. Hameister. I cannot see how the public can meaningfully participate with an environmental review if the review fails to report on the results of a biological survey.

LAFCo's justification for performing an extremely cursory and ambiguous biological survey was the following: "Since no physical development is associated with the proposed project, a general biological resources assessment was conducted to document existing conditions" (page 3.4-1). This justification seems unsatisfactory, however, as LAFCo had earlier admitted that "The City's available residential, industrial, and commercial land inventory is in the process of building out and may be unable to accommodate all anticipated urban growth within the city limits" (page ES-2). In other words, the City authorized the conversion of all lands within its current sphere of influence, so it is preparing to build out an expanded sphere of influence. The act of establishing the current Sphere of Influence resulted in the conversion of all available land to urban, commercial and industrial uses. Establishing an expanded Sphere of Influence would likely result in the same outcome, assuming the City of Elk Grove will stay consistent with its land-use decisions. It is reasonable to conclude that the proposed project is associated with physical development.

Even if one truly believes that the expansion of the Sphere of Influence would be an action that can be decoupled from physical development, then it would still be necessary to describe the state of biological resources in the project area. Decision-makers and the public need to be reasonably informed about the likely impacts and mitigation options that future development projects would need

[1] Environmental Planning and Information Council vs. County of El Dorado (1982) 131 Cal. App. 3d 350, 354.

to consider after the sphere of influence has been expanded in the manner proposed. For example, the City of Elk Grove's General Plan Policy CAQ-7, which encourages clustering of development to minimize impacts to wildlife habitat, would be much more effective if it the clustering was planned out at the earliest stage, i.e., in a programmatic EIR, rather than on a project-by-project basis. Development clustering, if that is truly the style of development the City of Elk Grove intends, could be planned in a programmatic EIR to avoid wildlife and fish movement corridors and to minimize habitat fragmentation. Otherwise, those who prepare project-specific EIRs will cluster development (assuming they cluster at all) to suit their desired project outcomes without being informed of the intended clustering at other potential future project sites. Without landscape-level guidance, development clustering will be ineffective at strategically minimizing impacts to wildlife habitat and movement corridors

The most fundamental information needed in a programmatic EIR such as this one is a list of biological species likely to occur in the project area. A species list is needed to begin to understand the likely extent of the project's impacts and how those impacts might be mitigated. A species list is often developed from biological surveys performed in the project area, but they can also be developed from reports of other surveys in the area, from observations reported in CNDDB, and from habitat relationships models, so long as the geographic ranges of the species also overlap the project area. However, CNDDB records cannot be used to conclude a species' absence from a site, as was done repeatedly in this EIR (to be discussed later). The EIR did not include a comprehensive list of species documented in the project area, so it failed to provide readers with fundamental information. The EIR provide conclusions of the likelihood of occurrence of most special-status species, but I will also point out that the EIR's characterization of special-status was outdated (see Table 2).

In Table 2, I listed species of birds, mammals, amphibians, reptiles, and a few invertebrates potentially occurring on the project area. This list was derived from a query of the California Wildlife Habitat Relationships System (CWHR), and amended by my observations of wildlife on site, and my review of CNDDB and of geographic range maps. My review identified 235 species of terrestrial vertebrate species possibly, probably, or certainly occurring on the study area, indicating a biological richness that warrants a much more rigorous environmental review than was provided in the EIR.

Of the 235 species of terrestrial vertebrates at least possibly using the study area, 49 are special-status species (Table 2). That is, 21% of the species possibly occurring there are considered to be in trouble and in need of conservation actions, according to the California Department of Fish and Game and US Fish and Wildlife Service. The EIR should divulge this percentage of species with special-status, and it should closely examine the likely impacts to each species that would be caused by expanding the City of Elk Grove's Sphere of Influence.

My list of species potentially occurring on the project site is more comprehensive than what appears in the EIR, but it is also more accurate. In fact, the likelihoods of occurrence attributed to some species discussed in the EIR indicated the preparers of the EIR were relatively unfamiliar with wildlife in this part of California. For example, the EIR characterized the likelihood of white-tailed kites occurring on the site as "low" (Table 2), but I encountered the first of five individuals of this species within eight minutes of my arrival on site on 9 November 2011 (Photo 6). Based on what I know about the species (e.g., Erichsen et al. 1995, Smallwood et al. 1995), I never would have thought white-tailed kites would be absent from this project area.

Photo 6. White-tailed kite seen hovering over the study area of the proposed City of Elk Grove Sphere of Influence Amendment, 9 November 2011.

The EIR characterizes the likelihood of greater sandhill crane occurrence as "moderate" (EIR Table 3.4-2), though the EIR also states that sandhill crane has high potential to occur on the project site (page 3.4-36). Given the vegetation and soil conditions, and given the geographic range and habitat affinities of the species, I am confused why the preparer of the EIR would have thought that greater sandhill cranes would be attributed any other occurrence likelihood category than "high." The only explanation provided was that no records appeared in CNDDB, but this explanation was unsatisfactory (see discussion to follow). I saw multiple large flocks of this species flying across the project area, and some birds were on the ground.

The EIR characterized the likelihood of northern harrier occurrence as "moderate" (Table 2). Again, given the habitat and geographic range of the species, I am curious as to why the occurrence likelihood was not "high." Furthermore, I observed multiple individuals of this species during both of my visits to the project area. The species' occurrence in the project area is obvious. It appears, however, that the occurrence likelihood was downgraded due to lack of CNDDB records. This explanation was flawed (see discussion to follow).

The EIR characterized the likelihood of burrowing owl occurrence as "moderate." However, burrowing owls are known to occur in the project area (see EIR), so the occurrence likelihood is most certainly greater than moderate. The EIR also was inconsistent in its characterization of the likelihood of occurrence of this species. On page 3.4-37, the EIR states that burrowing owls have a high potential to occur on the project site, but in Table 3.4-2 it characterizes the potential as moderate.

The EIR attributed low likelihood of occurrence to sharp-shinned hawk, golden eagle, ferruginous hawk, prairie falcon, and merlin. However, the habitats of these species occur in the project area, and the geographic ranges of these species overlap the project area. Based on my experience with these species, I would be surprised if these species were truly unlikely to occur on the project site. The EIR implies that it is the agricultural setting of the project area that precludes golden eagles, but I have

observed golden eagles numerous times foraging in alfalfa fields and cattle range in the Central Valley (e.g., Smallwood and Geng 1993).

The EIR attributed no likelihood of occurrence on the project area by peregrine falcon and coast horned lizard. The EIR claims there is no foraging habitat available for peregrine falcons, but I have seen them multiple times in similar environmental settings. Coast horned lizards are claimed to be absent due to agricultural activity in the area. However, agriculture is not conflicting with coast horned lizards over much of the western aspect of the project area, or over multiple other parts of the project area, such as at Sunset Skyranch Airport.

The EIR attributed low likelihood of occurrence and no likelihood of occurrence to multiple species of special-status bats. I wonder how the preparers of the EIR could have come to the conclusion that these bat species were unlikely to occur in the study area? The preparers did not rely on any acoustic surveys or any bat surveys of any kind. A more appropriate conclusion in the face of uncertainty would be to err on the side of caution (National Research Council 1986, Shrader-Frechette and McCoy 1992, Smallwood et al. 1999, 2001), and to conclude the bats possibly or probably occur in the project area.

Overall, the EIR too often attributed occurrence likelihoods to special-status species that were lower than they should have been, and some special-status species were not considered in the EIR at all.

In characterizing vegetation cover types and habitat types, the EIR was also unsatisfactory. For example, LAFCo wrote, "There is very little riparian habitat within the project area" (page 3.4-1). The EIR could have clarified that the abundance of riparian habitat lies just beyond the boundary of the proposed Sphere of Influence amendment. By converting the land within the proposed amended Sphere of Influence, the project would most certainly have profound adverse impacts on riparian habitat.

Similarly, the EIR was inadequate in its portrayal of wetland habitat on the proposed study area. The EIR relied on the National Wetlands Inventory to conclude that there are 162.4 acres of freshwater emergent wetlands and 44.61 acres of freshwater ponds in the study area (page 3.4-5). However, the maps of wetland areas in the EIR appear incomplete (EIR Exhibit 3.4-1). I have seen what appear to me to be additional wetlands that are not mapped. For example, I saw swales and possible vernal pools at Sunset Skyranch Airport.

California Natural Diversity Data Base

It appears that lack of records in the CNDDB served as the foundation for many of the conclusions that special-status species were unlikely to occur in the study area. LAFCo has made a fundamental error in its use of CNDDB. CNDDB records are voluntarily reported and many are not derived from scientific sampling, which means that lack of CNDDB records does not equal species absence. CNDDB records cannot be relied upon to determine the extent of habitat. To help get this message across, the California Department of Fish and Game posts a disclaimer on its California Natural Diversity Data Base web site: "*We work very hard to keep the CNDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the CNDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers.*" Similarly, the California Native Plant Society's Inventory of Rare and Endangered Species states the following: "***A reminder:** Species not recorded*

for a given area may nonetheless be present, especially where favorable conditions occur." All of LAFCo's conclusions of species' likelihood of occurrence based on CNDDB records are invalid.

Wildlife Movement Corridors

The EIR made no attempt to identify or characterize wildlife movement corridors in the study area. Its justification for this neglected topic was that no wildlife movements had been identified by anyone else prior to the preparation of the EIR. The implication was that the preparer of the EIR is not responsible for performing any original analysis of potential biological impacts. I do not believe this justification is valid under CEQA.

Wildlife movement corridors can be routes used for migration, dispersal, home range patrol, or other types of movements, and they can include various vegetation cover types and terrain, depending on local conditions. A significant effect under CEQA, as I understand it, is whether the project will "interfere substantially with the movement of any resident or migratory fish or wildlife species." Converting nearly eight thousand acres of wildlife habitat to houses will indeed interfere with the movement of wildlife between the undeveloped areas to the east, west, and south of the study area.

Wildlife movement patterns can be characterized to identify movement corridors. There is an established literature for addressing this issue. For example, Beier and Loe (1992) presented corridor functionality criteria. A little time on the site, which would be warranted by the size of the proposed project, could document wildlife movement patterns, leading to recognition of movement corridors.

Stop-over Habitat for Migrating Birds

The EIR does not discuss or even mention the use of the study area by migrating birds. Habitat patches are often critical for the persistence of special-status species, including for willow flycatcher, yellow warbler, white-faced ibis, and sandhill crane, among others. In fact, stop-over habitat is no less critical to bird species than is nesting habitat, the latter of which appears to have been the sole type of habitat assessed by the preparers of the EIR. Without considering the project's impacts on stop-over habitat, the EIR is incomplete.

Table 2. Species of terrestrial vertebrates and select invertebrates potentially occurring and known to occur within the Elk Grove Sphere of Influence project site. Under **Status**, species are listed as FE = federal endangered, FT = threatened, BCC = federal bird species of conservation concern, CE = California endangered, CT = California threatened, SSC = California species of special concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), CFP = California Fully Protected, CSA = California Special Animal, CDFS = California Department of Forestry sensitive, and CNPS = California Native Plant Society listing. Recent listings were taken from CDFG (2011). Birds were assigned the new special status developed by Shuford and Gardali (2008): BSSC = Bird Species of Special Concern, BSSC1 = BSSC species with first priority special concern, BSSC2 = second priority, and BSSC3 = third priority; BCC = Birds of conservation concern, CBRL = California Bird Responsibility List. Under **CWHR ratings**, L, M, and H represent California Wildlife Habitat Relationships ratings of Low, Medium, and High for the habitats' fulfillment of the species need to reproduce, find cover and forage. The input parameters used in the CWHR analysis included the following: Sacramento County, annual grassland, fresh emergent wetland, riverine, vineyards, orchards, annual field crops, oak woodland (dense small trees, and sparse large trees), and Eucalyptus. The ratings used in the table were the highest ratings associated with habitat cover types used in the analysis. I excluded a few of the species that were listed in the CWHR output file based on my knowledge of the species regarding the likelihood of their occurrence at the project site.

Common name	***Species name***	**Status** [a]	**EIR rating of occurrence potential**	**CWHR ratings** [b]	**Smallwood assessment**	**Documented on site?**
Arthropods						
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphis*	FT, CE	Moderate		Probable	
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	Moderate		Probable	
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	Moderate		Probable	
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	Moderate		Probable	
California linderiella	*Linderiella occidentalis*				Probable	
Birds						
Pied-billed grebe	*Podilymbus podiceps*			HHH	Probable	
Eared grebe	*Podiceps nigricollis*			HHH	Probable	
American white pelican	*Pelecanus erythrorhynchos*	BSSC1		_MM	Possible	
Double-crested cormorant	*Phalacrocorax auritus*	SSC		LLM	Probable	
Black-crowned Night Heron	*Nycticorax nycticorax*	CSA		HHH	Probable	
Green heron	*Butorides striatus*			MHH	Probable	
Cattle egret	*Bubulcus ibis*			LHH	Certain	

Snowy egret	*Egretta thula*	CSA,CDFS		HHH	Certain	Yes
Great egret	*Ardea alba*	CSA,CDFS		MHH	Certain	Yes
Great blue heron	*Ardea herodius*	CSA,CDFS		HHH	Certain	Yes
White-faced ibis	*Plegadis chihi*	SSC			Certain	
Greater sandhill crane	*Grus canadensis tabida*	CT, CFP	Moderate		Certain	Yes
Lesser sandhill crane	*Grus Canadensis canadensis*	BSSC3			Probably	
Greater white-fronted goose	*Anser albifrons*			_HH	Probable	
Snow goose	*Chen caerulescens*			_HH	Possible	
Ross's goose	*Chen rossii*			_HH	Possible	
Canada goose	*Branta Canadensis*			HHH	Probable	
Mallard	*Anas platyrhynchos*			HHH	Certain	
Northern pintail	*Anas acuta*			HHH	Probable	Yes
Northern shoveler	*Anas clypeata*			HHH	Possible	
Green-winged teal	*Anas crecca*			HHH	Probable	
Blue-winged teal	*Anas discors*			HHM	Probable	
Eurasian wigeon	*Anas Penelope*			_HH	Possible	
American wigeon	*Anas Americana*			HHH	Probable	
Wood duck	*Aix sponsa*			_HH	Unlikely	
Lesser scaup	*Aythya affinis*			HHH	Possible	
Common goldeneye	*Bucephala clangula*			_HH	Possible	
Barrow's goldeneye	*Bucephala islandica*	BSSC		_MM	Unlikely	
Bufflehead	*Bucephala albeola*			_LL	Certain	
Hooded merganser	*Lophodytes cucullatus*			_HH	Possible	
Common merganser	*Mergus merganser*			_HH	Possible	
Virginia rail	*Rallus limicola*				Probable	
Sora	*Porzana Carolina*				Probable	
Common moorhen	*Gallinula chloropus*				Probable	
American coot	*Fulicra Americana*				Probable	
Spotted sandpiper	*Actitis macularia*			LMH	Probable	
Whimbrel	*Numenius phaeopus*	BCC		_HH	Possible	
Western sandpiper	*Calidris mauri*			_HH	Possible	
Least sandpiper	*Calidris minutilla*			_HH	Possible	
Baird's sandpiper	*Calidris bairdii*			_HH	Possible	
Common snipe	*Gallinago gallinago*			HHH	Certain	

Wilson's phalarope	*Phalaropus tricolor*			HHH	Probable	
Greater yellowlegs	*Tringa melanoleuca*			_HH	Certain	
Lesser yellowlegs	*Tringa flaviceps*			_HH	Possible	
Willet	*Catoptrophorus semipalmatus*			_HH	Probable	Yes
Long-billed curlew	*Numenius americanus*	BCC, SSC		HHH	Certain	Yes
Dunlin	*Calidris alpine*			_HH	Certain	
Long-billed dowitcher	*Limnodromus scolopaceus*			_HH	Possible	
Black-bellied plover	*Pluvialis squatarola*			_HH	Possible	
Semi-palmated plover	*Charadrius semipalmatus*			_LL	Unlikely	
Killdeer	*Charadrius vociferus*			HHH	Certain	Yes
Mountain plover	*Charadrius montanus*	BCC, BSSC2		HH	Probable	
Black-necked stilt	*Himantopus mexicanus*			MMH	Certain	
American avocet	*Recurvirostra Americana*			MMH	Certain	
Bonaparte's gull	*Larus philadelphia*			_LL	Possible	
Mew gull	*Larus canus*			_LL	Possible	
Ring-billed gull	*Larus delawarensis*			_HH	Probable	
California gull	*Larus californicus*	SSC		_HH	Certain	
Herring gull	*Larus argentatus*			_MM	Probable	
Glaucous-winged gull	*Larus glaucescens*			LL	Unlikely	
Black tern	*Chlidonias niger*	BSSC2		HHH	Possible	
Caspian tern	*Sterna caspia*			_MH	Possible	
Forster's tern	*Sterna forsteri*			LMH	Possible	
Turkey vulture	*Cathartes aura teter*			HHH	Certain	
Osprey	*Pandion haliaetus*	SSC		LLH	Unlikely	
Bald eagle	*Haliaetus leucocephalus*	FT, CE	None	LLH	Unlikely	
Golden eagle	*Aquila chysaetos*	CFP	Low	HHH	Certain	
Cooper's hawk	*Accipiter cooperii*	SSC		HHH	Certain	Yes
Sharp-shinned hawk	*Accipter striatus velox*	SSC	Low	MHH	Probable	
Northern harrier	*Circus cyaneus*	BSSC3	Moderate	HHH	Certain	Yes
White-tailed kite	*Elanus leucurus*	CFP	Low	HHH	Certain	Yes
Red-tailed hawk	*Buteo jamaicensis*			HHH	Certain	Yes
Ferruginous hawk	*Buteo regalis*	SSC	Low	_HH	Certain	
Swainson's hawk	*Buteo swainsoni*	BCC, CT	High	MMH	Certain	Yes
Red-shouldered hawk	*Buteo lineatus*			HHH	Certain	

Rough-legged hawk	*Buteo lagopus*			_MH	Probable	
Peregrine falcon	*Falco peregrinus anatum*	BCC, CE	None	HHH	Probable	
Prairie falcon	*Falco mexicanus*	BCC, SSC	Low	HHH	Probable	
American kestrel	*Falco sparverius*			HHH	Certain	Yes
Merlin	*Falco columbarius*	SSC	Low	_MH	Certain	
Wild turkey	*Melleagris gallopavo*			HHH	Probable	
California quail	*Callipepla californica*			HHH	Probable	Yes
Ring-necked pheasant	*Phasianus colchicus*			HHH	Certain	
Mourning dove	*Zenaida macroura*			HHH	Certain	Yes
Rock dove	*Columba livea*			HHH	Certain	
Band-tailed pigeon	*Columba fasciata*			MMH	Possible	
Greater roadrunner	*Geococcyx californicus*			LLL	Unlikely	
Barn owl	*Tyto alba*			HHH	Certain	
Western screech owl	*Otus kennicottii*			HHH	Probable	
Great horned owl	*Bubo virginianus pacificus*			HHH	Certain	
Northern pygmy owl	*Glaucidium gnoma*			HHH	Possible	
Western burrowing owl	*Athene cuniculana hypugea*	BCC, BSSC2	Moderate	HHH	Certain	Yes
Short-eared owl	*Asio flammeus*	BSSC3		HHH	Probable	
Lesser nighthawk	*Chordeiles acutipennis*			MMH	Possible	
Common poorwill	*Phalaenoptilus nuttallii*			HHH	Possible	
White-throated swift	*Aeronautes saxatalis*			HHH	Unlikely	
Black-chinned hummingbird	*Archilochus alexandri*			HHH	Possible	
Anna's hummingbird	*Calypte anna*			HHH	Certain	
Calliope hummingbird	*Stellula calliope*			_MM	Unlikely	
Rufous hummingbird	*Selasphorus rufus*			_MM	Unlikely	
Allen's hummingbird	*Selasphorus sasin*	CBRL		HHH	Certain	
Belted kingfisher	*Ceryle alcyon*			HHH	Certain	
Lewis' woodpecker	*Melanerpes lewis*	BCC		HHH	Probable	
Downy woodpecker	*Picoides pubescens*			HHH	Certain	
Red-breasted sapsucker	*Sphyrapicus ruber*			_HH	Unlikely	
Nuttall's woodpecker	*Picoides nuttalli*	CBRL		HHH	Possible	
Northern flicker	*Colaptes auratus cafer*			HHH	Certain	
Western wood-pewee	*Contopus sordidulus*			HHH	Probable	
Hammond's flycatcher	*Empidonax hammondii*			_LL	Unlikely	

Dusky flycatcher	*Empidonax oberholseri*			_LL	Unlikely	
Gray flycatcher	*Empidonax wrightii*			_LL	Unlikely	
Pacific-slope flycatcher	*Empidonax difficilis*			_HH	Unlikely	
Black phoebe	*Sayornis nigricans semiatra*				Certain	Yes
Say's phoebe	*Sayornis saya*			_HH	Probable	
Ash-throated flycatcher	*Myiarchus cinerascens*			HHH	Probable	
Western kingbird	*Tyrannus verticalis*			MMH	Certain	
California horned lark	*Eremophila alpestris actia*	CBRL		HHH	Probable	
Purple martin	*Progne subis*	BSSC2	Low	_MH	Unlikely	
Tree swallow	*Tachycineta bicolor*			MHH	Probable	
Violet-green swallow	*Tachycineta thalassina*			HHH	Probable	
Northern rough-winged swallow	*Stelgidopteryx serripennis*			HHH	Probable	
Bank swallow	*Riparia riparia*	CT		HHH	Possible	
Cliff swallow	*Hirundo pyrrhonota*			HHH	Certain	
Barn swallow	*Hirundo rustica*			HHH	Certain	
Western scrub-jay	*Aphelocoma coerulescens*				Certain	Yes
Yellow-billed magpie	*Pica nuttalli*	CBRL		HHH	Certain	Yes
Common raven	*Corvus corax*				Certain	Yes
American crow	*Corvus brachyrhynchos*			HHH	Certain	Yes
Oak titmouse	*Parus inornatus*	CBRL		HHH	Probable	
Bushtit	*Psaltriparus minimus*			HHH	Certain	
Red-breasted nuthatch	*Sitta canadensis*			_MM	Unlikely	
White-breasted nuthatch	*Sitta carolinensis aculeata*			HHH	Probable	
Brown creeper	*Certhia americana*			_LL	Unlikely	
Rock wren	*Salpinctes obsoletus*			HHL	Unlikely	
Bewick's wren	*Thryomanes bewickii*			HHH	Probable	
House wren	*Troglodytes aedon*			HHH	Probable	
Winter wren	*Cistothorus*			LLL	Possible	
American dipper	*Cinclus mexicanus*			HHM	Unlikely	
Golden-crowned kinglet	*Regulus satrapa*			_MM	Unlikely	
Ruby-crowned kinglet	*Reguls calendula*			_HH	Probable	
Blue-gray gnatcatcher	*Polioptila caerulea*			HHH	Possible	
Western bluebird	*Sialia mexicana*			HHH	Certain	
Mountain bluebird	*Sialia currucoides*			_MH	Possible	

Swainson's thrush	*Catharus ustulatus*			LMM	Possible	
Hermit thrush	*Catharus guttatus*			_MM	Possible	
American robin	*Turdus migratorius*			MHH	Certain	
Varied thrush	*Ixoreus naevius*			_MM	Possible	
Wrentit	*Chamaea fasciata*	CBRL		LLL	Unlikely	
Loggerhead shrike	*Lanius ludovicianus*	BCC, BSSC2		HHH	Certain	Yes
Northern mockingbird	*Mimus polyglottos*			HHH	Certain	Yes
California thrasher	*Toxostoma redivivum*	CBRL		LLL	Unlikely	
American pipit	*Anthus rubescens*			_HH	Possible	
Cedar waxwing	*Bombycilla cedrorum*			_HH	Possible	
Phainopepla	*Phainopepla nitens*			MMH	Possible	
European starling	*Sturnus vulgaris*			HHH	Certain	Yes
Hutton's vireo	*Vireo huttoni*			HHH	Possible	
Warbling vireo	*Vireo gilvus*			HHH	Probable	
Orange-crowned warbler	*Vermivora celata*			HHH	Probable	
Nashville warbler	*Vermivora ruficapilla*			_MM	Unlikely	
Yellow-rumped warbler	*Dendroica coronata*			LHH	Certain	
Yellow warbler	*Dendroica petachia brewsteri*	BSSC2	Low	LHH	Possible	
Black-throated gray warbler	*Dendroica nigrescens*			_MH	Unlikely	
Townsend's warbler	*Dendroica townsendi*			_HH	Possible	
Hermit warbler	*Dendroic occidentalis*			_MM	Possible	
MacGillivray's warbler	*Oporonis tolmiei*			_LL	Unlikely	
Common yellowthroat	*Geothlypis trichas*			HHH	Probable	
Wilson's warbler	*Wilsonia pusilla*			_HH	Possible	
Black-headed grosbeak	*Pheucticus melanocephalus*			MMM	Probable	
Blue grosbeak	*Guiraca caerulea*			_MH	Probable	
Lazuli bunting	*Passerina amoena*			HHH	Possible	
California towhee	*Pipilo fuscus*	CBRL		LMM	Probable	
Sacramento spotted towhee	*Pipilo erythrophthamnus*	CBRL		LHH	Probable	
Chipping sparrow	*Spizella passerina*			HHH	Probable	
Grasshopper sparrow	*Ammodramus savannarum*	BSSC2		HHH	Probable	
Vesper sparrow	*Pooecetes gramineus*			LHH	Possible	
Modesto song sparrow	*Melospiza melodia malliardi*	BSSC3		HHH	Certain	Yes
Lincoln's sparrow	*Melospiza lincolnii*			_MM	Possible	

Savannah sparrow	*Passerculus sandwichensis*			HHH	Probable	
Rufous-crowned sparrow	*Aimophila ruficeps*			HHH	Certain	Yes
Lark sparrow	*Chondestes grammacus*			HHH	Probable	
Fox sparrow	*Passerella iliaca*			_MM	Possible	
White-crowned sparrow	*Zonotrichia leucophrys*			LMM	Certain	Yes
Golden-crowned sparrow	*Zonotrichia atricapilla*			_HH	Probable	Yes
Dark-eyed junco	*Junco hyemalis*			HHH	Certain	
Western meadowlark	*Sturnella neglecta*			HHH	Certain	Yes
Tricolored blackbird	*Agelaius tricolor*	BCC, BSSC1	Moderate	HHH	Probable	
Red-winged blackbird	*Agelaius phoeniceus*			HHH	Certain	Yes
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	BSSC3	Moderate	HHH	Probable	
Brewer's blackbird	*Euphagus cyanocephalus*			HHH	Certain	Yes
Brown-headed cowbird	*Molothrus ater*			MHH	Certain	
Hooded oriole	*Icterus cucullatus*			MMM	Possible	
Bullock's oriole	*Icterus galbula*			HHH	Probable	
Western tanager	*Piranga ludoviciana*			_HH	Possible	
Pine siskin	*Carduelis pinus*			LMH	Possible	
American goldfinch	*Carduelis tristis*			LMH	Certain	
Lesser goldfinch	*Carduelis psaltria*			HHH	Probable	
Lawrence's goldfinch	*Carduelis lawrencei*	BCC, CBRL		HHH	Possible	
Purple finch	*Carpodacus purpureus*			LLL	Probable	
House finch	*Carpodacus mexicanus*			HHH	Certain	Yes
House sparrow	*Passer domesticus*			MMH	Certain	
Mammals						
Virginia opossum	*Didelphis virginianus*			MMM	Certain	Yes
Ornate shrew	*Sorex ornatus*	SSC		MMM	Possible	
Trowbridge shrew	*Sorex trowbridgei*			LLL	Unlikely	
Broad-footed mole	*Scapanus latimanus*			HHH	Unlikely	
Pallid bat	*Antrozous pallidus pacificus*	SSC	Low	MMH	Probable	
Spotted bat	*Euderma maculatum*	SSC	Low	_L	Possible	
Townsend's big-eared bat	*Plecotis townsendii*	SSC	Low	MMM	Possible	
Western mastiff bat	*Eumops perotis*	SSC	None	MMH	Possible	
Yuma myotis	*Myotis yumanensis saturatus*			HHH	Possible	
California myotis	*Myotis californicus*			MMM	Probable	

Silver-haired bat	*Lasionycteris noctivagans*			MMM	Unlikely	
Western pipestrelle	*Pipestrellus Hesperus merriami*			MMM	Probable	
Big brown bat	*Eptisicus fuscus bernardinus*			HHH	Probable	
Western red bat	*Lasiurus borealis teleotis*	SSC	Low	MMM	Probable	
Hoary bat	*Lasiusrus cinereus cinereus*			HHH	Probable	
Brazilian free-tailed bat	*Tadarida brasiliensis muscula*			MMM	Possible	
Brush rabbit	*Sylvilagus bachmani*			MMH	Unlikely	
Desert cottontail	*Sylvilagus audubonii*			MMH	Certain	
Black-tailed jackrabbit	*Lepus californicus*			MMH	Certain	
California ground squirrel	*Spermophilus beecheyi*			HHH	Certain	
Eastern gray squirrel	*Sciurus carolinensis*			LLL	Probable	
Western gray squirrel	*Sciurus griseus*			HHH	Probable	
Eastern fox squirrel	*Sciurus niger*			MMM	Possible	
Botta's pocket gopher	*Thomomys bottae*			HHH	Certain	Yes
Heerman's kangaroo rat	*Dipodomys heermanni*			MMM	Possible	
California kangaroo rat	*Dipodomys californicus*	SSC		HHH	Possible	
San Joaquin pocket mouse	*Perognathus inornatus*			HHH	Probable	
California pocket mouse	*Chaetodipus californicus*			HHH	Possible	
Western harvest mouse	*Reithrodontomys megalotis*			HHH	Probable	
Deer mouse	*Peromyscus maniculatus*			MMM	Certain	
Brush mouse	*Peromyscus boylei*			LLL	Unlikely	
Pinon mouse	*Peromyscus truei*			LLH	Unlikely	
Dusky-footed woodrat	*Neotoma fuscipes*			MMM	Unlikely	
California vole	*Microtis californicus*			HHH	Certain	
House mouse	*Mus musculus*			HHH	Certain	
Norway rat	*Rattus norvegicus*			MMM	Certain	
Black rat	*Rattus rattus*			MMM	Certain	
Common porcupine	*Erethizon dorsatum*			LLH	Unlikely	
American badger	*Taxidea taxus*	SSC	Moderate	HHH	Probable	
Long-tailed weasel	*Mustela frenata*			MMH	Possible	
Western spotted skunk	*Spilogale gracilis*			MMM	Probable	
Striped skunk	*Mephitis mephitis*			MMH	Certain	Yes
Ringtail	*Bassariscus astutus*	CFP		LLH	Unlikely	
Raccoon	*Procyon lotor*			MMH	Certain	Yes

Mountain lion	*Puma concolor*	CFP		LLL	Unlikely	
Bobcat	*Felis rufus*			MMM	Possible	
Coyote	*Canis latrans lestes*			LMH	Certain	
San Joaquin kit fox	*Vulpes macrotis mutica*		None	HHH	Unlikely	
Gray fox	*Urocyon cinereoargenteus*			MMH	Probable	
Red fox	*Vulpes vulpes*			LMH	Possible	
Reptiles						
Western skink	*Eumeces skiltonianus*			MMM	Probable	
Gilbert's skink	*Eumeces gilberti*			MMM	Probable	
Western fence lizard	*Sceloporus occidentalis*			HHH	Certain	
Western whiptail	*Aspidoscelis tigris*			MMM	Possible	
Northern alligator lizard	*Gerrhonotus coeruleus*			MMM	Probable	
Coast horned lizard	*Phrynosoma coronatum*	SSC	None	MMM	Possible	
Slider	*Pseudemys scripta*			LLL	Probable	
Western pond turtle	*Clemmys m. marmorata*	SSC	Moderate	HHH	Probable	
Ringneck snake	*Diadophis punctatus*			MMM	Unlikely	
Sharp-tailed snake	*Contia tenuis*			MMM	Unlikely	
Racer	*Coluber constrictor*			HHH	Probable	
Striped racer	*Masticophis lateralis*			LLL	Unlikely	
Common garter snake	*Thamnophis sirtalis*			HHH	Certain	
Western terrestrial garter snake	*Thamnophis elegans*			HHH	Probable	
Giant garter snake	*Thamnophis gigas*	FT, CT	Moderate	HHH	Probable	
Night snake	*Hypsiglena torquata*			MMM	Possible	
Common kingsnake	*Lampropeltis getulus*			MMM	Probable	
California mountain kingsnake	*Lampropeltis zonata*			LLL	Possible	
Gopher snake	*Pituophis melanoleucus*			HHH	Certain	
Western rattlesnake	*Crotalus viridis*			MMM	Probable	Yes
Amphibians						
California newt	*Taricha torosa sierrae*			HHH	Unlikely	
California slender salamander	*Batrachoseps attenuatus*			MMM	Unlikely	
Long-toed salamander	*Ambystoma macrodactylum*			HHH	Unlikely	
California tiger salamander	*Ambystoma californiense*	FT, SSC	Low	HHH	Possible	
Ensatina	*Ensatina eschscholtzii*			LLL	Unlikely	
Arboreal salamander	*Aneides lugubris*			MMM	Possible	

Pacific chorus frog	*Hyla regilla*			HHH	Certain	
Foothill yellow-legged frog	*Rana boylii*	SSC	None	LLL	Unlikely	
California red-legged frog	*Rana aurora draytonii*	FT, SSC	None	HHH	Unlikely	
Bullfrog	*Rana catesbeiana*			MHH	Probable	
Western spadefoot	*Scaphiopus hammondi*	SSC	Low	HHH	Probable	
Western toad	*Bufo boreas*			MMM	Certain	

IMPACT ASSESSMENT

The EIR relied on CNDDB to conclude presence or absence of special-status species. CNDDB records can only be used to conclude presence, but they cannot be used to conclude absence (see earlier discussion on this topic). The impacts assessment was therefore fundamentally flawed, and many impact conclusions were unfounded.

On page 3.4-36 the EIR discusses project impacts on special-status species. It discusses Swainson's hawks, sandhill cranes and burrowing owls, but did not address impacts to giant garter snake or multiple other species.

Even though the EIR mentions Swainson's hawk, the EIR does not disclose that the study area occurs within the high density zone of the Central Valley, and that the Central Valley is where 95% of the remaining nesting pairs of Swainson's hawks reside (Anderson et al. 2007). It also does not disclose that the Swainson's hawks nesting within the current Sphere of Influence of the City of Elk Grove (Estep 2009) would likely lose their nest sites as foraging areas in the proposed amended Sphere of Influence are converted to residential, commercial, and industrial uses (England et al. 1995).

The EIR appropriately describes habitat fragmentation as a threat to the conservation of Swainson's hawk (pages 3.4-36 and 3.4-37). It then describes the methodology that Sacramento County uses to assess habitat fragmentation, comparing the final habitat area to the pre-project habitat acreage. However, this before and after comparison, or net habitat acreage removed and net remaining, incompletely characterizes the effects of habitat fragmentation. Habitat fragmentation not only reduces the habitat area of a species and of its food and nesting resources, but it also impedes access of the species or its food resources to habitat patches surrounded by the barriers creating the fragmentation (e.g., non-habitat). Habitat patches that are smaller than a certain size threshold or isolated by a certain distance threshold to other habitat patches are no longer able to support the species. Habitat fragmentation results in the reduction of a net larger habitat area than can be measured by summing the remaining, apparent habitat patches (Wilcox and Murphy 1985, Saunders et al. 1991, Hall et al. 1997). The Sacramento County methodology, as described in the EIR, appears to be inconsistent with the scientific concept of habitat fragmentation, and therefore is a flawed methodology.

All in all, the EIR (pages 3.4-36 to 3.4-37) devotes 47 lines of text to discussing the project's potential impacts to biological resources resulting from the desired conversion of nearly 8,000 acres of wildlife habitat to residential, commercial, and industrial uses. The impacts discussion made no mention of the project's impacts on wildlife movement corridors, even though the EIR later recognized that the development of the Sphere of Influence will adversely affect wildlife movement (Measure BIO-1a (D), page 3.4-38).

The EIR made no mention of the likely adverse edge effects created by habitat fragmentation and the interface of remaining habitat patches and urban, commercial, and industrial uses. Changes in species occurrence and distribution can and should be predicted based on the change in distribution of habitat edges (Askins et al. 1987, Laurence and Yensen 1990, McCollin 1993) and based on changes to hydrology (Moyle et al. 1986). Also, no mention was made of the

impacts likely to be caused to wildlife due to artificial lights and noise, and the introduction of exotic pets that accompany residential, commercial, and industrial development.

CUMULATIVE IMPACTS ANALYSIS

The cumulative impacts analysis was limited to the study area and within a two mile buffer around the study area boundary. There was no real basis for the two mile buffer, other than the claim that biological impacts will be local. This claim contradicts many years of data and theory developed in the scientific discipline of wildlife ecology, which understands that wildlife populations are necessarily connected via dispersal and migration, and that the more significant demographic unit is the metapopulation (Hanski and Gilpin 1997, Smallwood 2001, 2002). A two mile buffer around the study area boundary is arbitrary and has nothing to do with the scale or reach of project impacts on wildlife. A two mile buffer is a grossly inadequate basis for a cumulative effects analysis of a project that would change the development status of nearly 8,000 acres of habitat used by up to 49 special-status species of terrestrial vertebrates.

Other than claiming that a two mile buffer would suffice as a basis for a cumulative effects analysis, the second and only other paragraph of the analysis in fact did not address cumulative effects. It merely claimed that measures are adequate for mitigating project-specific impacts. The EIR did not present an analysis of cumulative impacts to biological resources.

To perform an adequate cumulative impact assessment for each species, the thresholds of significance need to be established, along with margins of safety around these significance thresholds (MacDonald 2000). In the scoping phase of cumulative effects analysis, the EIR needs to identify the temporal and spatial scales of the assessment, i.e., a much larger scale than a two mile buffer. The temporal scale should be set by the recovery time of the species or other environmental resources at issue (e.g., resources upon which the special-status species depend). According to Smallwood et al. (1999), the cumulative effects analysis should extend over the amortized life of the project or the permit duration, and should consider how long the types of project impacts generally last. They argued that the effects of housing developments are permanent, so the cumulative effects analysis should extend to the time when all land in the region has been converted to houses. The spatial scale should be set by the ecological process that is most critical to the species or resource at issue. For setting the spatial scale, the countable ecosystem approach (Cousins 1990) might be most appropriate, thus requiring estimates of the adult male home range size of the largest carnivore in the project area. However, the size of the area normally occupied by a species' population might be more appropriate as the basis for setting the spatial scale of the analysis (Smallwood 2001). The most common method for establishing the minimum spatial scale for cumulative effects assessment is to identify and delineate the watershed as the area within which to consider cumulative impacts (Bedford and Preston 1988, Reid 1998a,b). The City of Elk Grove Sphere of Influence Amendment EIR performed none of these steps.

MITIGATION

Mitigation Measure BIO-1 defers the formulation of mitigation measure LU-3 -- participation with the South Sacramento Habitat Conservation Plan (SSHCP) -- to an unspecified, later date.

The SSHCP has not been certified, so the environmental review for that plan is unfinished and its final mitigation measures unknown. Should the Elk Grove Sphere of Influence project participate with the SSHCP, then I will be unable to provide meaningful comments or to participate with the formulation of what appears to be the EIR's central mitigation measure.

Mitigation Measure BIO-1a (A) defers the performance of reconnaissance-level surveys to an unstated, later date. Reconnaissance surveys needed to have been performed prior to this EIR, because it is this EIR which needs to inform decision-makers and the public of potential regional impacts to special-status species. Waiting for some unstated later date will preclude me and the decision-makers from adequately understanding regional impacts.

According to Mitigation Measure BIO-1a (B), avoidance of all special-status species or their habitats shall be attempted during project design. This measure might look nice to someone unfamiliar with how wildlife use the project area, but special-status species are so pervasive on the project area that avoidance will be impossible. Swainson's hawks use the entirety of the project area, as do white-tailed kites and golden eagles. Many bird species protected by the Migratory Bird Treaty Act use the entirety of the site. Burrowing owls use portions of the site during any given year, and their centers of activity will shift from year to year. Giant garter snakes likely use the western area, and sandhill cranes likely use the western and middle areas. There is simply no avoiding special-status species and their habitats in the project area.

Mitigation Measure BIO-1a (C) promises to develop a Habitat Conservation Management Plan (HCMP) at some unspecified, later date. The EIR effectively defers the formulation of this measure to some unspecified, later date, thereby denying me and the public from participating meaningfully with the environmental review of this project.

Mitigation Measure BIO-1a (D) provides some examples of what the HCMP might include, but the details in these examples are insufficient. Any of these measures might be dropped or changed substantially between this EIR and project-specific EIRs.

Mitigation Measure BIO-1b promises pre-construction surveys for Swainson's hawks and other raptors prior to construction of specific projects. However, surveys performed by qualified biologists are needed prior to the certification of this EIR, not afterwards. Decision-makers and the public need to be aware of where Swainson's hawks and other raptors nest, forage, and find cover within the entirety of the project area. These surveys are not difficult to perform, as has been amply demonstrated in Yolo County (Estep 2008) and elsewhere.

According to Mitigation Measure BIO-1b, if no Swainson's hawks are found during pre-construction surveys, no further mitigation will be needed. This measure is obviously directed at nesting habitat, but in reality the entirety of the study area is used by foraging Swainson's hawks, including by Swainson's hawks that are nesting during the nesting season.

Mitigation Measure BIO-1b concludes that impacts would be less than significant after mitigation. Given the impacts analysis performed in this EIR, this conclusion lacks foundation. The impacts analysis was too cursory to be of any use, and it was based on a flawed methodology used to describe the environmental setting.

The impacts analysis for Mitigation Measure BIO-2 (page 3.4-39) incorrectly associates giant garter snakes with riparian habitat. Giant garter snakes utilize riverine and fresh water marsh, and not riparian areas. The EIR appears to lump riverine and riparian cover types, which can mislead the public and decision-makers about which species are likely to occur on the project site.

Mitigation Measure BIO-2 promises that "wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to..." the regulatory agencies. This measure defers the formulation of the mitigation measure(s) to an unspecified, later date, effectively preventing me and the public from participating meaningfully with the formulation of the measure directed towards the project's impacts on wetland areas.

Furthermore, the measure gives the public the false notion that wetlands can be replaced. It gives the impression that the quality and value of wetlands can be measured in terms of acreage. However, every wetland is uniquely composed of constituent biology, soils, water, and location, and the complexity of each is beyond the capabilities of environmental consultants to replace them. That wetlands can be replaced is an unscientific, ridiculous notion.

Wetlands can be restored or enhanced, so long as the restoration and enhancement actions are directed toward specific success criteria. Again, wetlands are so complex that "restoration" and "enhancement" are meaningless terms without specifying success criteria. Often, achieving specific success criteria may benefit some species to the detriment of others.

Habitat restoration could adversely affect plants and wildlife. The Wildlife Society (Hammer et al. 1994) accepted wetland creation as a form of mitigation only if the following conditions apply: (1) Creation of similar types of wetland in the region has been successful and documented; (2) The project proponent funds research on other similar wetlands in the region in order to learn how to most effectively create wetlands; (3) Only competent biologists are used; (4) The project proponent funds long-term monitoring to ensure that the created wetland is functioning properly and is self-perpetuating; and (5) The project proponent provides an irrevocable trust for long-term funding of management of the wetland. The EIR offered no evidence that creation of similar types of wetlands or upland habitats have been successful in the region. Neither did the EIR commit to any of the other four conditions expected by The Wildlife Society.

Habitat restoration as a mitigation measure is the type of measure that requires rigorous standards, given its poor track record. CNPS (1998) and CDFG (1997) insist that the mitigation design, implementation measures, and reporting methods be clearly documented, along with who or which agencies will be responsible for achieving clearly defined success criteria. Assurances must be provided in writing that certain performance criteria of the mitigation plan will be realized, and guaranteed by a negotiable performance security large enough to complete the mitigation and to pursue alternative mitigation measures should the implementation be incomplete or the objectives fail to be achieved. Not only did the EIR fail to address any of these specific standards, but it did not even identify where restoration would be attempted.

Mitigation Measure BIO-3 concludes that impacts to wetlands would be less than significant after mitigation. The mitigation consists of City of Elk Grove General Plan Policy CAQ-21, which requires 50-foot stream buffer zones. However, much of the wetlands affected by the project would be pond and marsh environments, not just streams. For example, I observed what appeared to be vernal pools and wetland swales at Sunset SkyRanch Airport – these were not streams (Photos 3 and 4).

Furthermore, Policy CAQ-21 assumes that the only upland area needed to maintain the integrity of biological resources within a stream environment is 50 feet to either side of the stream. This assumption is incorrect, as many species that use stream environments also require much more expansive areas of upland environments for finding refuge, food resources, and nesting opportunities.

Mitigation Measure BIO-4 concludes that impacts to wildlife movement corridors would be less than significant after mitigation. It claims that there are no formerly identified fish or wildlife movement corridors in the project area, but that if there are any, then impacts to them would be mitigated by a 50 foot stream buffer required under City of Elk Grove's General Plan Policy CAQ-21, and by the City's encouragement to cluster development under its General Plan Policy CAQ-7. The EIR failed to demonstrate, however, that General Plan Policy CAQ-7 resulted in the preservation of any fish or wildlife movement corridors in the current Sphere of Influence. In fact, examining Google Earth imagery dated 13 June 2011, I was unable to identify a single reach of undeveloped land extending north-south, east-west, or in any other direction through Elk Grove. One stream channel extends through Elk Grove, but development has extended to the stream's banks along much of the stream's reach. Before claiming that Policies CAQ-7 and CAQ-21 will minimize impacts to wildlife and fish movement corridors to less than significant impacts within the City of Elk Grove's proposed amended Sphere of Influence, LAFCo should demonstrate where and to what extent these policies were effective within the current Sphere of Influence.

Mitigation Measure BIO-6 concludes that impacts to existing Habitat Conservation Plans would be less than significant after mitigation. LAFCo claims that any conflicts with the South Sacramento Habitat Conservation Plan (SSHCP) will be remedied through CEQA review of specific projects falling within the expanded City of Elk Grove Sphere of Influence. However, it is unknown when or if the SSHCP will be certified. As a case example, development of the Yolo County HCP was begun in 1990, but it still remains uncertified. Until the SSHCP is certified, it will remain unknown whether conflicts will exist or whether the conflicts can be mitigated.

LITERATURE CITED

Anderson, R. L., J. L. Dinsdale, and R. Schlorff. 2007. California Swainson's hawk inventory 2005-2006. Unpublished report to Wildlife Health Center, California Fish and Game Resource Assessment Program, Sacramento, California.

Askins, R. A., M. J. Philbrick, and D. S. Sugeno. 1987. Relationship Between the Regional Abundance of Forest and the Composition of Forest Bird Communities. *Biological Conservation* 39:129-152.

Bedford, B. L. and E. M. Preston. 1988. Developing the scientific basis for assessing cumulative effects of wetland loss and degradation on landscape functions: status, perspectives, and prospects. Environmental Management 12:751-771.

Beier, P., and S. Loe. 1992. A Checklist for Evaluating Impacts to Wildlife Movement Corridors. *Wildlife Society Bulletin* 20:434-440.

CDFG (California Department of Fish and Game). 1997. Guidelines for assessing the effects of proposed developments on rare, threatened, and endangered plants and plant communities. California Department of Fish and Game, Sacramento.

CDFG (California Department of Fish and Game). 2011. Special Animals (898 Taxa). Biogeographic Data Branch, Natural Diversity Data Base, Sacramento, California.

CNPS (California Native Plant Society). 1998. Mitigation guidelines regarding impacts to rare, threatened, and endangered plants. California Native Plant Society. http://www.cnps.org/archives/mitigation2.htm

Cousins, S.H. 1990. Countable Ecosystems Deriving from a New Food Web Entity. Oikos 57:270-275.

England, A. S., J. A. Estep, and W. R. Holt. 1995. Nest-site selection and reproductive performance of urban-nesting Swainson's Hawks in the Central Valley of California. Journal of Raptor Research 29:179-186.

Erichsen, A.L., K.S. Smallwood, A.M. Commandatore, D.M. Fry, and B. Wilson. 1996. White-tailed Kite movement and nesting patterns in an agricultural landscape. Pages 166-176 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Estep. J. 2008. The Distribution, Abundance, and Habitat Associations of the Swainson's Hawk (*Buteo swainsoni*) in Yolo County, California. Unpublished report to Technology Associates International Corporation and the Yolo Natural Heritage Program, Woodland, CA.

Estep, J. 2009. The Distribution, Abundance, and Habitat Associations of the Swainson's Hawk (*Buteo swainsoni*) in the City of Elk Grove, California. Unpublished report to City of Elk Grove, California.

Hall, L. S., P. R. Krausman, and M. L. Morrison. 1997. The habitat concept and a plea for standard terminology. Wildlife Society Bulletin 25:173-182.

Hanski, I. A., and M. E. Gilpin. 1997. *Metapopulation Biology: Ecology, Genetics, and Evolution*. Academic Press, San Diego, CA.

Laurence, W. F. and E. Yensen. 1990. Predicting the Impacts of Edge Effects in Fragmented Habitats. *Biological Conservation* 55:77-92.

MacDonald, L. H. 2000. Evaluating and managing cumulative effects: Process and constraints. Environmental Management 26:299-316.

McCollin, D. 1993. Avian Distribution Patterns in a Fragmented Wooded Landscape (North Humberside, U.K.): the Role of Between-patch and Within-patch Structure. *Global Ecology and Biogeography Letters* 3:48-62.

Moyle, P. B., H. C. Li, and B. Barton. 1986. The Frankenstein Effect: Impact of Introduced Fishes on Native Fishes in North America. In *Fish Culture in Fisheries Management*, ed. R. H. Stroud, pp. 415-26. Maryland: American Fisheries Society, Bethesda, Maryland.

National Research Council. 1986. *Ecological Knowledge and Environmental Problem-solving: Concepts and Case Studies*. National Academy Press, Washington, D.C.

Shrader-Frechette, K. S., and E. D. McCoy. 1992. Statistics, costs and rationality in ecological inference. Tree 7: 96-99.

Reid, L. M. 1998a. Chapter 19. Cumulative watershed effects and watershed analysis. Pages 476-501, in: Naiman, Robert J., and Robert E. Bilby, eds. River Ecology and Management: Lessons from the Pacific Coastal Ecoregion. Springer-Verlag, N.Y.

Reid, L. M. 1998b. Cumulative watershed effects: Caspar Creek and beyond. In: Ziemer, Robert R., technical coordinator. Proceedings of the conference on coastal watersheds: the Caspar Creek story, 1998 May 6; Ukiah, California. General Tech. Rep. PSW GTR-168. Albany, California: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 117-127.

Sacramento LAFCo (Local Agency Formation Commission). 2011. Draft Environmental Impact Report: City of Elk Grove Proposed Sphere of Influence Amendment (LAFC # 09-10). State Clearinghouse No. 2010092076. City of Elk Grove, Sacramento County, California.

Saunders, D.A., R.J. Hobbs, and C. Margules. 1991. Biological Consequences of Ecosystem Fragmentation: a Review. *Conservation Biology* 5:18-32.

Shuford, W. D., and T. Gardali, [eds.]. 2008. California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California.

Smallwood, K.S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. J. Raptor Research 29:172-178.

Smallwood, K. S. 2001. Linking habitat restoration to meaningful units of animal demography. Restoration Ecology 9:253-261.

Smallwood, K.S. 2002. Habitat models based on numerical comparisons. Pages 83-95 *in* Predicting species occurrences: Issues of scale and accuracy, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufler, and B. Wall, editors. Island Press, Covello, California.

Smallwood, K.S. and S. Geng. 1993. Alfalfa as wildlife habitat. California Alfalfa Symposium 23:105-8.

Smallwood, K. S. and B. Nakamoto. 2009. Impacts of West Nile Virus Epizootic on Yellow-Billed Magpie, American Crow, and other Birds in the Sacramento Valley, California. The Condor 111:247-254.

Smallwood, K.S., B.J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

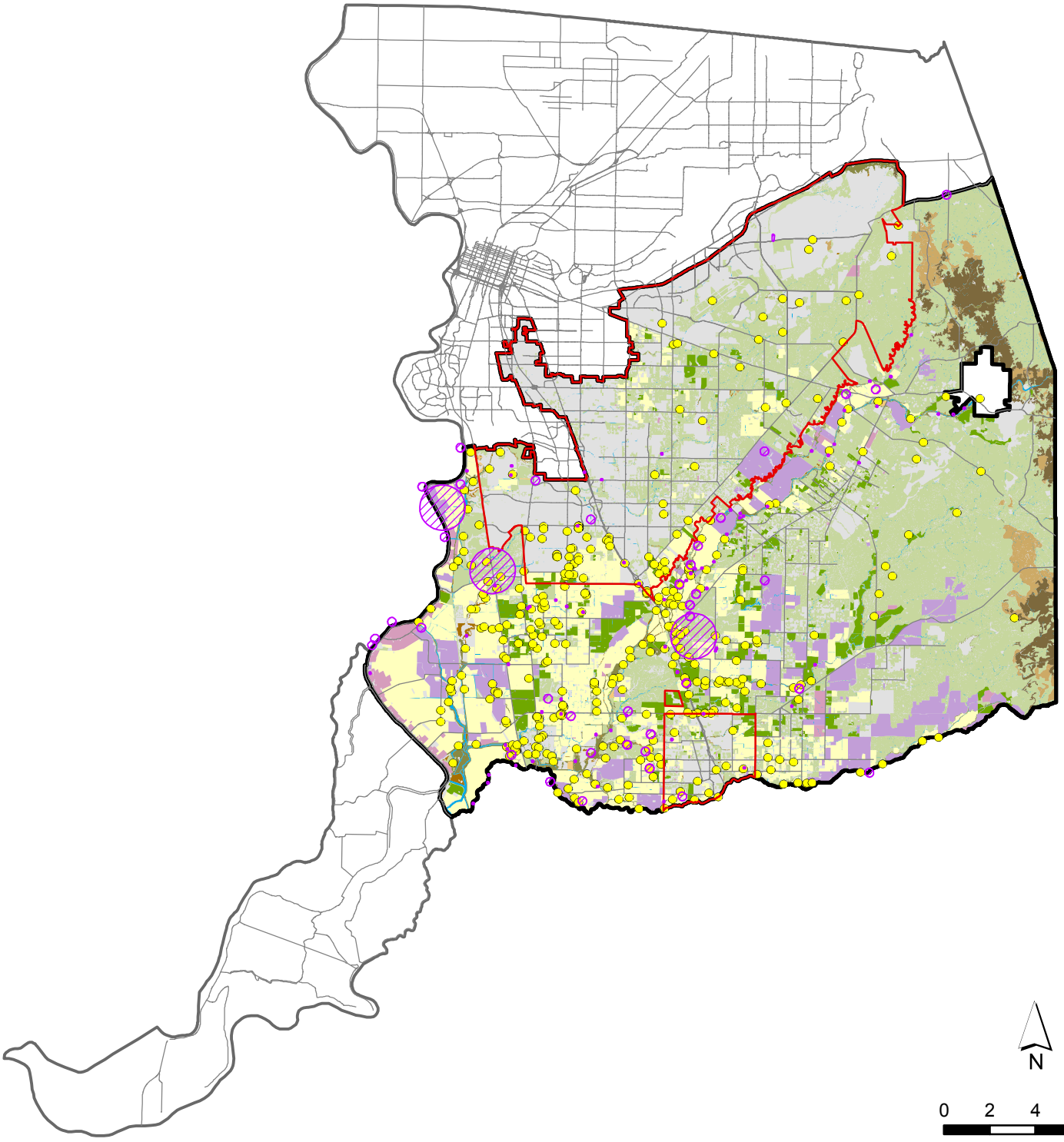
Smallwood, K.S., J. Beyea and M. Morrison. 1999. Using the best scientific data for endangered species conservation. Environmental Management 24:421-435.

Smallwood, K.S., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2001. Suggested standards for science applied to conservation issues. Transactions of the Western Section of the Wildlife Society 36:40-49.

Smallwood, K. S., C. G. Thelander, M. L. Morrison, and L. M. Rugge. 2007. Burrowing owl mortality in the Altamont Pass Wind Resource Area. Journal of Wildlife Management 71:1513-1524.

Wilcox, B. A., and D. D. Murphy. 1985. Conservation strategy: the effects of fragmentation on extinction. American Naturalist 125:879-887.

T:_GIS\SACRAMENTO\MXDS\HCP\SPECIES_MAPS\DOCUMENT_MAPS\SWAINSONS_COUNTY.MXD - 7/27/2010 @ 4:21:16 PM



N

0 2 4 8

Miles

Range of Swainson's Hawk in the SSHCP Plan Area

- Consolidated Species Occurrences*
- Swainson's Hawk (CNDDB)
- Urban Development Area
- Plan Area
- Cropland
- Irrigated Pasture-Grassland
- Orchards
- Streams/Creeks
- Valley Grassland
- Vineyards
- Blue Oak Savanna
- Blue Oak Woodland
- Mixed Riparian Scrub
- Mixed Riparian Woodland
- Valley Oak Riparian Woodland
- Woodland Restoration

*Note: Land Cover Types shown represent suitable habitat for Swainson's Hawk based on the Species – Habitat Use Matrix. "Consolidated Occurrence Data" includes data from numerous sources including data from studies conducted specifically for the SSHCP, project-level studies, professional expertise, and unconfirmed sightings. This species may occur throughout the Plan Area where suitable habitat is present

Sources:
California Department of Fish and Game California Natural Diversity Database March, 2010
ESTEP Environmental Consulting 2006 Rancho Cordova Survey; ESTEP Environmental Consulting 2007 Elk Grove Survey; 2003-135 Gill Ranch Survey; Ebird.org 2006-2009 (various sightings)

SOUTH SACRAMENTO HABITAT CONSERVATION PLAN

Figure SWHA-1