

COUNTY OF MONTEREY
USDA APHIS-WS IWDM PROGRAM
AND AGREEMENT RENEWAL
DRAFT ENVIRONMENTAL IMPACT REPORT

State Clearinghouse No. 2017031003

Prepared for:

COUNTY OF MONTEREY
OFFICE OF THE AGRICULTURAL COMMISSIONER
SALINAS, CA 93901

Prepared by:

Michael Baker
INTERNATIONAL

60 GARDEN COURT, SUITE 230
MONTEREY, CA 93940

AUGUST 2017

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LIST OF ABBREVIATIONS

APHIS-WS	Animal and Plant Health Inspection Service - Wildlife Services
ATV	all-terrain vehicles
BLM	US Bureau of Land Management
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game (name changed to Wildlife/CDFW in 2013)
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CSA	Cooperative Services Agreement
EIR	environmental impact report
FESA	federal Endangered Species Act
FGC	Fish and Game Code
IWDM	Integrated Wildlife Damage Management
MBTA	Migratory Bird Treaty Act
MIS	Management Information System
MLF	Mountain Lion Foundation
MOU	Memorandum of Understanding
NAHC	Native American Heritage Commission
NASS	National Agricultural Statistics Service
NOA	Notice of Availability
NOC	Notice of Completion
NOP	Notice of Preparation
OIG	US Office of the Inspector General
OPR	Governor's Office of Planning and Research
SCH	State Clearinghouse
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
WS	Wildlife Services

ABBREVIATIONS

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ES EXECUTIVE SUMMARY

The project evaluated in this Draft Environmental Impact Report (EIR) is the renewal of Monterey County's five-year cooperative services agreement (CSA) including annual work plans (work and financial plans) required by the five-year CSA with the US Department of Agriculture (USDA) Animal and Plant Health Inspection Services – Wildlife Services (APHIS-WS) for wildlife damage management assistance in the county.

Monterey County is located on California's central coast and is bounded by the Pacific Ocean to the west, Santa Cruz County to the north, San Benito, Fresno, and Kings Counties to the east, and San Luis Obispo County to the south. The county encompasses just over 2 million acres (nearly 3,330 square miles), of which approximately 73 percent of land is privately owned. Federal and state lands comprise approximately 785 square miles. There are currently no tribal lands in the county. The county is predominantly rural/agricultural in nature. Agriculture is the largest land use, and crop farming and livestock grazing is the largest industry. In 2016, the agricultural industry had a gross production value of almost \$4.3 billion. There are nearly 1.3 million acres of agricultural lands in the county, representing approximately 61 percent of the total land area. Rangeland comprises over 1 million acres.

This executive summary provides background information, a brief description of the project and its alternatives, a summary of environmental impacts, and areas of controversy and issues to be resolved. The remainder of the document and technical appendices provide the discussion and support for the conclusions summarized herein.

ES.1 PURPOSE AND SCOPE OF THE DRAFT ENVIRONMENTAL IMPACT REPORT

This Draft EIR evaluates the potential effects of the CSA's renewal on the physical environment and assesses whether renewing the CSA would result in any significant environmental impacts. For a complete description of the CSA and related actions, see Chapter 3.0, Project Description.

ES.2 BACKGROUND

APHIS-WS has an existing Integrated Wildlife Damage Management (IWDM) program that it implements throughout California and the rest of the United States. The IWDM program is intended to protect residents, property, livestock, crops, and natural resources from damage caused by predators and other nuisance wildlife. APHIS-WS implements the IWDM program to selectively remove individual animals that are nonnative or cause damage to property, infrastructure, agricultural or livestock commodities, and public health and safety. Controlling target animals on a case-by-case basis helps mitigate damage to the above-mentioned commodities and factors. Section 2.0, Project Background, presents additional information about the regulatory framework for the program.

The Monterey County Agricultural Commissioner's Office and APHIS-WS have cooperatively conducted wildlife damage management activities in some capacity in the county since as early as 1923. In that time, Monterey County has alternated between participating in a cooperative agreement with APHIS-WS and independently operating its own wildlife damage management program. Since the 1990s, however, APHIS-WS has been providing services to the County under a cost-share agreement.

In April 2016, Monterey County approved the annual work and financial plan for fiscal year 2016-17 under the current CSA (the fourth year of the existing CSA, approved by the Board of Supervisors in June 2013). The County determined that approval of the annual work and financial plan was a ministerial act, as defined under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21080[b][1]) and the CEQA Guidelines (Section 15268), which provide that ministerial acts are exempt from CEQA. The County filed a Notice of

Exemption with the Monterey County Clerk. In June 2016, the Animal Legal Defense Fund, Animal Welfare Institute, Natural Resources Defense Council, Project Coyote/Earth Island Institute, Center for Biological Diversity, Mountain Lion Foundation, and Marlene Attell (a county resident) collectively filed a legal challenge in the Superior Court of California, County of Monterey (Court) to the County's use of the exemption, approval of the fiscal year 2016-17 work and financial plan, and the County's public noticing process associated with that approval.

The County completed preparation of an Initial Study in February 2017 to assess the potential environmental effects of continuing the program. Although the study found no significant environmental effects under CEQA review standards, the County is conducting environmental review that is, in the County's independent opinion, above and beyond what is required by CEQA. The result of this process is a voluntary, non-CEQA-mandated informational EIR.

ES.3 PROGRAM AND AGREEMENT RENEWAL

The current five-year CSA between the County and APHIS-WS expires on June 30, 2018. The proposed project is the renewal of the CSA, including annual work plans (work and financial plan) required by the five-year CSA, for another five years. The renewed contract would fund continuation of the existing APHIS-WS IWDM program in the county. Activities performed under the IWDM program would be implemented by APHIS-WS field specialists in accordance with the regulations, standards, and guidelines of the IWDM program, which are described in Section 2.0, Project Background. Identical to the current CSA, the County would not be materially involved in any of the wildlife damage management activities other than to cost-share the financial portion of the program. Neither APHIS-WS nor Monterey County are proposing any changes to the APHIS-WS IWDM program in Monterey County in conjunction with the County's renewal of the CSA.

The IWDM program (as operated by APHIS-WS and approved by signature of the agreement and work plan) would include the following:

- Assignment of up to four APHIS-WS wildlife specialists trained in wildlife control methods, state and federal regulations, and certified in the safe handling and use of firearms and other control equipment.
- Up to 4,176 work hours distributed as needed among direct control activities, technical assistance, APHIS-WS required training and administrative tasks, and leave.
- APHIS-WS procurement and maintenance of vehicles, tools, supplies, and other specialized equipment as deemed necessary to accomplish direct control activities.
- APHIS-WS supervision of safe and professional use of approved wildlife damage management tools/equipment, including the use of firearms, deterrent methods/devices (including pyrotechnics), traps, snares, trained dogs, all-terrain vehicles, Environmental Protection Agency and Drug Enforcement Administration approved chemicals (including immobilizing and euthanasia drugs), night vision equipment, and electronic calling devices.
- Data reporting for inclusion in the APHIS-WS Management Information System, which would consist of the number and types of request for assistance, control methods, types of species, whether species causing damage or loss were removed or released, estimated value of loss, and other information used to document and monitor program activities.

Under the renewed contract, APHIS-WS would continue to perform the following activities in Monterey County:

- Offer technical advice/assistance to resource owners on prevention and/or control techniques.
- Inform and educate the interested public on how to prevent and reduce wildlife damage on their own, including APHIS-WS staff-prepared pamphlets and documentation.
- Provide expertise from wildlife specialists trained in wildlife control methods, state and federal regulations, and certified in the safe handling and use of firearms and other control equipment.
- Investigate wildlife damage situations to determine the responsible species and evaluate the site for applicability of prevention and control methods.
- Develop and implement wildlife damage management actions for the protection of agricultural resources, public health and safety, and property.
- Develop and implement wildlife damage management methods and actions targeting invasive species (e.g., wild pigs) that may damage or threaten property, livestock, crops, and/or public safety.
- Respond to incidents where wildlife species are threatening public health and safety (in coordination with CDFW and local law enforcement) including the use of out-of-county resources and expertise.
- Collect samples for wildlife diseases that may affect agriculture and public safety.
- Provide access to APHIS-WS support staff, including at the National Wildlife Research Center, which conducts research on and develops wildlife damage management methods.

Technical assistance would be provided only at the request of affected resource owners or managers. The majority of services would likely be provided for the protection of livestock and field crops on agricultural lands because that has historically resulted in the most requests for technical assistance. However, technical assistance would also be available for protection of public health and safety (human-animal conflicts) and property. APHIS-WS would not perform any activities funded by the County for the protection of natural resources, such as threatened and endangered species.

All of the direct control methods that could be used by APHIS-WS under its cooperative agreement with the County would be implemented primarily on private land, with a limited amount of work in County-operated parks. Before wildlife damage management is conducted on private land in response to a request for assistance from a property or resource owner, an Agreement for Control must be signed by APHIS-WS and the landowner or representative.

ES.4 ENVIRONMENTAL REVIEW PROCESS

The County published the Notice of Preparation (NOP) for the Draft EIR on March 2, 2017, for a 30-day comment period ending March 31, 2017. A public scoping meeting was held on March 16, 2017, at the Monterey County Office of the Agricultural Commissioner in Salinas, California. The NOP and comments received on the NOP during the public review period are included in Appendix A of this Draft EIR.

The primary issue of concern raised by the public and agricultural resource organizations during the NOP process is that if the contract is not renewed, the wildlife damage management services provided by APHIS-WS would no longer be available, which could result in agricultural resource and property loss that might not have otherwise occurred. Public and agricultural organization comments generally focused on project merits and did not raise any substantive issues pertaining to the analysis of environmental impacts, but they did request information regarding costs and benefits. Several issues were raised by the Center for Biological Diversity that are germane to the analysis, including the project objectives, how the baseline is determined for evaluating impacts, impacts of lethal controls on wildlife species' populations and biodiversity, and alternatives to lethal control.

The Draft EIR will be circulated for public and agency review and comment for 45 days. The review period is August 17, 2017 through October 3, 2017. Public comment on the Draft EIR will be accepted in written form and may be sent via regular mail, email, or fax and should be addressed to:

Robert Roach, Assistant Agricultural Commissioner
Monterey County Office of the Agricultural Commissioner
1428 Abbott Street
Salinas, CA 93901
roachb@co.monterey.ca.us
phone: (831) 759-7325
fax: (831) 759-2268

ES.5 PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6 sets forth the requirements for consideration and discussion of alternatives to a proposed project. The analyses of project impacts and cumulative impacts in Section 4.1, Biological Resources, provide substantial evidence that the renewal of the agreement with APHIS-WS would not result in significant impacts on federal or state special-status species or species of special concern in California, interfere substantially with wildlife movement or established wildlife corridors, substantially reduce animal populations to levels that would not be sustainable compared to baseline conditions, or result in a contribution to cumulative impacts that would be cumulatively considerable. There would be no impacts on wetlands or conflicts with the General Plan or applicable resource plans. As such, other than the CEQA-required no project alternative (CEQA Guidelines Section 15126.6[e]), analysis of a reasonable range of alternatives that would reduce or avoid significant impacts, as required under CEQA Guidelines Section 15126.6(a), is limited for this project.

Nonetheless, to be responsive to comments received on the NOP and to aid the decision-making process, the Draft EIR includes four alternatives to the proposed project, in addition to the CEQA-required "no project" alternative. The analysis is presented in Section 5.0, Project Alternatives. The five alternatives evaluated in the Draft EIR are:

- Alternative 1: No Project/No Action (Monterey County does not approve the renewal and no wildlife damage management is performed by APHIS-WS or the County)
- Alternative 2: Monterey County Provides Wildlife Damage Management Services
- Alternative 3: Monterey County Provides Technical Assistance but No Lethal Control Methods Used

Alternative 4: Monterey County Cost-Share and Loss Indemnity Program for Nonlethal Control Methods for Agricultural Resources Protection Only

Alternative 5: Agricultural Resource and Property Loss Indemnity Program

The alternatives analysis also addresses the ability of each alternative to achieve project objectives and the feasibility of the alternative.

ES.6 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

The issues to be resolved by the County are: whether to renew the CSA with APHIS-WS, and if there are alternative approaches to making wildlife damage assistance available to county residents and resource owners. As noted above, there are no significant biological resources impacts, so the choice among alternatives is primarily a function of each alternative's ability to attain most of the basic objectives and each alternative's feasibility.

A key issue of concern to the public and various organizations, which is reflected in NOP comments and is also of interest statewide and nationally, is whether lethal controls should be used for wildlife damage management and/or whether APHIS-WS should have contracts with counties to provide services. These are controversial topics subject to much debate and varying opinions, and in some cases litigation, but they do not require resolution in the Draft EIR. The Draft EIR does, however, and in accordance with CEQA, evaluate what the potential environmental impacts might be on wildlife species that are removed by lethal means.

ES.7 SUMMARY OF ENVIRONMENTAL IMPACTS

Table ES-1 lists project and cumulative impacts. All impacts would be less than significant, and no mitigation measures are required.

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TABLE ES-1: SUMMARY OF ENVIRONMENTAL IMPACTS

Impact	Level of Significance Without Mitigation	Mitigation Measure
4.1.1 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management could affect wildlife populations through the use of lethal methods to remove animals.	Less than significant	None required.
4.1.2 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would have little or no adverse effect on protected species and/or sensitive habitat supporting those species.	Less than significant	None required.
4.1.3 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would have no adverse effect on federally protected wetlands or waters of the state.	No impact	None required.
4.1.4 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would have minimal effect on wildlife corridors.	Less than significant	None required.
4.1.5 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would not conflict with Monterey County General Plan policies for protection of biological resources.	No impact	None required.
4.1.6 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would not conflict with any habitat conservation plan or natural community conservation plan.	No impact	None required.
4.1.7 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management, in combination with cumulative projects and actions, would not directly or indirectly result in adverse impacts on protected or common wildlife species or habitat supporting those species.	Less than cumulatively considerable	None required.

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1.0 INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. As described in CEQA Guidelines Section 15121(a), an environmental impact report is a public informational document that assesses the potential environmental impacts of a project. The County of Monterey (County) is the lead agency for the proposed project, which is summarized below and presented in greater detail in Section 3.0, Project Description.

1.1 PROJECT OVERVIEW AND CEQA PROCEDURAL BACKGROUND

The US Department of Agriculture (USDA) Animal and Plant Health Inspection Service - Wildlife Services (APHIS-WS) has an existing Integrated Wildlife Damage Management (IWDM) program that it implements throughout California and the rest of the United States. The IWDM program is intended to protect residents, property, livestock, crops, and natural resources from damage caused by predators and other nuisance wildlife. APHIS-WS implements the IWDM program to selectively remove individual animals that are nonnative or cause damage to property, infrastructure, agricultural or livestock commodities, and public health and safety. Controlling target animals on a case-by-case basis helps mitigate damage to the above-mentioned commodities and factors. Section 2.0, Project Background, presents additional information about the regulatory framework for the program.

The Monterey County Agricultural Commissioner's Office and APHIS-WS have cooperatively conducted wildlife damage management activities in some capacity in the county since as early as 1923. In that time, Monterey County has alternated between participating in a cooperative agreement with APHIS-WS and independently operating its own wildlife damage management program. Since the 1990s, however, APHIS-WS has been continuously providing services to the County under a cost-share agreement.

The current five-year Cooperative Services Agreement (CSA) between the County and APHIS-WS expires June 30, 2018. The proposed project is the renewal of the CSA, including annual work plans (work and financial plan) for another five years. The renewed CSA would provide for continuation of the existing APHIS-WS IWDM program in the county. Activities performed under the IWDM program would be implemented by APHIS-WS field specialists in accordance with the regulations, standards, and guidelines of the IWDM program, which are described in Section 2.0, Project Background. Identical to the current CSA, the County would not be involved in any of the wildlife damage management activities. Neither APHIS-WS nor Monterey County is proposing any changes to the APHIS-WS IWDM program in Monterey County in conjunction with the County's renewal of the CSA.

A description of the activities that would continue to be implemented by APHIS-WS personnel in Monterey County is included in Section 3.0, Project Description. Section 4.0, Introduction to the Analysis, provides information and methods used to establish baseline conditions for the analysis in this Draft EIR.

In April 2016, Monterey County approved the annual work and financial plan for fiscal year 2016-17 under the current CSA (the third year of the existing CSA, which was approved by the Board of Supervisors in June 2013). The County determined that approval of the annual work and financial plan was a ministerial act, as defined under CEQA (Public Resources Code Section 21080[b][1]) and the CEQA Guidelines (Section 15268), which provide that ministerial acts are exempt from CEQA. The County filed a Notice of Exemption with the Monterey County Clerk. In June 2016, the Animal Legal Defense Fund, Animal Welfare Institute, Natural Resources Defense Council, Project Coyote/Earth Island Institute, Center for Biological Diversity, Mountain Lion Foundation, and Marlene Attell (a county resident) collectively filed a legal challenge in the

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Superior Court of California, County of Monterey (Court) to the County's use of the exemption, approval of the fiscal year 2016-17 work and financial plan, and the County's public noticing process associated with that approval.

The County completed preparation of an Initial Study in February 2017 to assess the potential environmental effects of continuing the program. Although the study found no significant environmental effects under CEQA review standards, the County is nonetheless interested in conducting environmental review above and beyond what is required by CEQA. The result of this process is a voluntary, non-CEQA-mandated informational EIR.

1.2 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the proposed project involves the following general procedural steps:

NOTICE OF PREPARATION

In accordance with Section 15082 of the CEQA Guidelines, the County prepared a Notice of Preparation (NOP) of an EIR for the project on March 2, 2017, for a 30-day review period ending March 31, 2017. The NOP and Initial Study was provided to the State Clearinghouse, which distributed the NOP and Initial Study to the following state agencies: Caltrans District 5; Department of Conservation, Department of Food and Agriculture; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife Region 4; Native American Heritage Commission [NAHC]; Regional Water Quality Control Board Region 3; and Resources Agency. The County provided notice of availability of the NOP and Initial Study via direct mailing to other interested parties to solicit comments on the proposed project.

As noted above, the NOP/Initial Study was provided to the NAHC. The County also provided the NOP and Initial Study to the Ohlone/Costanoan-Esselen Nation. The NAHC did not provide any comments in response to the NOP identifying a list of tribal representatives that should be consulted. The Ohlone/Costanoan-Esselen Nation responded to the NOP but did not request consultation under Assembly Bill 52.

A scoping meeting was held on March 16, 2017, at the Agricultural Commissioner's Office in Salinas to receive comments. The meeting and notice of availability of the NOP and Initial Study was publicly noticed in the Monterey County Weekly on March 2, 2017. This information was also provided on the Agricultural Commissioner's website. Approximately 15 people attended the scoping meeting.

The NOP and comments by interested parties in writing and at the scoping meeting are presented in **Appendix A**, which also includes a list summarizing the environmental issue-related comments and where they are addressed in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR,

The primary issue of concern raised by the public and agricultural resource organizations during the NOP process is that if the CSA is not renewed the wildlife damage management services provided by APHIS-WS would no longer be available, which could result in agricultural resource and property losses that might not have otherwise occurred. Public and agricultural organization comments generally focused on project merits and did not raise any substantive issues pertaining to the analysis of environmental impacts, but they did request information regarding costs and benefits. There were several issues raised by the Center for Biological Diversity that are germane to the analysis, including the project objectives, how the baseline is determined for

evaluating impacts, impacts of lethal controls on wildlife species' populations and biodiversity, and alternatives to lethal control.

To be responsive to those comments and in the interest of disclosing pertinent information to the public and decision makers, the County has compiled data about livestock value and losses in the county, costs of wildlife damage in the county, and costs to implement the program, along with other relevant data. This information is presented in Section 2.0, Project Background.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project objectives, description of the environmental setting, and identification of impacts for the proposed project, as well as an analysis and comparison of the alternatives. Upon completion of the Draft EIR, the County will file a Notice of Completion (NOC) with the Governor's Office of Planning and Research (OPR) State Clearinghouse (SCH) and a Notice of Availability (NOA) with the Monterey County Clerk to begin the public review period (Public Resources Code Section 21161).

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the NOC and NOA, the County will provide public notice of the availability of the Draft EIR for public review and invite comment from the general public, agencies, organizations, and other interested parties. The Draft EIR will be circulated for public and agency review and comment for 45 days. The review period is August 17, 2017 through October 3, 2017. Public comment on the Draft EIR will be accepted in written form and may be sent via regular mail, email, or fax and should be addressed to:

Robert Roach, Assistant Agricultural Commissioner
Monterey County Office of the Agricultural Commissioner
1428 Abbott Street
Salinas, CA 93901
roachb@co.monterey.ca.us
phone: (831) 759-7325
fax: (831) 759-2268

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to comments received during the public review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The Monterey County Board of Supervisors will review and consider the Final EIR and may certify the Final EIR if it finds that the EIR is adequate and complete. The rule of adequacy generally holds that the EIR can be certified if it shows a good faith effort at full disclosure of environmental information and provides sufficient analysis to allow decisions to be made regarding the project in contemplation of its environmental consequences. Certification of the EIR does not automatically result in project approval. Upon review and consideration of the Final EIR, the Board of Supervisors may take action to approve, revise, or reject the proposed project.

CEQA Guidelines Section 15091 establishes the conditions under which Findings must be prepared for an EIR as follows: "no public agency shall approve or carry out a project for which

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an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects..." The analysis of environmental impacts provided in this Draft EIR concludes that renewal of the CSA would not result in any significant project impacts or cumulative impacts. As such, Findings would not be required.

1.3 INTENDED USE OF THE EIR

This Draft EIR is intended to evaluate the environmental impacts of the County's approval of the CSA renewal with APHIS-WS for its IWDM program and services in the county, and associated environmental impacts of implementing the IWDM program. The County's decision to renew the CSA with APHIS-WS is an administrative action that would not in and of itself result in any direct physical impacts on the environment. However, upon renewal of the CSA and implementation of the work plan, the services provided by APHIS-WS would have the potential to result in reasonably foreseeable indirect (or secondary) environmental impacts on wildlife species. These impacts of the proposed project are evaluated in this Draft EIR, as required under Public Resources Code Section 21065 et seq. and CEQA Guidelines Section 156064(d)(2). Section 3.0, Project Description, explains the scope of the Draft EIR analysis in greater detail, and Section 4.0, Introduction to the Analysis, describes the process used to determine baseline conditions for the analysis.

During the NOP review process, comments were submitted requesting that the EIR provide a cost-benefit analysis and justification for the continued implementation of the APHIS-WS services for wildlife damage management in the county, both in terms of its cost as well as its operations that, in some cases, result in killing common wildlife mammals. Under CEQA, the purpose of the environmental review is to evaluate whether a project would result in changes in the physical environment, not to debate the merits of a project or to advocate a particular outcome. The Monterey County Board of Supervisors will use this EIR, along with other information it deems necessary, to decide whether or not to approve funding continuation of the existing CSA with APHIS-WS. To inform that decision-making process, this Draft EIR includes five alternatives to the proposed project, which are described and evaluated in Section 5.0, Alternatives.

1.4 ORGANIZATION OF THE DRAFT EIR

This Draft EIR is organized in the following sections:

EXECUTIVE SUMMARY

This section provides a project narrative and identifies environmental impacts and mitigation measures through a summary matrix consistent with CEQA Guidelines Section 15123.

SECTION 1.0 – INTRODUCTION

This section provides an overview that describes the intended use of the EIR, as well as the review and certification process.

SECTION 2.0 – PROJECT BACKGROUND

This section provides a comprehensive description of the regulatory background for the APHIS-WS IWDM program in Monterey County and issues and technical considerations that are germane to the analysis.

SECTION 3.0 – PROJECT DESCRIPTION

This section provides a detailed description of the proposed project and project objectives, along with background information and physical characteristics consistent with CEQA Guidelines Section 15124.

SECTION 4.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES, AND CUMULATIVE IMPACTS

Section 4.0 provides a description of the process to establish baseline conditions for the impact analysis and the scope of the analysis. The technical evaluation of biological resources impacts is presented in Section 4.1.

SECTION 5.0 – PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project that could feasibly attain the basic objectives of the project and avoid and/or substantially lessen any of the significant effects of the project. Five alternatives to the proposed project are evaluated in Section 5.0.

SECTION 6.0 – OTHER CEQA TOPICS

This section contains discussions and analysis of topics mandated by CEQA that are relevant to the project evaluated in this Draft EIR.

SECTION 7.0 – REFERENCES

This section provides bibliographic information for all cited references. The materials listed in Section 7.0 are available for review upon request. To request or review these items during normal business hours, please contact the Monterey County Office of the Agricultural Commissioner, 1428 Abbott Street, Salinas, CA 93901 (telephone 831-759-7325).

SECTION 8.0 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the report by name, title, and company or agency affiliation.

APPENDICES

The appendices include all notices and other procedural documents pertinent to the EIR, as well as all technical material prepared to support the analysis.

1.0 INTRODUCTION

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2.0 PROJECT BACKGROUND

2.1 INTRODUCTION

The proposed project evaluated in this Draft EIR is the renewal of Monterey County's cost-share CSA with the USDA APHIS-WS to continue to perform wildlife damage management services in the county. Under the proposed project, these management services would be provided solely by APHIS-WS personnel and only at the request of the resource owner. Monterey County would not decide whether a resource owner should receive assistance, nor would the County be materially involved in conducting any of the IWDM technical assistance efforts or measures to control wildlife damage other than to cost-share the financial portion of the program. Section 3.0, Project Description, describes the administrative elements of the CSA that would allow APHIS-WS to perform services for resource owners upon request.

This section provides a context for these services and is also intended to disclose relevant information and data to the public and decision makers. It describes what wildlife damage is and the approach to managing it; the regulatory framework that allows APHIS-WS to provide wildlife damage management services in the county; and direct control methods that are or may be used for wildlife damage management (including nonlethal and lethal methods). This section also presents information about resource value and wildlife damage loss data from the USDA as well as the Monterey County Office of the Agricultural Commissioner. Data regarding the types of assistance provided by APHIS-WS is also included.

2.2 BACKGROUND

WILDLIFE DAMAGE

Across the United States, wildlife habitat is altered as human populations expand and land is used for human needs. These human uses and needs often compete with wildlife, which increases the potential for conflicting human-wildlife interactions. Damage-causing wildlife in California includes a range of species that prey on livestock and wildlife, cause damage to property and other resources, and threaten public safety. There are several categories of resources that can be damaged or threatened by wildlife. The following summarizes information about the types of damage and the wildlife associated with that damage. Additional data specific to Monterey County appears at the end of this section under the "Monterey County Information" subheading.

Agriculture

Livestock

Predators, including coyotes, mountain lions, bobcats, and black bears, and smaller wildlife such as skunks and weasels can kill, injure, and harass domestic livestock. In California, predators depredate on cattle, goats, sheep, chickens, and eggs, as well as other livestock. Cattle and calves are most vulnerable to predation (killing, harassment, or injury resulting in monetary losses to the owner) at calving season and less vulnerable at other times of year. However, sheep, and especially lambs, can sustain high predation rates throughout the year. Individual livestock producers can experience serious economic hardship from unexpected losses due to predation.

Infected wildlife can also transmit zoonotic (transmissible from wildlife to humans) disease to livestock. Introduction of disease into the domestic livestock herds can damage the infected herd as well as the livestock industry (Shwiff et al. 2016).

The USDA National Agricultural Statistics Service (NASS) compiles death losses for livestock, and reports those data every five years as a cooperative effort between the NASS and APHIS-WS and

2.0 PROJECT BACKGROUND

APHIS Veterinary Services. NASS reported California farmers and ranchers suffered predation losses of cattle and calves valued at more than \$4.1 million in 2010 (NASS 2011:7), and sheep and lambs valued at approximately \$1.1 million in 2014 (USDA 2015c: Table A.2.b). In California, coyotes were responsible for the majority of cattle, calf, sheep, and lamb losses to predators (NASS 2011:9; USDA 2015c: Table C.8). Loss/damage data specific to Monterey County are presented under the “Monterey County Information” subheading, below

Other Agricultural Resources

Agricultural resources that can be damaged by wildlife include hay, pasture, vegetable and fruit crops, and backyard and hobby animal predation. Examples of species that cause damage are: badger and ground squirrel to hay fields, crops, and pastures; coyote, raccoon, and ground squirrel to vegetable and fruit crops; ground squirrel to pastures, rangeland, and fruit, nut, and row crops; and fox, coyote, or bobcat on small enterprise operations with rabbits, chickens, sheep, goats, or other animals. Birds and other wildlife such as feral swine can damage and consume mass from row crops, orchards, and vineyards.

Public Health and Safety

Wildlife that becomes habituated to human presence can pose a risk to human health and safety through direct contact (e.g., bites/attacks) and disease transmission (e.g., zoonotic disease, food contamination). Zoonotic diseases are one of the leading infectious causes of illness and death to humans. For example, *Escherichia coli* (a human pathogen) in bagged spinach that killed three people and sickened many others in a nationwide outbreak in 2007 was likely related to the presence of feces from wildlife in a spinach field in adjacent San Benito County (Jay et al. 2007). Rabies is frequently carried in raccoons, skunks, bats, foxes, and other animals. Plague can be carried in coyotes and other predators, and ground squirrels and other rodents. Wildlife can also result in odor and noise nuisances (skunks and raccoons under houses). The species most commonly involved in human health and safety conflicts in California are coyotes, mountain lions, black bears, beavers, raccoons, and striped skunks. Coyotes and other mammals on airport property can damage aircraft, affect flights, and threaten human safety if present on runways during takeoffs and landings.

Property

Wildlife living close to humans can damage homes and roofs while attempting to access human dwellings for shelter or food. Beavers may damage or destroy roads, homes, and other infrastructure while altering watercourses and plugging water control features. Wild turkeys may damage lawns and vehicles foraging and displaying during the breeding season. Feral swine can cause substantial damage to row crops and landscaping. Reports of coyote attacks on pets have steadily risen in the past several years in California (Timm et al. 2004). Many cases were reported to veterinarians and animal regulation organizations where APHIS-WS does not have a program in place and receives no record of the calls (Baker and Timm 1998).

Natural Resources

Predation from abundant common predatory species may act as a limiting factor in the recovery of sensitive, threatened, or endangered species (e.g., coyote predation on snowy plovers). The behavior of some species may cause damage to sensitive habitats (e.g., beaver and feral swine damage to restoration or conservation lands). Although the APHIS-WS IWDM program has activities that address natural resources protection, APHIS-WS does not perform activities to protect natural resources in Monterey County with county funds.

WILDLIFE DAMAGE MANAGEMENT

Federal Wildlife Damage Management Program Authority

The primary statutory authorities for the APHIS-WS IWDM program are the Animal Damage Control Act of 1931 (7 United States Code Section 426-426c; 46 Stat 1468) and Rural Development, Agriculture, and Related Agencies Appropriations Act (Public Law 100-202, Dec. 22, 1987, Stat 1329-1331; 7 United States Code 426c, as amended in the Fiscal Year 2001 Agriculture Appropriations Bill). The WS program operates under the provisions of numerous laws, including the National Environmental Policy Act of 1969, as amended, and the federal Endangered Species Act of 1973, as amended.

APHIS-WS receives both federal appropriations funding and cooperator-provided funds to sustain its operations. WS uses federal-appropriated funds for its national and regional office operations, and for its research functions. It funds state office operations through a combination of federal-appropriated and cooperator-provided funds.

Services provided by APHIS-WS personnel are conducted in compliance with its Wildlife Services Policy Manual (WS Policy Manual), which provides guidance to APHIS-WS personnel conducting official activities by addressing national policy and via a series of WS Directives.¹ Services are also conducted in compliance with applicable federal, state, and local laws and regulations (APHIS-WS Directive 2.210 [USDA 2017f]).

Overview of Integrated Wildlife Damage Management Approach

APHIS-WS uses an adaptive IWDM approach, sometimes called integrated pest management (WS Directive 2.105 [USDA 2017f]), in which a combination of methods are considered and may be used or recommended to reduce damage. The purposes of these methods are to alter the behavior of or repel the target species, physically prevent wildlife access to sensitive resources, remove specific damage-causing individuals from the population after other reasonable deterrent methods are attempted, or control invasive exotic species populations in order to eliminate or reduce the potential for loss or damage to resources.

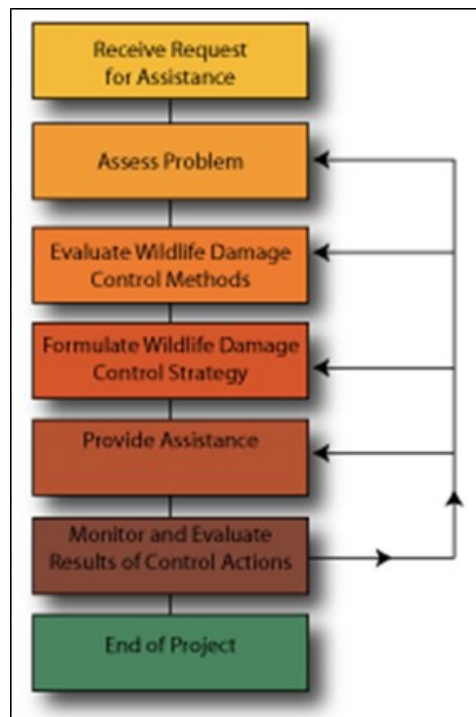
APHIS-WS Decision Model

When selecting a specific course of action, the WS Policy Manual requires that a range of management approaches and alternatives be evaluated. To do this, APHIS-WS managers, biologists, and specialists use the manual when responding to requests for assistance. The Decision Model (see Figure 2.0-1) determines the appropriate damage management method(s) to implement based on several factors: (1) species responsible, (2) magnitude, geographic extent, frequency, historical damage, and duration of the problem, (3) status of target and nontarget species, (4) environmental conditions, (5) potential biological, physical, economic, and social impacts, (6) potential legal restrictions, and (7) costs of damage management options (WS Directives 2.101 and 2.201 [USDA 2017f]).

¹ The entire WS Policy Manual and WS Directives are available at https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_ws_program_directives/ct_ws_directives.

2.0 PROJECT BACKGROUND

FIGURE 2.0-1: APHIS-WS DECISION MODEL



The APHIS-WS field specialists conducting service visits in response to calls treat each situation individually based on the facts at hand. A typical call may involve an investigation to positively identify the species involved and to understand the scope of the problems occurring; development of a plan of action for the property owner to mitigate the problem using reasonable nonlethal means; and if necessary, take (i.e., the removal by lethal means) of an animal. Confirmed losses are verified by APHIS-WS specialists during a site visit. APHIS-WS specialists not only confirm that the loss was caused by predators but also which predator species was responsible.

Before wildlife damage management is conducted, an Agreement for Control must be signed by APHIS-WS and the land owner or manager, or an APHIS-WS work plan is presented to the land management administrator or agency representative for their review. APHIS-WS cooperates with land and wildlife management agencies when appropriate and as requested to combine efforts to effectively and efficiently resolve wildlife damage problems in compliance with all applicable federal, state, and local laws and MOUs between APHIS-WS and other agencies.

IWDM methods may include alteration of cultural practices and habitat and behavioral modification to prevent or reduce damage. The reduction of wildlife damage may also require that offending animal(s) be removed through lethal means. However, killing the offending animal(s) is only one strategy considered by APHIS-WS in developing management approaches. The methods that may be used by APHIS-WS personnel, as provided under its directive and guidance, are described in Appendix B of this Draft EIR.

The APHIS-WS program does not seek to eradicate any species, regardless of legal status, or result in take that would substantially reduce species' populations. It does not "target" certain species for reduction. In California, for example, coyotes are highly abundant and prolific, readily adapt to most environments, and are opportunistic predators. As such, it is the mammal predator

removed by APHIS-WS in greatest number relative to all other mammal predators identified as causing damage. However, this is a function of the number of incidents where a specific individual has been identified as responsible for damage. It is not an attempt to control the coyote population or spatial distribution statewide or at the local level. It is recognized by scientists, ecologists, and conservation biologists that the coyote is an important contributor to species biodiversity and ecosystems. The reader is referred to Section 4.1, Biological Resources, for additional information about the coyote population, take data, and impacts on this species.

Results of 2014 Federal Audit of APHIS-WS Wildlife Damage Management Activities

In 2014, the US Office of the Inspector General (OIG) completed an audit of APHIS-WS wildlife damage management activities for the period fiscal year 2012 through the second quarter of 2014 (USDA 2015b).² In its report, OIG noted that “WS wildlife damage management activities can be controversial among the general public, animal rights organizations, and conservation groups. WS has received considerable media attention due to alleged unsanctioned activities conducted by some of its field employees. OIG has received numerous hotline complaints and letters from the public outlining concerns about WS employees and wildlife management activities. The complaints by animal rights organizations have included the following concerns: (1) WS uses indiscriminate methods to kill animals, which result in the killing of animals that are not the target of WS’ wildlife management activities; (2) animals suffer because WS’ wildlife management activities do not result in immediate death; and (3) WS wildlife management activities are not transparent. The organizations that raised these complaints, as well as some members of Congress, requested that [OIG] perform an audit of WS’ wildlife management activities.”

As described in the audit report, the objectives of the audit were to: 1) determine whether wildlife damage management activities were justified and effective; 2) assess the controls over cooperative agreements; 3) assess WS’s information system for reliability and integrity; and 4) follow up on implementation of prior audit recommendations concerning hazardous materials. California was one of five state offices selected for field site visits as part of the audit, and the San Luis District field office was one of 12 field offices audited. California was selected because it is one of the states with large allocated budgets for fiscal years 2012 and 2013 and it was a state with the most kills of selected predators such as coyotes.

OIG auditors interviewed property owners and state game and wildlife officials, observed specialists in the field, reviewed cooperative service agreements to determine if relevant regulations, policies, and procedures were followed, and reviewed APHIS-WS’s recordkeeping system, Management Information System (MIS), for monitoring wildlife damage management and predator control activities. OIG reviewed state and federal laws as well as state and local requirements to determine whether APHIS-WS was in compliance with those requirements and therefore justified in its actions. OIG also examined APHIS-WS policies and procedures (USDA 2015b).

The OIG concluded that APHIS-WS wildlife damage management activities and its system for tracking controlled materials complied with all applicable federal and state laws and regulations. The audit report did not identify any findings or recommendations associated with those areas. Auditors found that the MIS contained inaccurate information, which resulted in inflated wildlife control numbers and transmission of inaccurate data to the public. Another finding concerned Work Initiation Documents (“Form 12s”). APHIS-WS agreed with the audit’s findings and

² The full report, which describes the audit methodology in detail, is available at <https://www.usda.gov/oig/webdocs/33601-0002-41.pdf>.

2.0 PROJECT BACKGROUND

recommendations and is implementing the recommended improvements to the MIS (USDA 2015b; USDA 2015d).

The MIS data is used extensively by APHIS-WS for evaluating its program, and these data are also used in this Draft EIR. Although some deficiencies were found by the OIG, the data compiled and maintained by APHIS-WS represent the best available information with regard to the type, detail, and amount of data with respect to reporting information about resources affected, value of damages, the types of wildlife management services provided by APHIS-WS, methods for control, and the numbers of intentional and unintentional take of species.

Cooperator Agreements

APHIS-WS Directives 3.101 and 3.102 (USDA 2017f) authorize APHIS-WS to enter into cooperative agreements with federal agencies, states, local jurisdictions, individuals, and public and private agencies, organizations, and institutions to reduce the risks of injurious animal species and/or nuisance mammals and birds and those mammal and bird species that are reservoirs for zoonotic diseases. Monterey County is an example of a cooperator. However, the directives do not require that local jurisdictions such as Monterey County enter into cooperative agreements. The decision whether to enter into a cooperative agreement with APHIS-WS is at the discretion of each entity.

CSA terms, agreements for control, memorandums of understanding (MOU), and other documents establish the need for the requested work, legal authorities allowing the requested work, and the responsibilities of APHIS-WS and its cooperators. If a cooperative agreement is in place, such as currently exists in Monterey County, APHIS-WS responds to requests for assistance when valued resources are lost, damaged, or threatened by wildlife. Responses can be in the form of technical assistance or operational damage management. The degree of APHIS-WS's involvement varies, depending on the complexity of the wildlife problem.

APHIS-WS IWDM PROGRAM ACTIVITIES IN CALIFORNIA

Since 1916, APHIS-WS has operated in partnership with federal, (US Forest Service, US Fish and Wildlife Service (USFWS), Bureau of Land Management [BLM]), state (California Department of Food and Agriculture [CDFA], California Department of Fish and Wildlife [CDFW], California Department of Public Health [CDPH]), and local (County governments and regional authorities) agencies to respond to requests for assistance on wildlife damage-related issues throughout California. APHIS-WS has current MOUs with CDFW, CDFA, and CDPH (USDA 2015a: 11). Currently, APHIS-WS has agreements with 37 of the state's 58 counties to conduct wildlife damage management activities on public or private property when the property/resource owners or managers request assistance.

APHIS-WS operational activities at the state level provide wildlife damage control assistance in four major areas: (1) agricultural resources, which includes protecting livestock from predators and alleviating bird damage at aquaculture facilities; (2) natural resources, which includes protecting threatened and endangered species and managing invasive species; (3) property, which includes protecting homes, landscaping, and industrial facilities from damage by mammals and birds; and (4) public safety and health, which includes reducing the risk of aircraft strikes of wildlife around airport runways as well as reducing and monitoring the spread of wildlife diseases to livestock, pets, or humans.

In California, there are five APHIS-WS districts: North District, Sacramento District, Central District, San Luis District, and South District. Monterey County is in the San Luis District.

Environmental Review of APHIS-WS Activities in California

In order to implement its services in California, and in Monterey County, specifically, APHIS-WS has prepared the following environmental reviews for its activities:

- Environmental Assessment, Decision and FONSI for Predator Damage Management for the Protection of Livestock and Property in the California WS San Luis and South Districts (USDA 1997)
- Pre-decision Environmental Assessment for Predator Damage Management for the Protection of Livestock and Property in the California APHIS-WS South and San Luis Districts (USDA 2003)
- Pre-decision Environmental Assessment for Mammal Damage Management for the Protection of Human Health and Safety, Property, Agricultural Resources and Natural Resources in California (USDA 2005)

2.3 ROLE OF OTHER AGENCIES

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

CDFW has management authority and responsibility for resident wildlife, and conducts management programs for furbearers, game species, and nongame mammals. CDFW can request assistance from APHIS-WS for any species under its primary responsibility. APHIS-WS may provide recommendations and referral of callers to CDFW, as well as operational management assistance with the implementation of wildlife damage management upon request and as permitted or otherwise authorized by CDFW.

APHIS-WS is not authorized to issue take permits for wildlife. Species such as mountain lion and bobcat as well as all game species (feral swine, deer, elk, black bear, beaver, turkey, etc.) require a depredation permit. Such permits are issued to individual landowners by CDFW when criteria for a permit are met. Under the cooperative agreement, APHIS-WS may act on the permit at the permit holder's request.

Services provided by APHIS-WS to the County under the cooperative agreement are required to be implemented in cooperation with CDFW and in accordance with applicable regulations of that agency pertaining to wildlife damage management. CDFW does not allow for the relocation of wildlife causing damage. Except in limited cases where CDFW makes an individual exemption, CDFW dictates that the disposition of all wildlife captured for resource protection must be euthanized. Relocation of wildlife known to cause resource damage in one area does not correct the damaging behavior and can spread the problem to a new area. Relocation can also spread disease to other wildlife and domestic species.

CDFW has completed environmental documents in accordance with CEQA for evaluating its hunting and trapping regulations. The most recent documents were completed in 2004: *Draft Environmental Document, Sections 265, 460-467, and 472-480, Title 14, California Code of Regulations Regarding Furbearing and Nongame Mammal Hunting and Trapping*; and *Final Environmental Document, Sections 250, 250.5, 251, 251.5, 252, 257, 257.5, 307-310, 310.5, 311, and 354, Title 14, California Code of Regulations Regarding Resident Small Game Mammal Hunting*. CDFW concluded that even with APHIS-WS take, assumed to be 33 percent of statewide take, and in conjunction with other related past, present, and reasonably foreseeable future projects identified in the cumulative analysis, cumulative impacts would not be significant (CDFG 2004: 32-

2.0 PROJECT BACKGROUND

35, 47, 95-111). Additional information on the scope of the analysis is provided in Impact 4.1.7 (Cumulative Impacts) in Section 4.1, Biological Resources.

MONTEREY COUNTY HEALTH DEPARTMENT

The Monterey County Health Department provides assistance regarding domestic pets, licensing, temporary shelter, feral cats, animal cruelty, complaints, animal bites, and deceased animals on roadways. Monterey County Animal Services, which is part of the Health Department, does not provide assistance for wildlife (which includes small animals such as feral dogs, raccoons, and skunks) but encourages residents and property owners to contact the Society for the Prevention of Cruelty to Animals Wildlife Center (<http://www.spcamc.org/wildlife/found-wildlife-in-need>) or CDFW for issues involving wildlife (Monterey County 2017a).

2.4 DIRECT CONTROL METHODS

NONLETHAL CONTROLS

APHIS-WS may recommend nonlethal control methods to resource owners, Appendix B in this Draft EIR identifies those methods and their associated limitations. Many nonlethal methods may be safely used by resource owners (e.g., animal husbandry practices, exclusion [fencing/penning], and frightening devices (e.g., lights). However, the current federal program does not allow for federal funds to be used in a cost-share program to provide materials (e.g., fencing or fladry) or resources (guard animals) directly to resource owners for use by and for the benefit of private resource owners. Some methods must be used only by trained professionals (e.g., pyrotechnics). Other nonlethal methods have the potential to result in unintentional effects on species that are protected by federal and/or state law. Monterey County would not be responsible for determining the nonlethal methods to be used by private parties.

LETHAL CONTROLS

The lethal control of animals is authorized under APHIS-WS Directive 2.505 (USDA 2017f). A variety of methods for removing a target animal species are available in California. Appendix B identifies those methods. These descriptions are provided for disclosure purposes. The descriptions in Appendix B also indicate which methods APHIS-WS may not use in Monterey County because they are no longer allowed as well as methods that have not been used in the county for over 10 years. As with nonlethal methods, Monterey County would not be responsible for determining the methods to be used.

2.5 MONTEREY COUNTY INFORMATION

AGRICULTURAL RESOURCES

Agriculture is the largest land use in Monterey County. As of 2014, there were nearly 1.3 million acres of agricultural lands in the county, representing approximately 61 percent of the total land area (Table B-1 in Appendix B). Crop farming and livestock grazing collectively is the largest industry in the county and contributes a significant amount of money to Monterey County's economy. In 2016, the agricultural industry had a gross production value of nearly \$4.3 billion. Table B-2 in Appendix B summarizes information about crop and livestock production in Monterey County for the period 1997–2016 as reported in the Agricultural Commissioner's Office annual reports (Monterey County 2017b). Over the last 20 years, crop production (vegetable crops, fruits and nuts, nursery crops, field crops, and seed crops and apiary) have accounted for over 98

percent of the total production value. Livestock, poultry, and dairy production are approximately 1 to 2 percent of total production. In 2016, there were approximately 72,100 head of beef cattle/calves and stockers in the county (Monterey County 2017c). In previous years, the number of head has varied, ranging from a low of approximately 35,000 in 2014 to over 90,000 in prior years. The number of sheep in Monterey County in 2015 was 1,100 head, which is a substantial decrease from 2,500 head in 2000 (Monterey County 2000, 2017c). These data are provided for disclosure purposes and to inform the decision-making process. No analysis of these data is required for purposes of this Draft EIR.

LOSS/DAMAGE DATA

Table 2.0-1 summarizes confirmed damages caused by wildlife from 1997 to 2016 by resource category (crops, livestock, other agricultural resources, and property) and whether the damage was caused by mammal species or avian species. The table also includes data for natural resources protection, although the CSA is not used for that purpose, and the values are provided for informational purposes. Not all resource, property, or land owners who experience damage from wildlife report the damage or request assistance. APHIS-WS specialists do not attempt to locate every head of livestock reported by ranchers to be killed by predators, but rather to verify sufficient losses to determine whether a problem exists that requires a management action. Confirmed losses are verified by APHIS-WS specialists during a site visit. APHIS-WS specialists not only confirm that the loss was caused by predators but also which predator species was responsible. Because only a fraction of the damage or loss is reported to or can be confirmed by APHIS-WS (similar to statewide loss data), wildlife damage loss in Monterey County is likely underestimated. As shown by the damage values, not all damage is associated with livestock loss. A considerable amount of damages is caused by avian species.

Table 2.0-2 and Table 2.0-3 present annual APHIS-WS staff-confirmed damage information for each year for damage caused by mammals and other non-avian species and avian species, respectively. As illustrated by the data, the total value of confirmed damages has varied widely from year to year. These data are provided for background and disclosure purposes and to inform the decision-making process. An analysis of loss/damage data is not required under CEQA nor is it necessary for purposes of evaluating the biological resources impacts of the proposed project.

As indicated by these data, coyotes were responsible for the most damage to agricultural resources and property. Table 2.0-4 presents data specific to coyote damages. Because only a fraction of the total predation attributable to coyotes is reported to or can be confirmed by APHIS-WS (similar to statewide loss data), loss in Monterey County is likely underestimated.

2.0 PROJECT BACKGROUND

TABLE 2.0-1: MONTEREY COUNTY CONFIRMED WILDLIFE DAMAGES SUMMARY 1997-2016

Year	Agriculture Field Crops	Agriculture Livestock	Agriculture Other	Public Safety	Natural Resources	Property	Total Damages Confirmed by APHIS-WS
Total all confirmed damages all species over 20-year period	\$1,318,780	\$1,121,860	\$506,523	\$88,175(a)	\$1,609,590(b)	\$7,837,783(a)(c)	\$12,482,710(a)(b)(c)
Percent caused by mammals and other non-avian species	69.5%	99.8%	69.4%	49.3%	37.7%	7.4%	
Percent caused by avian species over 20-year period	30.4%	0.2%	30.7%	50.7%	62.3%	92.5%	
Mammals and Other Non-Avian Species							
Total confirmed damages from mammals and other over 20-year period	\$917,486	\$1,120,000	\$351,473	\$43,475(a)	\$607,430(b)	\$582,978(a)(c)	\$3,622,842(a)(b)(c)
Primary mammal species causing damage	Feral swine: 64% Other: 8%	Coyote: 85% Mountain lion: 9% Feral dogs: 2% Bobcat: 1% Other: 3%	Feral swine: 58% Other: 11%	Other: 0.1%	Skunks: 37% Other: 1%	Coyote: 2% Beaver 1% Feral swine: 1% Other: 1%	
Avian Species							
Total confirmed damages from avian species over 20-year period	\$401,294	\$1,860	\$155,050	\$44,700(a)	\$1,002,160(b)	\$7,254,805(a)(c)	\$8,859,868(a)(b)(c)
Primary avian species causing damage	Birds and raptors: 28%	Birds and raptors: 1%	Birds and raptors: 31%	Common birds: 99.9%	Birds and raptors: 62%	Birds and raptors: 95%	

Notes:

(a) For purposes of estimating percentage of total damages, excludes \$50 million in public safety and \$5 million in property damages associated with aviation accident at the Salinas Municipal Airport in 2015 (see USDA 2017c). This data is included in the APHIS-WS MIS database because APHIS-WS responded to an inquiry from the National Transportation Safety Board.

(b) APHIS-WS does not perform IWDM services with County funding for natural resources protection. Values are provided for informational and disclosure purposes. See Tables 2.0-2 and 2.0-3 for additional details.

(c) Property category includes damages for which IWDM was provided by APHIS-WS to other parties under contract, not funded by County. Totals are provided for informational and disclosure purposes.

Source: USDA 2017c (included in Appendix B of this Draft EIR)

TABLE 2.0-2: MONTEREY COUNTY CONFIRMED DAMAGE CAUSED BY MAMMALS AND OTHER NON-AVIAN SPECIES 1997-2016

Year	Agriculture Field Crops	Agriculture Livestock	Agriculture Other	Public Safety	Natural Resources	Property	Total Damages Confirmed by APHIS-WS
1997	\$0	\$89,845	\$0	\$0	\$150	\$51,300	\$141,295
1998	\$0	\$50,338	\$14,390	\$100	\$200	\$13,570	\$78,598
1999	\$4,000	\$58,726	\$40	\$200	\$6,000	\$131,630	\$200,596
2000	\$1,400	\$68,804	\$133,300	\$0	\$1,030	\$18,030	\$222,564
2001	\$37,200	\$173,611	\$9,250	\$0	\$0	\$17,025	\$237,086
2002	\$37,000	\$37,725	\$6,250	\$0	\$50	\$74,855	\$155,880
2003	\$4,500	\$83,287	\$2,500	\$4,800	\$0	\$103,605	\$198,692
2004	\$1,000	\$30,185	\$76,200	\$38,300	\$0	\$17,206	\$162,891
2005	\$1,000	\$36,900	\$9,750	\$75	\$0	\$10,475	\$58,200
2006	\$81,000	\$26,030	\$5,720	\$0	\$0	\$3,275	\$116,025
2007	\$2,200	\$43,390	\$650	\$0	\$0	\$3,110	\$49,350
2008	\$179,876	\$38,561	\$0	\$0	\$0	\$3,625	\$222,062
2009	\$2,000	\$47,500	\$2,200	\$0	\$0	\$5,925	\$57,625
2010	\$0	\$48,615	\$3,350	\$0	\$0	\$2,077	\$54,042
2011	\$1,700	\$45,175	\$38,100	\$0	\$0	\$3,750	\$88,725
2012	\$5,679	\$55,056	\$10,000	\$0	\$0	\$5,690	\$76,425
2013	\$163,704	\$57,922	\$14,993	\$0	\$600,000(a)	\$73,660	\$910,280
2014	\$331,494	\$60,602	\$11,704	\$0	\$0	\$11,045	\$414,845
2015	\$54,510	\$17,427	\$5,000	\$0	\$0	\$14,050	\$90,986
2016	\$9,223	\$50,301	\$8,075	\$0	\$0	\$19,075	\$86,674
Total confirmed damages from mammals and other over 20-year period	\$917,486	\$1,120,000	\$351,473	\$43,475	\$607,430	\$582,978	\$3,622,842
Percent of total over 20-year period	25.3%	30.9%	9.7%	1.2%	16.8%	16.1%	100%
Total all confirmed damages all species over 20-year period	\$1,318,780	\$1,121,860	\$506,523	\$88,175(c)	\$1,609,590(a)	\$7,837,783(b)(c)	\$12,482,710(a)(b)(c)
Percent of total of all confirmed damages all species over 20-year period	69.5%	99.8%	69.4%	49.3%(c)	37.7%	7.4%(c)	

Notes:

(a) APHIS-WS does not perform IWDM services with County funding for natural resources protection. Values are provided for informational and disclosure purposes. Damages reported in 2013 were associated with skunk damage to plovers and nests and reflects change in federal reporting requirements.

(b) Property category includes damages for which IWDM was provided by APHIS-WS to other parties under contract, not funded by County. Totals are provided for informational and disclosure purposes.

(c) For purposes of estimating percentage of total damages, excludes \$50 million in public safety and \$5 million in property damages associated with aviation accident at the Salinas Municipal Airport in 2015 (see USDA 2017c). This data is included in the APHIS-WS MIS database because APHIS-WS responded to an inquiry from the National Transportation Safety Board.

Source: USDA 2017c (included in Appendix B of this Draft EIR)

2.0 PROJECT BACKGROUND

TABLE 2.0-3: MONTEREY COUNTY CONFIRMED DAMAGE CAUSED BY AVIAN SPECIES 1997-2016

Year	Agriculture Field Crops	Agriculture Livestock	Agriculture Other	Public Safety	Natural Resources	Property	Total Damages Confirmed by APHIS-WS
1997	\$12,000	\$0	\$0	\$0	\$0	\$2,000	\$14,000
1998	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1999	\$0	\$0	\$0	\$0	\$0	\$100	\$100
2000	\$500	\$0	\$125,000	\$0	\$0	\$10,800	\$136,300
2001	\$1,000	\$0	\$0	\$0	\$0	\$30,300	\$31,300
2002	\$4,000	\$400	\$0	\$0	\$0	\$0	\$4,400
2003	\$26,800	\$0	\$7,000	\$20,000	\$0	\$10,000	\$63,800
2004	\$12,000	\$0	\$0	\$7,100	\$0	\$33,450	\$52,550
2005	\$0	\$400	\$0	\$7,300	\$0	\$31,500	\$39,200
2006	\$0	\$0	\$500	\$10,300	\$0	\$121,100	\$131,900
2007	\$0	\$0	\$500	\$0	\$0	\$110,035	\$110,535
2008	\$81,600	\$0	\$0	\$0	\$0	\$355,800	\$437,400
2009	\$79,000	\$785	\$18,000	\$0	\$0	\$1,095,470	\$1,193,255
2010	\$0	\$0	\$0	\$0	\$77,089	\$1,065,800	\$1,142,889
2011	\$4,000	\$0	\$0	\$0	\$0	\$1,143,000	\$1,147,000
2012	\$0	\$0	\$250	\$0	\$0	\$26,500	\$26,750
2013	\$0	\$0	\$800	\$0	\$925,070	\$2,060,000	\$2,985,870
2014	\$0	\$0	\$3,000	\$0	\$0	\$47,200	\$50,200
2015	\$30,000	\$0	\$0	\$0	\$0	\$1,068,500(c)	\$1,098,500(c)
2016	\$150,394(d)	\$275	\$0	\$0	\$0	\$43,250	\$193,919
Total confirmed damages from avian species over 20-year period	\$401,294	\$1,860	\$155,050	\$44,700	\$1,002,160	\$12,254,805	\$8,859,868(c)
Percent of total over 20-year period	4.5%	< 1%	1.8%	< 1%(c)	11.3%	81.9%	100%
Total all confirmed damages all species over 20-year period	\$1,318,780	\$1,121,860	\$506,523	\$88,175(c)	\$1,609,590	\$7,837,783(b)(c)	\$12,482,710(a)(b)(c)
Percent of total of all confirmed damages all species over 20-year period	30.4%	0.2%	30.7%	50.7%(c)	62.3%	92.5%(c)	

Notes:

(a) APHIS-WS does not perform IWDM services with County funding for natural resources protection. Values are provided for informational and disclosure purposes. Damages reported in 2013 were associated with raven damage to plovers and nests and reflects change in federal reporting requirements.

(b) Property category includes damages for which IWDM was provided by APHIS-WS to other parties under contract, not funded by County. Totals are provided for informational purposes.

(c) For purposes of estimating percentage of total damages, excludes \$50 million in public safety and \$5 million in property damages associated with aviation accident at the Salinas Municipal Airport in 2015 (see USDA 2017c). This data is included in the APHIS-WS MIS database because APHIS-WS responded to an inquiry from the National Transportation Safety Board.

(d) Damages were associated with contamination of field crops by wildlife, which resulted in loss of the crops.

Source: USDA 2017c (included in Appendix B of this Draft EIR)

2.0 PROJECT BACKGROUND

TABLE 2.0-4: CONFIRMED COYOTE DAMAGE BY RESOURCE CATEGORY 1997-2016

Year	Field Crops	Livestock	Agriculture Other	Public Safety	Property	Total Coyote-Caused Damages	Total All Damage
1997	-	\$87,960	-	-	\$51,300	\$139,335	
1998	-	\$48,138	\$160	-	\$10,840	\$59,138	
1999	-	\$48,652	-	-	\$680	\$49,332	
2000	-	\$36,605	\$1,000	-	\$6,830	\$44,435	
2001	-	\$164,771	-	-	\$1,400	\$166,171	
2002	-	\$29,925	-	-	\$2,490	\$32,465	
2003	-	\$74,055	\$250	-	\$92,650	\$166,955	
2004	-	\$25,680	-	-	\$7,050	\$32,730	
2005	-	\$29,110	-	\$75	\$5,700	\$34,885	
2006	-	\$21,775	-	-	\$1,450	\$23,225	
2007	-	\$30,585	-	-	\$860	\$31,445	
2008	\$44,876	\$36,441	-	-	\$3,625	\$84,942	
2009	-	\$37,875	-	-	\$1,750	\$39,625	
2010	-	\$41,065	\$550	-	\$700	\$42,315	
2011	-	\$40,010	-	-	\$1,650	\$41,660	
2012	-	\$48,834	\$10,000	-	\$370	\$59,204	
2013	-	\$53,140	-	-	\$6,210	\$59,350	
2014	-	\$51,724	-	-	\$4,925	\$56,649	
2015	\$4,755	\$9,497	-	-	\$12,900	\$27,152	
2016	-	\$36,294	-	-	\$2,275	\$38,569	
Total confirmed coyote damage over 20 years	\$49,631	\$952,136	\$11,960	\$75	\$215,655	\$1,229,582	\$1,229,582
Percent of total damage over 20 years	4%	77%	1%	< < 1%	18%	100%	
Percent of by resource category	4%	85%	2%	(a)	(a)	(a)	(a)(b)
Loss by resource type	Produce: \$49,631	Cattle/calf: \$791,198 (83%)	Grapes: \$10,550 (97%)	unknown	Irrigation systems: \$174,650 (81%)		
		Sheep/lamb: \$94,419 (10%)	Game birds: \$410 (3%)		Pets/hobby animals: \$40,155 (19%)		
		Goats: \$52,151 (5%)			Other \$850 (<1%):		
		Other: \$14,369 (2%)					
Percent of all total damage all resource categories attributable to coyote	4%	85%	2%	(a)	(a)	(a)	(a)(b)

Notes:

(-) indicates \$0 damage value

(a) For purposes of estimating percentage of total damages, excludes \$50 million in public safety and \$5 million in property damages associated with contamination at food producer facility caused by avian species in 2015 (see Table 2.0-3).

(b) APHIS-WS does not perform IWDM services with county funding for natural resources protection. Values are provided for informational purposes.

Source: USDA 2017c (included in Appendix B of this Draft EIR)

2.0 PROJECT BACKGROUND

WILDLIFE DAMAGE MANAGEMENT IN MONTEREY COUNTY

The Monterey County Agricultural Commissioner's Office and APHIS-WS have cooperatively conducted wildlife damage management activities in some capacity in Monterey County since as early as 1923. In that time, Monterey County has alternated between participating in a cooperative agreement with APHIS-WS and independently operating its own wildlife damage management program. In the 1990s, APHIS-WS began providing services funded by the County under a cost-share CSA and has been continuously providing those services since then. In April 2016, Monterey County approved the annual work and financial plan for fiscal year 2016-17 under the current CSA (the fourth year of the existing CSA, approved by the Board of Supervisors in June 2013).

As part of entering into cost-share agreements with cooperators, APHIS-WS prepares a budget for the total cost of services, which includes the anticipated number of personnel hours, equipment, and expenses. For fiscal year 2015-16, the County authorized funding for up to approximately \$149,200, which was approximately 82 percent of the total cost of services to be provided by APHIS-WS (\$178,951) (USDA 2015e).

The previous CSA work and financial plan and the current CSA work and financial plan cap the number of hours to be spent by APHIS-WS personnel. Previous work and financial plans used the term "24 staff months" for one year (which would be equivalent to 4,160 hours), while more current (and the proposed) work and financial plans set the cap at approximately 4,176 hours. That is, the number of hours funded under the work and financial plan has remained the same for several years.

Under the CSA, APHIS-WS responds to requests from private ranchers leasing BLM land for grazing, and some work may be performed on federal land for that purpose. There are no tribal lands in the county. A limited amount of work is performed in county parks and on state lands, and in 2011-12 APHIS-WS performed some work in Fort Hunter Liggett for property protection (USDA 2017d). Some of the wildlife damage management performed by APHIS-WS in Monterey County is for protection of threatened and endangered species. The threatened and endangered species projects have not been funded by the County under the cooperative agreement, nor would they be under the proposed agreement renewal. Take data for threatened and endangered species protection projects are reported and included for disclosure purposes in the cumulative impact analysis in Section 4.1, Biological Resources.

APHIS-WS removes some species (primarily birds) under contract to the private parties. An example of this is American coots, which cause damage to privately operated golf courses and also presented a health risk near food service facilities. On occasion, APHIS-WS may assist with one-time removals, such as cliff swallows that had built nests on a hospital and presented a health risk to patients from bacteria. The County does not fund these services.

Technical Assistance

Technical assistance includes recommendations for implementing various techniques for protecting resources from damage caused by wildlife. Technical assistance projects associated with specific species in Monterey County for the 2006–2015 reporting period are shown in Table 2.0-5.³ During the 10-year reporting period, APHIS-WS specialists in Monterey County provided

³ Prior to 2006, there was a different recordkeeping system at APHIS-WS, and the level of detail presented in Tables 2.0-5 and 2.0-6 is not available. The 10-year data is sufficient for disclosure purposes.

information and advice to over 9,100 county residents and resource owners (“participants”). Information included individual phone calls, field visits, presentations, and informational pamphlets and literature. Approximately 94 percent of the calls and face-to-face interactions and nearly 75 percent of all technical assistance projects were associated with mammal species. As indicated by these data, coyotes, mountain lions, feral swine, bobcats, skunks, and raccoons were the mammal species resulting in the most requests for technical assistance. The data in Table 2.0-5 only provides information about technical assistance. It does not indicate the number of wildlife species removed by lethal means. The reader is referred to Section 4.1, Biological Resources, and Tables 4.1-3 and 4.1-4 for additional information and analyses regarding species take data and information about these species. Some species, such as feral dogs, Virginia opossum, and red fox, are nonnative species. Feral swine is a nonnative invasive species. The data presented in Table 2.0-5 includes all technical assistance projects regardless of whether they were performed under the CSA or through agreements with private parties (e.g., control of American coot on golf courses). Not all technical assistance projects listed in Table 2.0-5 resulted in take by lethal methods. The Environmental Setting subsection of Section 4.1, Biological Resources, presents comprehensive take data for Monterey County.

Table 2.0-6 summarizes information about the number of hours spent on APHIS-WS activities in the county for the same 10-year period. As illustrated by the data, the number of hours is relatively consistent between years and, with the exception of 2008, 2009, and 2010 when the County requested additional APHIS-WS assistance to remedy a problem with *E. coli* contamination caused by birds in food producer facilities, the number of hours spent by staff was under the maximum 4,176 hours. Table 2.0-6 also provides a summary of take data under the direct control category for the same timeframe. (The reader is referred to Tables 4.1-3 and 4.1-4 in Section 4.1, Biological Resources, for detailed information.) This comparison shows that there is not a direct correlation between the number of wildlife species taken for agricultural resources, public health and safety, and property protection and the number of hours spent by APHIS-WS personnel on direct control activities.

Between 2007 and 2016, APHIS-WS provided technical assistance to resource owners or land managers on private land encompassing from approximately 250,000 acres to 330,000 acres on an annual basis. Some work was also performed on state and federal land (USDA 2017d). This represents approximately 12 to 15 percent of the total land area in Monterey County. However, APHIS-WS does not implement its services on the total number of acres. When an Agreement for Control is signed by the requesting party, the agreement applies to the entire acreage of the parcel(s) for which services are requested. In some cases, this could be hundreds or thousands of acres.⁴ The total annual acreage reflects the sum of all parcel acreages for which the Agreement for Control has been signed. Thus, the “on-the-ground” impact of services is limited in geographic scope to only those specific locations on a property where the wildlife damage is occurring and where control services are actually provided.

For purposes of the impact analysis in the context of evaluating potential impacts on species populations resulting from take via lethal methods, the historical technical assistance data (Table 2.0-5) and hours worked (Table 2.0-6) combined with mammal and avian species take data presented in Tables 4.1-3 and 4.1-4 in Section 4.1, Biological Resources, respectively, are a reasonable indicator of future activity levels under the renewed CSA.

⁴ For example, APHIS-WS performed work for property protection at Fort Hunter Liggett in 2011 and 2012 (USDA 2017d). The acres reported in the APHIS-WS MIS system is 160,000 acres, which comprises the entire facility, but activities were not performed across the entire facility.

2.0 PROJECT BACKGROUND

Nonlethal Methods

Some producers in the county use one or more nonlethal methods as common practice (e.g., fencing, guard animals). An APHIS-WS field specialist may recommend certain nonlethal practices as part of the technical assistance services provided to a requestor. Producers in Monterey County may use nonlethal methods at their discretion and are not funded by the County's agreement with APHIS-WS. Producers are not required under any federal, state, or local regulation to report the type(s) of methods they use, and it is the producers, not APHIS-WS or the County, who are responsible for monitoring the efficacy of various methods in reducing damage to agricultural resources or property on private lands. There is no requirement that producers or property owners report data about nonlethal method use or cost/benefit information to the County or APHIS-WS. The analysis of Alternative 3 in Section 5.0, Alternatives, presents additional information about nonlethal methods as an alternative to lethal methods and related considerations.

Cost/Benefit of APHIS-WS Direct Control Methods in Monterey County

CEQA Considerations

The following discussion regarding costs and benefits of APHIS-WS services is provided for purposes of disclosure and to aid the decision-making process. It does not require analysis in this Draft EIR, nor is the EIR required to resolve concerns about this topic under CEQA, since it is an economic consideration. However, to the extent that implementation of the activities performed by APHIS-WS under agreement with the County could result in the removal of animals to help reduce livestock loss because that has been the greatest source of damage, this Draft EIR does evaluate what the environmental impact would be on species populations, pursuant to CEQA Guidelines Section 15131 (Economic and Social Effects). This analysis is presented in Section 4.1, Biological Resources.

Cost/Benefit Considerations

APHIS-WS has prepared cost-benefit studies for its services in California (Shwiff et al. 2006) and for Monterey County specifically (Shwiff n.d.). These studies, which focused primarily on damage in agricultural areas, concluded that county investment in the cost-share program with APHIS-WS does provide a financial benefit by helping to reduce livestock losses. The County is also aware of more recent studies suggesting that the costs and benefits of predator control (particularly by APHIS-WS) have not been adequately substantiated (for example, Rashford, Grant, and Strauch 2008; NRDC 2012).⁵ This issue was also raised by the Center for Biological Diversity in its NOP comment letter (included in Appendix A). Key topics addressed by the authors of these publications included how losses are calculated relative to the value of the resource protected, methodology for performing cost-benefit analyses, and that the economic and ecologic value of predators has not been accounted for in cost-benefit analyses to date. A key concern expressed by the authors is that the loss attributable to livestock predation is small relative to the production value and how that is accounted for in the cost-benefit analyses.

⁵ The difficulties in developing cost benefit analyses and value estimates for wildlife damage management relative to ecologic and social value is not a new concept. Some of the earliest work was done in the 1980s (e.g., Shwiff n.d.).

TABLE 2.0-5: APHIS-WS TECHNICAL ASSISTANCE PROJECTS (2006-2015)

Species	Total ^a	Participants ^b
Mammals		
Coyote	1,046	4,662
Mountain lion	304	1,204
Feral swine	74	240
Bobcat	95	234
Striped skunk	29	123
Raccoon	27	84
Feral, free-ranging dog	9	52
Gray fox	5	27
Virginia opossum	6	23
Black-tailed deer	6	21
Red fox	5	17
Elk (Wapiti)	3	11
California ground squirrel	3	10
Bat (all species)	4	9
Bison	1	9
Badger	3	8
Long-tailed weasel	2	4
Jackrabbit	1	3
Cottontail rabbit	1	3
Weasel (other)	1	3
<i>Subtotal Mammals</i>	1,625	6,747
Birds		
Canada goose	3	712
American coot	29	54
Cliff swallow	10	53
Western gull	4	20
Wild turkey	5	12
Feral (rock) pigeon	3	11
Golden eagle	3	10
Red-tailed hawk	2	8
Great horned owl	3	8
House finch	2	4
Barn swallow	3	4
Pea fowl	1	3
California gull	3	3
Great blue heron	1	3
Band-tailed pigeon	1	3
Hairy woodpecker	1	1
<i>Subtotal Birds</i>	74	909
Reptiles		
Gopher snake	6	192
Rattlesnake	8	66
<i>Subtotal Reptiles</i>	14	258
Other		
General/multi-species	7	910
No species	3	274
Non-wildlife species	1	2
<i>Subtotal Other</i>	11	1,186
Total	1,724	9,100

Source USDA 2016c

^a Total: Number of calls or face-to-face interactions.^b Participants: Number of participants (education for a single incident often occurs with more than one person, such as during a presentation).

2.0 PROJECT BACKGROUND

TABLE 2.0-6: NUMBER OF APHIS-WS HOURS BY TECHNICAL ASSISTANCE PROJECT CATEGORY

Category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total Hours
Direct control activities	2,907	3,325	3,606	3,800	3,234	3,390	3,048	2,966	2,946	2,630	31,853
<i>Percent of total</i>	82%	85%	76%	70%	66%	87%	87%	73%	73%	67%	75%
Total mammal take*	318	258	401	431	382	299	237	182	127	71	
Total avian take*	332	305	798	529	166	225	1,038	283	107	65	
Information, education, site visits	278	284	218	200	204	255	455	623	553	806	3,874
<i>Percent of total</i>	8%	7%	5%	4%	4%	7%	12%	15%	14%	21%	9%
Research	26	0	659	1,019	1,125	1	2	10	16	0	2,858
<i>Percent of total</i>	0.7%	0	13.8%	18.7%	23.1%	0.03%	0.05%	0.25%	0.40%	0	7%
Administrative functions	344	325	293	420	304	257	361	489	524	469	3,784
<i>Percent of total</i>	10%	8%	6%	8%	6%	7%	9%	12%	13%	12%	9%
Total Hours	3,555	3,934	4,775	5,439	4,866	3,902	3,865	4,088	4,040	3,905	42,368

Notes:

* Take data provided to allow comparison between the number of direct control hours relative to the actual number of species taken. Avian take includes take (e.g., American coots) under separate contracts to private parties and not funded by County.

In 2016, the total number of hours was 3,802 and percentage by category was similar to previous years. Total mammal take was 93 and total avian take was 0.

Source: USDA 2017d; Take data from Table 4.1-3 and Table 4.1-4 in Section 4.1, Biological Resources, in this Draft EIR.

As shown in Table B-2 in Appendix B, livestock production is only 1 to 2 percent of the County's approximately \$4.2 billion agricultural industry. This differs from other counties (and/or states) where the livestock production value may be substantially greater. However, the confirmed losses caused by mammal and other non-avian predators (over a 20-year time period) comprised approximately 31 percent of the total livestock losses in terms of value (Table 2.0-3). As such, livestock loss due to mammal predation in Monterey County is not inconsequential. Moreover, because only a fraction of the losses is reported or can be confirmed by APHIS-WS, loss in Monterey County is likely underestimated.

Under the existing CSA and the renewal, APHIS-WS only conducts direct control methods in response to requests from residents and/or resource owners for purposes of agricultural resource, public health and safety, and property protection and when an Agreement for Control has been signed, as noted throughout this document. Unlike examples of widespread predator control efforts noted in the above-referenced publications, APHIS-WS's scope of services in Monterey County is limited to targeting individual animals and only when it has been determined by the APHIS-WS field specialist it is the animal responsible for damage. The request for APHIS-WS assistance is at the discretion of the resource owner, and neither APHIS-WS nor the County have the authority to compel the resource owner to use (or not use) APHIS-WS services. For an individual resource owner with losses, it remains a personal decision whether the costs of wildlife damage management services provided APHIS-WS borne by Monterey County justify the benefit by having APHIS-WS provide assistance.

3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

The proposed project is the renewal of Monterey County's five-year CSA, including annual work plans (work and financial plans) required by the five-year CSA, with APHIS-WS for wildlife damage management assistance in the county. This section describes the location of the proposed project and its environmental setting, a statement of objectives, a general description of the proposed project's technical, economic, and environmental characteristics, and intended uses of the EIR.¹

3.2 ENVIRONMENTAL SETTING

Monterey County is located on California's central coast and is bounded by the Pacific Ocean to the west, Santa Cruz County to the north, San Benito, Fresno, and Kings Counties to the east, and San Luis Obispo County to the south (see Figure 3.0-1). Monterey County encompasses just over 2 million acres (nearly 3,330 square miles). Monterey County land ownership and jurisdictions are summarized in Table 3.0-1. Approximately 73 percent of land in the county is privately owned. Within the federal lands category, over one-half is the Los Padres National Forest managed by the US Forest Service (485 square miles). The former Fort Ord is a component of the "Other" category. Although there are currently no tribal lands in the county,² it is the indigenous home of the Ohlone/Costanoan-Esselen Nation. Figure 3.0-2 shows the geographic extent of each of the land use categories.

TABLE 3.0-1: MONTEREY COUNTY LAND OWNERSHIP AND JURISDICTION

Ownership/Jurisdiction	Square Miles	Percent
Private	2,364	73%
Federal	843	26%
State	38	<0.1%
City/County Park	34	<0.1%
Other	36	<0.1%
TOTAL	3,257	

Source: Table B-1 in Appendix B

The wildlife damage management services provided under the County's existing cooperative agreement with APHIS-WS have been performed almost entirely on private land, with a small amount in County-owned parks, on state land, and federal land (BLM and Fort Hunter Liggett) (USDA 2017d). On an annual basis, this work has covered approximately 250,000 to 330,000 acres of private land (12 to 15 percent of the county).³

Monterey County is predominantly rural/agricultural in nature. Agriculture is the largest land use in Monterey County, and crop farming and livestock grazing is the largest industry. As of 2014, there were nearly 1.3 million acres of agricultural lands in the county, representing approximately 61

¹ The requirements for a project description are set forth in CEQA Guidelines Section 15124.

² The Native American Heritage Commission did not provide any comments in response to the NOP.

³ APHIS-WS does not implement its services on the total number of reported acres. When an Agreement for Control is signed by the requesting party, the agreement applies to the entire acreage of the parcel(s) for which services are requested. In some cases, this could be hundreds or thousands of acres. The total reflects the sum of all parcel acreages for which the Agreement for Control has been signed. Thus, the extent of "on-the-ground" services is limited in geographic scope to only those specific locations on a property where the wildlife damage is occurring and where control services are actually provided.

3.0 PROJECT DESCRIPTION

percent of the total land area (see Table B-1 in Appendix B). Rangeland comprises over 1 million acres (Monterey County 2017c).

Grassland (30 percent), chaparral (23 percent), woodland (19 percent), and scrub (7 percent) are the predominant natural habitat types, and comprise nearly 80 percent of the county (see Table B-1 in Appendix B). These habitats are home to numerous common wildlife species as well as species that are protected under federal and state laws and regulations. Additional information about species is presented in Section 4.1, Biological Resources.

3.3 PROJECT BACKGROUND AND PURPOSE

The USDA APHIS-WS has an existing IWDM program that it implements throughout California and the rest of the United States. The IWDM program is intended to protect residents, property, livestock, crops, and natural resources from damage caused by predators and other nuisance wildlife. APHIS-WS implements the IWDM program to selectively remove individual animals that are nonnative or cause damage to property, infrastructure, agricultural or livestock commodities, and public health and safety.

The Monterey County Agricultural Commissioner's Office and APHIS-WS have cooperatively conducted wildlife damage management activities in some capacity in the county since as early as 1923. In that time, Monterey County has alternated between participating in a cooperative agreement with APHIS-WS and independently operating its own wildlife damage management program. The current IWDM program commenced in the early 1990s.

Section 2.0, Project Background, provides a comprehensive description of the existing agreement with APHIS-WS that the County is considering for renewal. This section describes what wildlife damage is and the approach to managing it, the regulatory framework that allows APHIS-WS to provide wildlife damage management services in the county, and information specific to Monterey County.

The overall goal of the proposed project is to ensure that wildlife damage management in Monterey County for purposes of protecting agricultural resources, public health and safety, and property is performed in a biologically sound, environmentally safe, and accountable manner and in accordance with applicable federal and state laws and regulations.



0 10 20
Miles

FIGURE 3.0-1
Project Location

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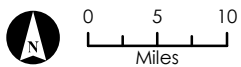
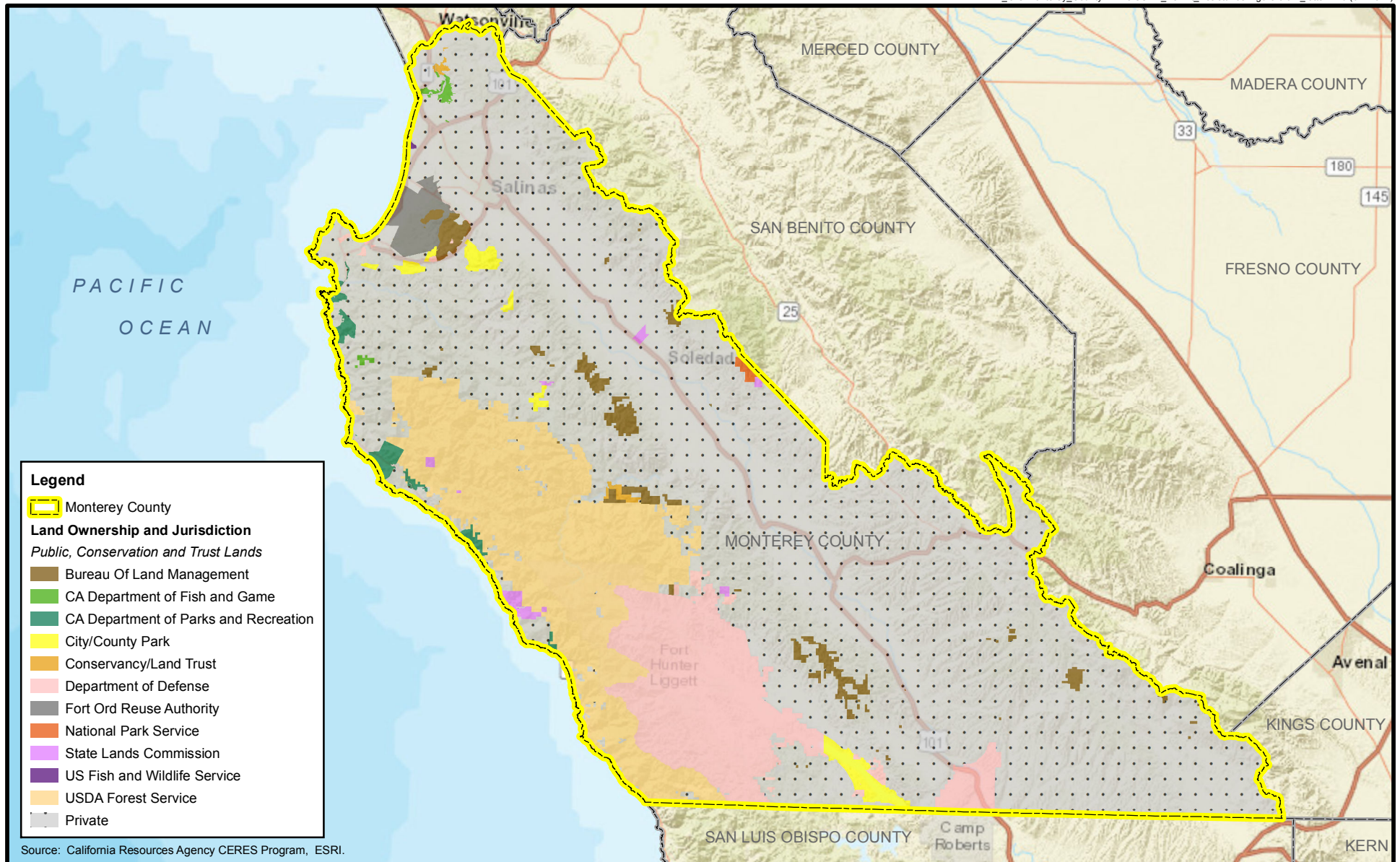


FIGURE 3.0-2
Land Ownership and Jurisdiction

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3.4 PROJECT OBJECTIVES

CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible, and establishes that a public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment. The law recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors (CEQA Guidelines Section 15021 [Duty To Minimize Environmental Damage And Balance Competing Public Objectives]). The County has identified the following objectives of the proposed project:

- 1) Provide an administrative mechanism for the private citizens and property owners in Monterey County to continue to request assistance for wildlife damage management services.
- 2) Facilitate access to on-site educational services (e.g., informational materials, advice, and demonstrations) regarding wildlife damage management specific to conditions in Monterey County.
- 3) Implement an integrated approach to wildlife damage management that allows qualified professionals to consider the range of options available for wildlife damage management that take into account the species responsible, magnitude of the problem, environmental conditions, legal restrictions such as listed species and permitting, and other considerations to formulate an appropriate strategy for the situation.
- 4) Have a process through which professionals who specialize in wildlife damage management can continue to provide technical assistance to resource owners about the variety of nonlethal methods that can be used to resolve problems (e.g., animal husbandry practices, guard animals, fencing, frightening) and where it is appropriate for resource owners to resolve the problem themselves.
- 5) Ensure that methods and techniques for lethal control to handle wildlife damage situations that may be difficult or dangerous for the public to use are implemented by professionals who are specially trained in such methods and who provide those services in a legal manner that is protective of human health and the environment.
- 6) Provide a transparent process for monitoring and documenting wildlife damage management activities to ensure accurate reporting of the types of wildlife damage and number of wildlife species removed by lethal methods, and to help assess the impacts of wildlife damage and associated wildlife damage management activities in the county.
- 7) Continue to provide wildlife damage management at similar funding levels and ensure County funds for wildlife damage management are used in a fiscally sound manner.
- 8) Ensure that processes remain in place for the protection of public safety.

3.5 PROJECT IMPLEMENTATION AND OPERATION

The proposed project is the renewal of Monterey County's five-year CSA, including annual work plans (work and financial plans) required by the five-year CSA, with APHIS-WS. Similar to previous agreements with APHIS-WS, it would be a cost-share agreement under which the County would

3.0 PROJECT DESCRIPTION

fund a portion of the APHIS-WS-estimated total cost of services, typically around two-thirds of the total cost. The agreement would require the approval of the Monterey County Board of Supervisors. Activities performed under the IWDM program would be implemented by APHIS-WS field specialists in accordance with the regulations, standards, and guidelines of the IWDM program, including its WS Policy Manual, Directives, and standard operating procedures. The County would not be involved in any of the wildlife damage management activities.

The renewed agreement would fund and continue the existing APHIS-WS IWDM program in the county for five years, beginning July 1, 2018. Because APHIS-WS and the County operate on a fiscal-year basis, a new work plan (scope of services) and financial plan (budget) would be established between the County and APHIS-WS for each fiscal year of the CSA term. Yearly adjustments to the work plan would primarily be a function of personnel and equipment costs. Technical assistance data maintained by APHIS-WS through the MIS for one year would also be used to help develop the work plan and budget for the subsequent year throughout the remaining term of the CSA.

Neither APHIS-WS nor Monterey County are proposing any changes to the APHIS-WS IWDM program in Monterey County in conjunction with the County's renewal of the cooperative agreement with APHIS-WS. The reader is referred to Section 2.0, Project Background, for a description of the existing program and historical operational data. Section 4.1, Introduction to the Analysis, provides an overview how baseline conditions are established for purposes of evaluating environmental impacts, with specific wildlife species data and analysis in Section 4.1, Biological Resources.

PROGRAM AND AGREEMENT RENEWAL

If the County approves the agreement renewal with APHIS-WS for the IWDM program in the County, which would fund APHIS-WS services through a cost-share agreement, the IWDM program (as operated by APHIS-WS and approved by signature of the agreement and work plan) would include the following:

- Assignment of up to four APHIS-WS wildlife specialists trained in wildlife control methods, state and federal regulations, and certified in the safe handling and use of firearms and other control equipment.
- Up to 4,176 work hours distributed as needed among direct control activities, technical assistance, APHIS-WS required training and administrative tasks, and leave.
- APHIS-WS procurement and maintenance of vehicles, tools, supplies, and other specialized equipment as deemed necessary to accomplish direct control activities.
- APHIS-WS supervision of safe and professional use of approved wildlife damage management tools/equipment, including the use of firearms, deterrent methods/devices (including pyrotechnics), traps, snares, trained dogs, all-terrain vehicles, Environmental Protection Agency and Drug Enforcement Administration approved chemicals (including immobilizing and euthanasia drugs), night vision equipment, and electronic calling devices.
- Data reporting for inclusion in the APHIS-WS MIS, which would consist of the number and types of request for assistance, control methods, types of species, whether species causing damage or loss were removed or released, estimated value of loss, and other information used to document and monitor program activities.

The number of hours would be consistent with previous years' work and financial plans (see Section 2.0, Project Background).

APHIS-WS TECHNICAL ASSISTANCE

Technical assistance would be provided only at the request of affected resource owners or managers. The majority of services would likely be provided for the protection of livestock and field crops on agricultural lands because that has historically resulted in the most requests for technical assistance, as described in Section 2.0, Project Background. However, technical assistance would also be available for protection of public health and safety (human-animal conflicts) and property. APHIS-WS would not perform any activities funded by the County for the protection of natural resources such as threatened and endangered species.

Under the renewed contract, APHIS-WS would continue to provide the following services in Monterey County:

- Offer technical advice/assistance to resource owners on prevention and/or control techniques.
- Inform and educate the public on how to prevent and reduce wildlife damage on their own, including APHIS-WS staff-prepared pamphlets and documentation.
- Provide expertise from wildlife specialists trained in wildlife control methods, state and federal regulations, and certified in the safe handling and use of firearms and other control equipment.
- Investigate wildlife damage situations to determine the responsible species and evaluate the site for applicability of prevention and control methods.
- Develop and implement wildlife damage management actions for the protection of agricultural resources, public health and safety, and property.
- Develop and implement wildlife damage management methods and actions targeting invasive species (e.g., wild pigs) that may damage or threaten property, livestock, crops, and/or public safety.
- Respond to incidents where wildlife species are threatening public health and safety (in coordination with CDFW and local law enforcement) including the use of out-of-county resources and expertise.
- Collect samples for wildlife diseases that may affect agriculture and public safety.
- Provide access to APHIS-WS support staff, including at the National Wildlife Research Center, which conducts research on and develops wildlife damage management methods.

WILDLIFE DAMAGE MANAGEMENT

Before wildlife damage management is conducted, an Agreement for Control must be signed by APHIS-WS and the land owner or manager, or an APHIS-WS work plan is presented to the land owner or its representative for review. The County would not be involved in this action because it would be an agreement between a private party and APHIS-WS.

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When services are requested by a resource owner, APHIS-WS personnel would conduct an initial investigation that defines the nature, history, and extent of the problem, species responsible for the damage, and methods that would be available to resolve the problem. In selecting damage management techniques for specific wildlife damage situations, the APHIS-WS field specialist would consider the species responsible and the frequency, extent, and magnitude of the damage. In addition, consideration would be given to the status of target and potential nontarget species, local environmental conditions, relative costs of applying management techniques, environmental impacts, and social and legal concerns. Section 2.0, Project Background, describes this process and the regulatory framework under which these decisions may be made by APHIS-WS personnel.

Although the County would provide funding for the services, County staff would not be involved in the decision making regarding which methods should or should not be used. Nor are they authorized to do so, because the federal government has delegated that authority to APHIS-WS, as explained in Section 2.0, Project Background.

PUBLIC SAFETY

All of the direct control methods that could be used by APHIS-WS under its cooperative agreement with the County would be implemented primarily on private land, with a limited amount of work on state and/or federal lands, consistent with historic practices (see USDA 2017d). APHIS-WS's work on federal lands is limited to areas with private grazing leases and/or where public access is not allowed (for example, work was performed in 2011 and 2012 in Fort Hunter Liggett). APHIS-WS would not perform work in national parks and forests in the county that would be funded under the CSA, where there may be publicly accessible trails and wildlife viewing areas. A minimal amount, if any, would be performed on state or county public lands. If traps are used, WS Directive 2.450 requires that appropriate warning signs be posted on commonly used public access points to areas where traps or snares are in use. Signs must be routinely checked by APHIS-WS field specialists to ensure they are present, obvious, and readable. Appropriate notification signs must be posted within the direct line of sight of mountain lion foot-snare device sets. Capture devices must be set where they would minimize the public's view of captured animals. In California, pursuant to Fish and Game Code Section 465.5, traps must be checked at least once daily, and each time traps are checked, all trapped animals must be removed. Therefore, it would be highly unlikely for the public to encounter a trapped, dead, or injured animal.

Hazardous materials such as chemicals and pesticides, which are described in Appendix B (Direct Control Methods), may be used by APHIS-WS field staff. APHIS-WS Directive Section 2.4 establishes procedures and protocols that must be followed regarding the use and disposal of chemicals and pesticides to ensure compliance with applicable federal and state laws and regulations so that such use does not pose an environmental or human health risk.

3.6 INTENDED USES OF THE DRAFT EIR

This Draft EIR evaluates the environmental impacts associated with renewal and continuation of the County's five-year CSA with APHIS-WS, commencing in fiscal year 2018-19, and what is anticipated to occur over the five-year term of the CSA. The analysis takes into account 20 years of historical data, which is a reasonable indicator of future activities under a renewed CSA.⁴ The County has also used its best efforts to find out and disclose all that it reasonably can regarding cumulative impacts. Additional environmental review under CEQA is not anticipated to be

⁴ Section 4.0, Introduction to the Analysis, includes additional detail about how baseline conditions were determined for purposes of this Draft EIR.

necessary for the annual work and financial plans required by the five-year CSA, unless the County determines there may be new effects not examined in this Draft EIR or there is new information of substantial importance, which was not known and could have been known with exercise of reasonable diligence at the time this Draft EIR was prepared, and that information shows the project will have one or more significant effects not identified in this Draft EIR.⁵

There would be no direct physical environmental impacts as a result of renewing the CSA and the annual work and financial plans because those are administrative actions, which do not require analysis under CEQA. However, continuation of the APHIS-WS IWDM program activities in the county by way of the agreement has the potential to result in impacts on wildlife species. These indirect, or secondary impacts, require analysis under CEQA. The purpose of this Draft EIR is to determine whether the County's renewal of its agreement with APHIS-WS would result in any indirect significant environmental impacts.

The environmental impact analysis in this Draft EIR is focused on one topic: biological resources. The previously prepared Initial Study provides the rationale for this focused review, by documenting the other environmental topic areas that are "screened out" from further consideration. Section 2.0, Project Background, provides information about APHIS-WS activities and relevant information about wildlife damage in Monterey County. Section 4.1, Biological Resources, evaluates the potential environmental impacts of continuing those services. Each section includes detailed information to provide a context for APHIS-WS services that could be offered under the agreement renewal, and it is also intended to disclose relevant information and data to the public and decision makers.

It is not the purpose of this Draft EIR to justify project objectives, evaluate how a federal program operates, study the costs of wildlife damage management relative to the benefits, or provide a recommendation whether the proposed project should be approved or denied by the Monterey County Board of Supervisors. There are many factors the Board of Supervisors will consider in making its determination, and the information presented in this Draft EIR will help inform that decision-making.

As per CEQA, this Draft EIR is not required to provide an analysis of humaneness or ethical issues associated with lethal control. However, this Draft EIR does evaluate alternatives to the proposed project that consider nonlethal controls as an option to lethal controls for wildlife damage management. That evaluation is presented in Section 5.0, Alternatives.

SCOPE OF ENVIRONMENTAL IMPACT ANALYSIS IN THIS DRAFT EIR

The proposed project provides for a variety of activities that may be performed in the county under the cost-share agreement with APHIS-WS. The following describes the approach and rationale for the scope of the environmental impact analysis in this Draft EIR for these various project elements.

Technical Assistance Not Involving Direct Control of Wildlife Damage Management

The cost-share agreement between the County and APHIS-WS is for a range of services, which would be provided to resource owners upon their request. Many of the activities that would be performed by APHIS-WS personnel under the renewed agreement would be administrative, for example, responding to telephone inquiries, preparing informational literature and giving presentations, and performing initial investigations at the request of resource owners. Personnel

⁵ The requirements for subsequent environmental review are set forth in CEQA Guidelines Section 15162.

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would also offer recommendations to resource owners on wildlife damage management that would not involve removal of animals causing damage (that is, nonlethal methods for damage management). These administrative-type activities would not result in physical changes in the environment that require analysis in this Draft EIR.

Use of Direct Control Methods by APHIS-WS

As described above and in Section 2.0, Project Background, there are activities that would be performed by APHIS-WS for wildlife damage control that are expected to involve lethal methods. These methods are described in Appendix B (Direct Control Methods). The most common methods are devices such as cages, traps, or snares to capture animals, and shooting. With few exceptions, target animals that are captured but not killed by shooting are immobilized and/or euthanized. In rare cases, a captured animal may be relocated. The descriptions in Appendix B also indicate which methods APHIS-WS may not use in Monterey County because they are no longer allowed as well as methods that have not been used in the county for over 10 years and would therefore be unlikely to be used by APHIS-WS. Because Monterey County would not be materially involved in involved in any of the wildlife damage management activities that could involve the use of lethal methods, other than to cost-share the financial portion of the program, it would not direct which lethal methods may or may not be used.

If the agreement is renewed, it would authorize APHIS-WS to use various direct lethal control methods. Before wildlife damage management is conducted in response to a request for assistance from a property or resource owner, an Agreement for Control must be signed by APHIS-WS and the landowner or representative. The direct control methods do not require analysis, but the removal of a target species by lethal means by APHIS-WS has the potential to affect species populations, which is a physical environmental effect that requires analysis under CEQA. That evaluation is presented in Section 4.1, Biological Resources, of this Draft EIR.

Use of Nonlethal Control Methods by APHIS-WS

The existing cost-share agreement includes expenses for pyrotechnics (a nonlethal control method), so it is possible APHIS-WS could implement this nonlethal deterrent type of control on private land under its Agreement for Control with a resource owner. Potential impacts are evaluated in Impact 4.1.2 in Section 4.1, Biological Resources. The agreement would not provide for types of nonlethal controls that individual resource owners may choose to implement, which are summarized below.

Use of Nonlethal Control Methods by Private Parties

As part of technical assistance to resource owners, APHIS-WS staff may recommend nonlethal methods for wildlife damage management. These methods are described in Appendix B (Direct Control Methods). Some of these methods could be safely implemented by the resource owner and would be the responsibility of the resource owner. This could include altering animal husbandry practices, fencing, night pens, or use of guard animals, among others. Neither APHIS-WS nor County staff would be involved in implementing these actions, nor would the agreement as proposed allow for County funds to be provided directly to resource owners to acquire materials or resources to implement nonlethal methods on private property. As such, the use of nonlethal methods by private parties would be at the sole discretion of the resource owner. The use of nonlethal methods by private parties, and potential environmental effects, would occur with or without the proposed project, and there are no aspects of the proposed project that would change what nonlethal controls a resource owner might use, either by limiting them or adding

new ones. The use of nonlethal controls as an alternative to the proposed project, and potential environmental impacts, are examined in Section 5.0, Alternatives.

3.7 PERMITS AND APPROVALS

The following actions and approvals by Monterey County would be required to implement the proposed project:

- Monterey County Board of Supervisors certification of the EIR.
- Monterey County Board of Supervisors approval of five-year Program and Agreement Renewal between USDA APHIS-WS and Monterey County and annual work and financial plans required by the five-year CSA for each of the five years.

No state agency approvals are required.

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4.0 INTRODUCTION TO THE ANALYSIS

4.1 INTRODUCTION

The following is an introduction to the environmental analysis for the proposed project and a discussion of general assumptions used in the environmental analysis.

4.2 STRUCTURE OF THE ENVIRONMENTAL IMPACT ANALYSIS

The individual technical sections of the Draft EIR include the following information:

Environmental Setting

This subsection includes a description of the physical setting associated with the technical area of discussion, consistent with CEQA Guidelines Section 15125. Additional explanation regarding the approach to determining baseline conditions is provided below.

Environmental Baseline

An EIR must include a description of the physical environmental conditions in the vicinity of the project as they exist at the time the NOP is published. This environmental setting will normally constitute the baseline conditions by which a lead agency, in this case Monterey County, determines whether an impact is significant. By definition, if a project results in no significant adverse changes in environmental baseline conditions, then no significant impact will occur.

The NOP for the proposed project was issued on March 2, 2017. Thus, under CEQA Guidelines Section 15125(a), the environmental setting as of that date would normally constitute the baseline physical conditions against which impacts of the proposed project should be evaluated. However, because the County currently has an agreement with APHIS-WS and services provided under this agreement have occurred since the 1990s, the activities performed by APHIS-WS have, over time, resulted in the conditions that are present today with respect to wildlife populations in the county. Selecting only a complete year for which data are available (for example, fiscal year 2015-16) that is closest to the NOP publication date as a baseline condition would misrepresent conditions because there have been variations in the types and number of target species affected by APHIS-WS activities during the last 20 years, as shown in Tables 4.1-3 and 4.1-4 in Section 4.1, Biological Resources. Therefore, for purposes of this document, the environmental baseline comprises a 20-year period beginning in 1997 and ending in 2016, the latest year for which data are available. The Environmental Setting in Section 4.1, Biological Resources, evaluates how activities over that 20-year period may have affected species populations. This also provides a baseline for the cumulative analysis. For coyotes, in particular, the highest take in the 20-year period is also evaluated. As further explained in Section 4.1, the lowest species population estimates were used to conservatively estimate conditions for the baseline. Using a 20-year average as well as highest take provides a reasonable range of baseline assumptions for the analysis.

Regulatory Framework

This subsection identifies applicable federal, state, regional, and local plans, policies, laws, and regulations.

Impacts and Mitigation Measures

This subsection identifies direct and indirect physical environmental effects associated with implementation of the proposed project. Direct effects are those physical effects that are

4.0 INTRODUCTION TO THE ANALYSIS

caused by the project and occur at the same time and place. Indirect effects are those physical effects that are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Standards of significance are identified and used to determine whether the environmental effects are considered significant. Each environmental impact analysis is identified numerically.

Cumulative Impact Analysis

A cumulative impact is created as a result of the combination of the project evaluated in an EIR together with other projects causing related impacts. As provided by CEQA Guidelines Section 15130(b), the discussion of cumulative impacts must reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as much detail as is provided for the effects attributable to the project alone. There are two approaches defined in the CEQA Guidelines for determining the scope of the analysis: either a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the lead agency (in this case, Monterey County); or a summary of projections contained in an adopted plan or related document. For purposes of this Draft EIR, the list approach is used because direct and indirect cumulative effects on wildlife species is a function of specific activities in a geographic area.

The “Cumulative Impacts” subsection in Section 4.1, Biological Resources, describes the geographic context for the cumulative analysis, a summary of the expected environmental effects to be produced by those projects, and analysis, as required under CEQA Guidelines Sections 15130(b)(B)(3) through 15130(b)(B)(5).

4.3 TERMINOLOGY

This Draft EIR uses the following terminology to describe the environmental effects of the proposed project:

No Impact: There would be no change in the physical condition of the environment compared to baseline conditions.

Less Than Significant Impact: There would be no substantial adverse change in the physical condition of the environment compared to baseline conditions (no mitigation would be required for project effects found to be less than significant).

Less Than Cumulatively Considerable Impact: The proposed project would contribute to cumulative impacts that would occur without the project, but the proposed project's contribution would not be cumulatively considerable. Less than cumulatively considerable means that the incremental effects of an individual project would not be considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15064[h][1]).

4.4 ENVIRONMENTAL IMPACTS NOT EVALUATED IN DETAIL IN THE DRAFT EIR

An initial study was prepared in February 2017 for the proposed project and is included in **Appendix A**. The County determined that impacts would be less than significant or there would be no impact for the following topics included in Appendix G of the CEQA Guidelines: aesthetics, agricultural resources, air quality, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, mineral

resources, noise, population and housing, public services, recreation, traffic and transportation, tribal cultural resources, and utilities and service systems.

With the exception of a comment regarding aesthetics as it related to the potential for the public to encounter a trapped, injured or dead animal, the County did not receive any comments indicating that the other environmental topics listed above should be considered in detail in the Draft EIR. Impact 4.1.1 in Section 4.1, Biological Resources, addresses this issue.

4.0 INTRODUCTION TO THE ANALYSIS

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4.1 BIOLOGICAL RESOURCES

This section describes the environmental setting, laws, and regulations that are applicable to the proposed project for the wildlife resources that could be affected by the CSA renewal and continuation of the County's agreement with APHIS-WS, and project and cumulative impacts.

Public comments were received on the NOP and are included in **Appendix A** of this Draft EIR. Comments from members of the public focused on the need for the services provided by APHIS-WS. The Center for Biological Diversity raised a number of issues pertaining to biological resources, which are summarized in Table A-1 in Appendix A. The information presented in those comments was considered during preparation of the environmental setting and impact analysis and are addressed herein.

4.1.1 ENVIRONMENTAL SETTING

LAND USE

Monterey County is located on California's central coast and is bounded by the Pacific Ocean on the west, Santa Cruz County on the north, San Benito, Fresno, and Kings Counties on the east, and San Luis Obispo County on the south (see Figure 3.0-1 in Section 3.0, Project Description). Monterey County encompasses just over 2 million acres (approximately 3,300 square miles). Table 3.0-1 in Section 3.0 summarizes land ownership and jurisdiction in the county. Approximately 73 percent of the land in the county is in private ownership. Land under federal and state jurisdiction comprises approximately 26 percent of the county.

Monterey County is predominantly rural/agricultural in nature. Agriculture is the largest land use in Monterey County. As of 2014, there were nearly 1.3 million acres of agricultural lands in the county, representing approximately 61 percent of the total land area (see Table B-1 in Appendix B)). Based on the most recent Agricultural Commissioner's report, rangeland comprised over 1 million acres (Monterey County 2015).

HABITAT

Monterey County contains diverse natural communities, ranging from oak woodlands in the Salinas Valley, to beach dunes near Fort Ord, to Elkhorn Slough in North County. Natural vegetation throughout the county is typical of that occurring in the coastal ranges and interior valleys of central California. Habitat types and acreages in Monterey County in order of abundance are listed in Table B-1 (Monterey County Land Use and Habitat Data) in Appendix B. Grassland (30 percent), chaparral (23 percent), woodland (19 percent), and scrub (7 percent) are the predominant natural habitat types, which comprise nearly 80 percent of the county (USFS 2017).

Calculations for potentially suitable habitat that could support target wildlife mammal species are presented in Table B-1 in Appendix B. Potentially suitable habitat was estimated using two different datasets: CALVEG (USFS 2017) for natural habitat types and geographic data from multiple sources, which are identified in Table B-1. Potentially suitable habitat using CALVEG is 3,213 square miles, compared to 2,632 square miles using geographic data. The lower value was used for purposes of quantifying low and high population estimates for target species to provide a conservative analysis.¹ Using the higher CALVEG total would have overestimated the low

¹ The potentially suitable habitat calculation was used in conjunction with population dynamics specific to each species to estimate target species population ranges (low estimate and high estimate). Population estimates are provided in the

4.1 BIOLOGICAL RESOURCES

population and thus the percentage of take as a function of total population for baseline conditions. However, it is recognized that wildlife species could be present in almost every natural habitat in the county, with potential for greater occurrence where natural habitat interfaces with agricultural environments and urban development.

COMMON WILDLIFE SPECIES AND HABITATS

Annual grassland is found throughout Monterey County; it intermingles with coastal oak woodland, coastal scrub, montane hardwood, and several other communities. Annual grasslands are used by many wildlife species for foraging. Many songbirds only nest in grasslands. Common reptiles that breed in grassland habitats include western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus trigis*). Grasslands provide foraging habitat for wide-ranging species such as red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), and northern harrier (*Circus cyaneus*). Mammals typically found in this habitat include California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), and American badger (*Taxidea taxus*). Many species that nest or roost in adjacent habitats forage in grasslands, including western bluebird (*Sialia mexicana*), western kingbird (*Tyrannus verticalis*), and some species of bats. (Monterey County 2008: 4.9-11, -19)

Oak woodlands are important habitats because of their high value to wildlife in the form of nesting sites, cover, and food. Birds associated with oak woodlands include acorn woodpeckers (*Melanerpes formicivorus*), Nuttall's woodpeckers (*Picoides nuttallii*), western scrub jay (*Aphelocoma californica*), and many warblers and flycatchers. Cavities in oak trees are important nesting sites for American kestrel, tree swallow (*Tachycineta bicolor*), oak titmouse (*Baeolophus inornatus*), house wren (*Troglodytes aedon*), white-breasted nuthatch (*Sitta carolinensis*), and western bluebird. Oak woodlands provide nesting sites for raptors, such as red-tailed hawks, red-shouldered hawks (*Buteo lineatus*), and great-horned owls (*Bubo virginianus*). Mammals associated with woodlands include western gray squirrel (*Sciurus griseus*), pallid bat (*Antrozous pallidus*), bobcat (*Lynx rufus*), black-tail deer (*Odocoileus hemionus*), and gray fox (*Urocyon cinereoargenteus*). Acorns are an important food source for species such as California quail (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), western gray squirrel, and black-tailed deer (Monterey County 2008:4.9-13)

Certain agricultural lands have become important habitats for wintering waterfowl and breeding and wintering raptors. Wildlife species associated with agricultural lands include mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), sandhill crane (*Grus canadensis*), various raptor species, egrets, and many species of rodents. Agricultural areas are also important foraging sites for many species of raptors and several mammals, such as the California ground squirrel, San Joaquin kit fox, and coyotes, use the edges of agricultural fields for hunting and local migrations (Monterey County 2008:4.9-20)

Creek channels with well-vegetated areas provide food, water, and migration and dispersal corridors, as well as escape, nesting, and thermal cover for many wildlife species. Wildlife species associated with stream and riparian habitats include western toad (*Bufo boreas*), California newt (*Taricha torosa*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), great

"Target Mammal Species Characteristics and Population Estimates" subsection, below, with supporting documentation in Tables C-3 through C-8 in Appendix C.

egret (*Ardea alba*), belted kingfisher (*Ceryle alcyon*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*) as well as California red-legged frog and California tiger salamander. In less-vegetated areas, aquatic species (e.g., fish, invertebrates, and amphibians), are found in the creek channel, and the banks of the channel are often used by species that require less cover, such as California ground squirrel, western fence lizard, gopher snake (*Pituophis catenifer catenifer*), and their predators (e.g., coyotes, raptors). (Monterey County 2008: 4.9-21)

SPECIAL-STATUS SPECIES

Federal and State Threatened and Endangered Wildlife Species

There are numerous federally listed endangered and threatened mammal, bird, amphibian, reptile, invertebrate, and fish species and other CEQA-defined special-status species in the county. These are identified in Table 4.1-1.

For each species listed in Table 4.1-1, APHIS-WS previously determined through consultation with federal and state agencies whether its wildlife damage management actions would have an adverse effect on a federal or state threatened or endangered species. Table C-1 in Appendix C identifies the results of those consultations. The results of those consultations indicate there would be no adverse effects.

**TABLE 4.1-1: FEDERAL AND STATE THREATENED AND ENDANGERED WILDLIFE SPECIES
POTENTIALLY OCCURRING IN MONTEREY COUNTY**

Common Name	Scientific Name	State Listing	Federal Listing
Giant kangaroo rat	<i>Dipodomys ingens</i>		FE
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	ST	FE
Southern sea otter	<i>Enhydra lutris nereis</i>		FT
Bald eagle	<i>Haliaeetus leucocephalus</i>	SE*	<u>Delisted</u> FT FE (rev) FE
Bank swallow	<i>Riparia riparia</i>	ST	
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	SE	
California black rail	<i>Laterallus jamaicensis coturniculus</i>	ST*	
California clapper rail	<i>Rallus longirostris obsoletus</i>	SE*	FE
California condor	<i>Gymnogyps californianus</i>	SE*	FE
California least tern	<i>Sternula antillarum browni</i>	SE*	FE
Least Bell's vireo	<i>Vireo bellii pusillus</i>	SE	FE
Marbled murrelet	<i>Brachyramphus marmoratus</i>	SE	FT
Scripps's murrelet	<i>Synthliboramphus scrippsi</i>	ST	
Short-tailed albatross	<i>Phoebastria albatrus</i>		FE
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	SE	FE
Swainson's hawk	<i>Buteo swainsoni</i>	ST	
Western snowy plover	<i>Charadrius nivosus nivosus</i>		FT
Arroyo toad	<i>Anaxyrus californicus</i>		FE
Blunt-nose leopard lizard	<i>Gambella silus</i>	SE*	FE
California red-legged frog	<i>Rana draytonii</i>		FT
California tiger salamander	<i>Ambystoma californiens</i>	ST	(FE) (FT)

4.1 BIOLOGICAL RESOURCES

TABLE 4.1-1: FEDERAL AND STATE THREATENED AND ENDANGERED WILDLIFE SPECIES POTENTIALLY OCCURRING IN MONTEREY COUNTY

Common Name	Scientific Name	State Listing	Federal Listing
Santa Cruz long-toed salamander	<i>Ambystoma macrodactylum croceum</i>	SE	FE
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>		FT
Black abalone	<i>Haliotis cracherodii</i>		FE
Smith's blue butterfly	<i>Euphilotes enoptes smithi</i>		FE
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>		FT
Tidewater goby	<i>Eucyclogobius newberryi</i>		FE
Longfin smelt	<i>Spirinchus thaleichthys</i>	ST	
Steelhead	<i>Oncorhynchus mykiss irideus</i>		FT

Source: USFWS 2017b; CDFW 2017e

S = state listed

F = federally listed

T = threatened

E = endangered

NLAA – not likely to adversely affect

* = state fully protected species

The USFWS has approved recovery plans for the federal-listed threatened and endangered species, which describe strategies and actions to protect these species and help plan recovery efforts.

California Wildlife Species of Special Concern

In addition to species that have a federal or state listing as threatened or endangered, there are also species of special concern in California. Table 4.1-2 lists these species.

TABLE 4.1-2: CALIFORNIA WILDLIFE SPECIES OF SPECIAL CONCERN IN MONTEREY COUNTY

Common Name	Scientific Name	State Rank
Mammals		
American badger	<i>Taxidea taxus</i>	S3
Big-eared kangaroo rat	<i>Dipodomys venustus elephantinus</i>	S2
Monterey dusky-footed woodrat	<i>Neotoma macrotis luciana</i>	S3
Pallid bat	<i>Antrozous pallidus</i>	S3
Salinas pocket mouse	<i>Perognathus inornatus psammophilus</i>	S1
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	S2
Western mastiff bat	<i>Eumops perotis californicus</i>	S3S4
Western red bat	<i>Lasiurus blossevillei</i>	S3
Birds		
Ashy storm-petrel	<i>Oceanodroma homochroa</i>	S2
Black swift	<i>Cypseloides niger</i>	S2
Burrowing owl	<i>Athene cunicularia</i>	S3
Loggerhead shrike	<i>Lanius ludovicianus</i>	S4
Northern harrier	<i>Circus cyaneus</i>	S3
Purple martin	<i>Progne subis</i>	S3

TABLE 4.1-2: CALIFORNIA WILDLIFE SPECIES OF SPECIAL CONCERN IN MONTEREY COUNTY

Common Name	Scientific Name	State Rank
Short-eared owl	<i>Asio flammeus</i>	S3
Tricolored blackbird	<i>Agelaius tricolor</i>	S1S2
Tufted puffin	<i>Fratercula cirrhata</i>	S1S2
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	S2S3
Yellow warbler	<i>Setophaga petechial</i>	S3S4
Amphibians and Reptiles		
Arroyo toad	<i>Anaxyrus californicus</i>	S2S3
Black legless lizard	<i>Anniella pulchra nigra</i>	S2
California red-legged frog	<i>Rana draytonii</i>	S2S3
Coast horned lizard	<i>Phrynosoma blainvillii</i>	S3S4
Coast Range newt	<i>Taricha torosa</i>	S4
Foothill yellow-legged frog	<i>Rana boylei</i>	S3
Longfin smelt	<i>Spirinchus thaleichthys</i>	S1
San Joaquin coachwhip	<i>Masticophis flagellum ruddocki</i>	S2?
Silvery legless lizard	<i>Anniella pulchra pulchra</i>	S3
Tidewater goby	<i>Eucyclogobius newberryi</i>	S3
Two-striped gartersnake	<i>Thamnophis hammondi</i>	S3S4
Western pond turtle	<i>Emys marmorata</i>	S3
Western spadefoot	<i>Spea hammondi</i>	S3

Source: CDFW 2017e

CDFW rank code:

S1 = Critically imperiled

S2 = Imperiled

S3 = Vulnerable

S4 = Apparently secure

SXSX = range of values; rank is somewhere between the two values

? = represents more certainty than S2 than S2S3, but less certainty than S2

Special-Status Plants

More than 120 plants in Monterey County are included on the federal and/or state lists of threatened or endangered species or are identified by the California Native Plant Society as presumed extirpated, rare, threatened, or endangered. Table C-2 in Appendix C contains a list of these special-status plants.

Critical Habitat

More than 203,000 acres in the county are designated as critical habitat by the USFWS for the following species: amphibians (California red-legged frog and California tiger salamander); plants (Monterey spineflower, purple amole, and Santa Cruz tarplant); fish (steelhead and tidewater goby); invertebrates (vernal pool fairy shrimp); birds (western snowy plover); and plants (Yadon's piperia) (USFWS 2017a). IWD program activities may occur in critical habitat, but APHIS-WS is not allowed to implement activities that would intentionally result in take of a species for which critical habitat has been designated. APHIS-WS does not modify habitat of any kind. In addition, as shown in Table C-1 in Appendix C, APHIS-WS has completed formal USFWS Section 7 consultations regarding its actions for vertebrate species for which critical habitat has been designated.

4.1 BIOLOGICAL RESOURCES

GEOGRAPHIC EXTENT OF APHIS-WS IWDM PROGRAM SERVICES IN MONTEREY COUNTY

The services that have historically been provided by APHIS-WS in the county under the agreement are limited in geographic scope to only those specific locations on a property where the wildlife damage has occurred and where control services have actually been provided. The services provided by APHIS-WS to the County under the existing CSA have historically applied to only about 10 percent of the land in the county (see Section 2.0, Project Background). As explained in Section 2.0, the total number of acres is not an indicator of actual “on-the-ground” work; the total acreage reflects the sum of all of the parcel acreages for which the Agreements for Control have been signed. The actual on-the-ground activity (for example, placing a trap, snare, or cage, or tracking an animal) is limited to a few square yards or less.

TAKE DATA FOR TARGETED WILDLIFE SPECIES

Under the existing agreement with APHIS-WS, and historically, specific mammal and avian species have been targeted for wildlife damage control by lethal methods, referred to as “intentional take.” As described in Section 2.0, Project Description, intentional take may be performed to protect livestock, threatened and endangered species, public health and safety, and property. In Monterey County, APHIS-WS removes wildlife species for protection of agricultural resources, public health and safety, and property. Intentional take to protect threatened and endangered species is not funded by the County, but is conducted separately by APHIS-WS. Animals removed for protection of threatened and endangered species are primarily avian species and a few mammals. Additional information about take related to the protection of threatened and endangered species is provided under the “Take for Threatened and Endangered Species Protection” subheading, below.

CDFW does not allow for the relocation of wildlife causing damage. Except in limited cases where CDFW makes an individual exemption, CDFW dictates that the type of disposition of all wildlife captured for resource protection be euthanasia. Relocation of wildlife known to cause resource damage in one area does not correct the damaging behavior and can spread the problem to a new area. Relocation can also spread disease to other wildlife and domestic species.

Mammals

Table 4.1-3 lists the total number of target mammal species removed and/or taken as part of the APHIS-WS IWDM program in Monterey County for the 20-year period beginning in 1997 for the agricultural resource, human health, and property protection categories. As explained in Section 2.0, Project Background, and as shown in Table 2.0-1, not all take is associated with protecting livestock. The historical take data in Table 4.1-3 represents the baseline condition with respect to take of targeted species for purposes of the impact evaluation in this Draft EIR. The effect of take on species populations is described under the “Target Mammal Species Characteristics and Population Estimates” subheading, below.

As illustrated by the data in Table 4.1-3, the number of target mammal species intentionally taken as a result of APHIS-WS activities under its agreement for services in Monterey County can, and often does, vary from year to year. This is the result of different factors, including availability of prey (for example, number of head of livestock in a given year) or other food, disease, and limiting climatic conditions such as drought. In general, when predator populations increase, the occurrence of damage caused by the predators tends to increase. This, in turn, results in increased APHIS-WS activities and, thus, the take. Likewise, when predator populations decrease, the occurrence of damage caused by the predators tends to decrease, which results in less APHIS-WS activities and, thus, less take. Because of this correlation of “response to event,” take of

targeted species tends to be consistent with increases and decreases in target species population levels. Additionally, for most species, the level of effort APHIS-WS applies toward wildlife conflict resolution is typically related to the number of requests for assistance, new issues or concerns for that species, and/or the capability of conducting the activities based on the number of work hours specified in the agreement.²

As indicated in Table 2.0-5 in Section 2.0, Project Background, coyotes, bobcats, mountain lions, feral swine, raccoons, and striped skunks were the primary mammal species for which the most technical assistance was provided, and some are also the mammal species with the highest number of take on regular basis. For the remaining mammal species listed in Table 4.1-3, there were several years in which no animals were killed or take was infrequent (e.g., rabbits), or the species (e.g., beaver) has not been taken in over 10 years. Some of the targeted animals are not native to California (e.g., Virginia opossum, feral dogs, and nonnative red fox). In general, take of these animals is less than five per year, on average, and the loss has a negligible effect on those species' populations.

Specially managed target species such as mountain lion, bobcat, feral swine, and other game species (e.g., deer, beaver, gray squirrel, and wild turkey) require a permit (or license) for take because APHIS-WS is not allowed to issue take permits for game species, and it is not allowed to take these species without a permit. A depredation permit issued by CDFW under California Fish and Game Code Sections 4800-4809 is required to take mountain lion, bobcat, and feral swine.

Take data for each of the six species listed above and information about species characteristics and population are provided under the "Target Mammal Species Characteristics and Population Estimates" subheading, below.

Target Mammal Species Characteristics, Population Estimates, and Take Data

As indicated by the data in Table 4.1-3, a variety of mammal species have been removed by APHIS-WS activities in Monterey County. Other than coyote and feral swine, the number of individuals removed is very low, on the order of few per year or less, on average, or the frequency of occurrence over the 20-year period was low. The following describes the characteristics of the six mammal species that have historically been the source of most technical assistance services and accounted for the most frequent take of mammal species in the county under the APHIS-WS IWDM program (coyote, mountain lion, bobcat, feral swine, raccoon, and striped skunk). Because coyote is the wildlife species that resulted in the most requests for technical assistance, was removed in greatest numbers on an annual basis, and is most often the subject of study and public opinion, this section includes an expanded description of this species and other relevant considerations.

² As shown in Table 2.0-6 in Section 2.0, Project Background, the number of hours worked by APHIS-WS field specialists has remained fairly constant in the last 10 years and, with few exceptions, which are explained in Table 2.0-6, is within the annual maximums established in the CSA work and financial plans.

4.1 BIOLOGICAL RESOURCES

TABLE 4.1-3: MONTEREY COUNTY APHIS-WS TARGET MAMMAL SPECIES INTENTIONAL TAKE 1997-2016

Species	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total	Average
Badger	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	--
Beaver	0	6	9	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	--
Bobcat	19	11	4	0	0	0	0	0	1	0	0	0	0	2	0	6	2	3	0	0	48	2.4
Coyote	393	700	581	725	464	305	318	255	183	302	228	243	316	301	296	226	177	112	67	70	6262	313.1
Deer (mule)	3	5	3	3	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	21	--
Dog (feral/free ranging)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	--
Feral swine/hog	0	0	6	12	29	83	33	0	81	11	25	45	30	26	0	0	3	2	4	18	408	20.4
Hares (jackrabbit)	0	0	0	0	0	0	0	0	0	0	0	16	15	9	0	0	0	0	0	0	40	--
Mountain lion	1	1	1	1	0	1	1	0	1	1	5	1	6	2	1	1	0	6	0	2	32	1.5
Muskrat	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	--
Opossum, Virginia	0	1	0	0	0	0	1	1	0	0	0	0	4	2	0	1	0	3	0	0	13	0.7
Rabbit (cottontail)	0	0	0	0	0	0	0	0	0	0	0	41	32	12	0	0	0	0	0	0	85	--
Raccoon	0	3	1	38	17	2	17	0	0	1	0	0	4	0	2	0	0	0	0	3	88	4.4
Red fox	3	3	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	11	--
Skunk, striped	0	0	6	1	9	3	14	0	0	1	0	4	4	5	0	3	0	0	0	0	50	2.5
Squirrel, ground/other	0	0	0	0	0	252	103	220	0	0	0	50	20	23	0	0	0	0	0	0	668	33.4
TOTAL	419	730	611	790	530	649	491	476	266	318	258	401	431	382	299	237	182	127	71	93		

Notes:

-- Species taken infrequently or limited to only a few years; annual average not calculated

Source: USDA 2017a (included in Appendix B of this Draft EIR)

Coyote

The coyote (*Canis latrans*) is a widely distributed and an abundant nongame permanent resident in California found in almost all habitats, including brush, scrub, shrub, and herbaceous habitats, and may be associated opportunistically with croplands. They are also found in younger stands of deciduous and conifer forest and woodland with low to intermediate canopy, and shrub and grass understory.

Scientists, ecologists, and conservation biologists agree that the coyote is an important contributor to species biodiversity and ecosystems. Coyotes are opportunists, and their prey typically includes smaller animals such as rodents (squirrels, rats, and mice), lagomorphs (rabbits and hares), and carrion. They are also known to eat insects, reptiles, amphibians, fruits, and occasionally birds, their eggs, and deer fawns. Golden eagles, great-horned owls, and mountain lions occasionally may kill coyotes. Coyotes host various ectoparasites and endoparasites, and occasionally may carry rabies (Zeiner et al. 1990b).

The coyote commonly preys on cattle, goats, sheep, chickens, and eggs, as well as other livestock. Cattle and calves are most vulnerable to predation at calving season and less vulnerable at other times of year. However, sheep, and especially lambs, can sustain high coyote predation rates throughout the year.

Coyotes are adaptable predators. They are tolerant of human activities, and adapt and adjust rapidly to perturbations and changes in their environment. The urban fringe often offers coyotes a high-quality habitat with a bountiful year-round food supply that can include garbage, pet food, small dogs, and domestic cats, among other things. Researchers have speculated that the urban fringe can provide 10–20 times the normal carrying capacity for coyotes compared to wildland habitats. The highly adaptable coyote may be losing its fear of humans. (Baker and Timm 1998; Timm et al. 2004; Timm and Baker 2007; UC ANR 2007; White and Gehrt 2009).

Historically, attacks on humans were rare. The only reported coyote-caused fatality in California, according to CDFW, occurred in 1981. Another fatality occurred in Canada in 2009. However, as coyotes become habituated to people because they associate people with food, they begin to exhibit increased levels of aggression, which can lead to public safety problems. There have been reports of coyote encounters and attacks on humans in the last few years throughout the state, particularly in Southern California (CDFW 2011; 2015b).

Population Estimates

CDFW (CDFG 2004: Appendix 4 [Coyote Population Model]) estimates there are between approximately 431,000 and 2,150,000 coyotes in California. Since 2004, there have been no definitive studies that indicate the population is less than 431,000, or that the population dynamics used in the CDFW 2004 study (CDFG 2004) to estimate population are incorrect. Applying the same population dynamics that were used by CDFW to estimate statewide population, the Monterey County coyote population is estimated to range approximately from 7,300 to 36,700 (see Table C-3 in Appendix C). There are no published, peer-reviewed scientific studies to date that indicate the county population is less than 7,300 or greater than 36,700. The low population estimate is used to conservatively evaluate baseline conditions and project impacts.

Numerous scientific publications, studies, and other literature have documented that coyotes are highly prolific and able to rebound rapidly from reductions in population from an area following localized damage management and sport hunting. The CDFW established an allowable harvest level of 70 percent of the population (CDFG 2004:40). USDA APHIS-WS researchers have noted the harvest level can be up to 60 percent of population for a sustained time because recruitment annually replaces breeders. In a computer simulation, all populations recovered within 1 year

4.1 BIOLOGICAL RESOURCES

when less than 60 percent of the population was removed. Recovery occurred within 5 years when 60 to 90 percent of the population was removed. When the removal rate was less than 60 percent of the population, the population size was the same as for an unexploited population (Pitt, Knowlton, and Box 2001). APHIS-WS reported that these findings are consistent with the CDFW population model that indicated that coyote populations could withstand an annual removal of up to 70 percent of their numbers and still maintain a viable population (USDA 2015a: 49). However, for purposes of this Draft EIR, the lower value (60 percent) is used to conservatively estimate impacts.

Take Data

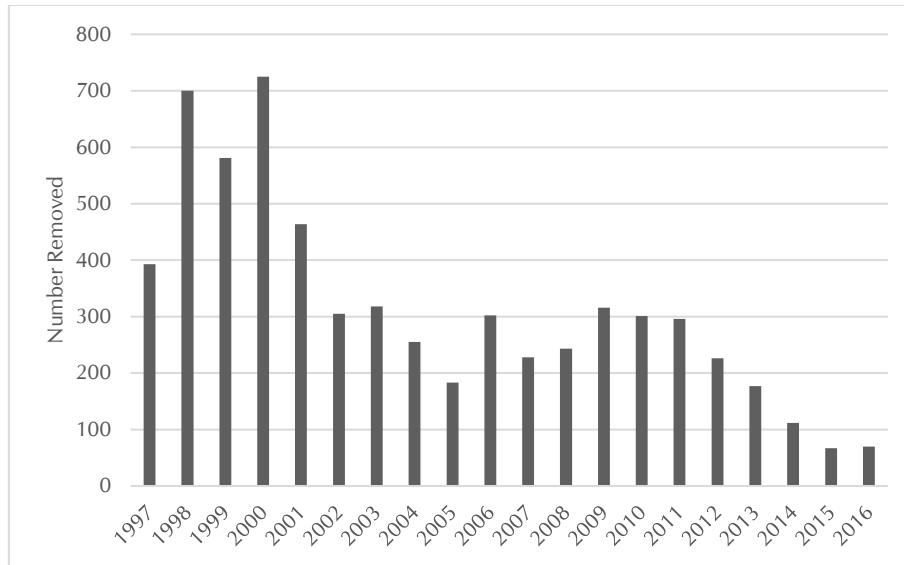
The most common animal removed was the coyote, which is an unprotected furbearer and nongame animal and may be taken year-round for any reason. CDFW does not require depredation permits or hunting licenses for coyotes. While APHIS-WS records the number of coyotes that it kills as part of the IWDM program, CDFW does not have similar records for the numbers of coyotes that are killed by private landowners because permits to hunt and kill coyotes are not required, nor is any reporting to CDFW or the county required.

Figure 4.1-1 depicts the number of coyotes removed by APHIS-WS in the county under the IWDM program agreement for the last 20 years. As shown in Table 2.0-4, coyotes were primarily taken in response to confirmed livestock losses. A total of 6,262 coyotes were removed, and the 20-year average annual coyote take in the county was approximately 313 individuals per year (Table C-3 in Appendix C). The highest number of coyotes removed was 725 individuals in 2000. Coyote take in the county (as well as statewide) has been decreasing, as shown in Figure 4.1-1. For the period 2007-2016, the county average was lower, at approximately 204 individuals per year. Statewide, approximately 129,000 coyotes were taken over the 20-year period, and the 20-year average statewide take was approximately 6,400 per year (Table C-3 in Appendix C).

Figure 4.1-2 depicts the county data relative to statewide take for the same time period. Supporting data for these figures are presented in Table C-3 in Appendix C. Coyote take in Monterey County over the 20-year period accounts for less than 1 percent of statewide take (see Table C-3 in Appendix C). As shown in Figure 4.1-2, coyote take has been steadily decreasing.

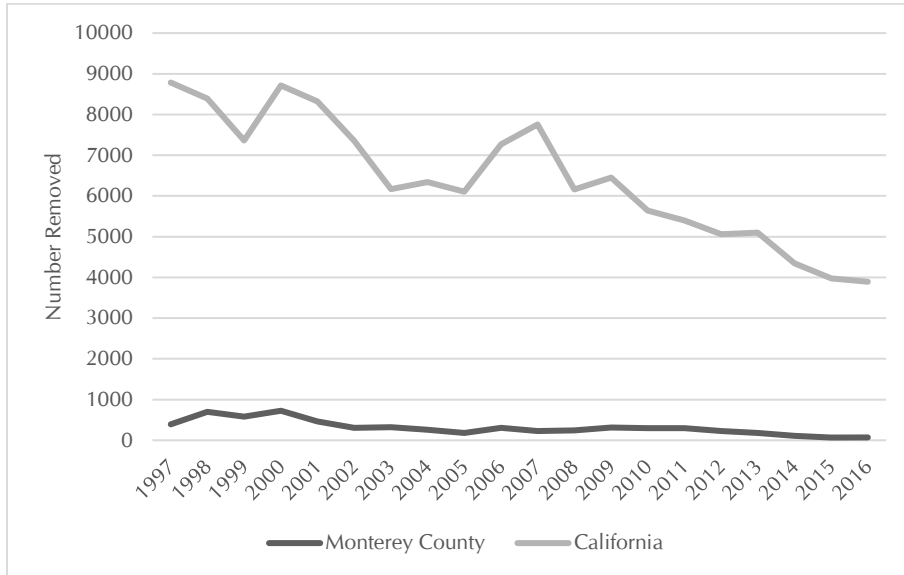
Averaged over the 20-year baseline period, take in Monterey County under the APHIS-WS IWDM program is approximately 4.3 percent of the county low estimate population for the 1997–2016 time period. For the highest historic take (725 individuals) during that same period, the percentage of the county low population estimate is 10 percent. Relative to the statewide low population estimate, the coyote take in the county is 0.07 percent for the 20-year average and 0.2 percent for the highest take (see Table C-3 in Appendix C). These values are substantially lower than 60 percent threshold needed to maintain population viability. This suggests that the APHIS-WS activities under its existing CSA with the county under baseline conditions have not had a substantial adverse effect on coyote population in the county to date.

**FIGURE 4.1-1: COYOTE TAKE IN MONTEREY COUNTY
UNDER APHIS-WS IWDM PROGRAM AGREEMENT**



Source: USDA 2017a

**FIGURE 4.1-2: MONTEREY COUNTY AND STATEWIDE COYOTE TAKE
UNDER APHIS-WS IWDM PROGRAM**



Source: USDA 2017a; USDA 2017b

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Mountain Lion

Characteristics

Mountain lion (*Puma concolor*) is a widely distributed and permanent resident species in California. It is a specially protected species under California Fish and Game Code Section 4800, and it is illegal to hunt or trap them. Almost all habitats can harbor mountain lions with the exception of desert habitats and croplands in the Central Valley, which do not support mule deer populations. This species generally has a fixed range and migrates seasonally in response to prey movements, following migrating herds of mule deer. The highest population densities can be found in riparian areas and stages of brush. Mountain lions are solitary and elusive, and their nature is to avoid humans. Mountain lion attacks on humans are extremely rare. However, conflicts are increasing as California's human population expands into mountain lion habitat. CDFW maintains records of mountain lion attacks on humans, where an attack is defined as an encounter in which skin is broken or there is a death. Although there have been several accounts of mountain lion encounters in urban areas (e.g., mountain lions in residential backyards or attacking domestic pets), the last attack—as defined by CDFW—was in 2014 (CDFW 2017c).

Mountain lions are carnivorous, with mule deer making up 60 to 80 percent of their diet during a given year. Other prey includes rodents, rabbits, skunks, turkey, grouse, fish, berries, and on occasion, domestic livestock. This species hunts and tracks its prey by scent. This species finds cover in caves and other natural crevices and cavities or in areas of dense brush and timber. Reproduction generally occurs in caves and other natural cavities, and then the mother will create a den in thickets of vegetation. Mountain lions are active all year long and are primarily crepuscular (active during twilight) and nocturnal. Most births are likely to occur in the spring and consist of a litter size between one and six, but usually two and four. Mountain lions have few predators other than humans; however, some young may be taken by large raptors and bears. Competitors for resources include bobcats, bears, and coyotes (Zeiner et al. 1990c).

Population

Mountain lion studies over the last 30 years have estimated population densities for different habitat types around the state. CDFW has estimated there were between 4,000 and 6,000 mountain lions statewide (CDFW 2007), and that the population may have increased since the 1970s (CDFW 2013). In contrast, the Mountain Lion Foundation (MLF) estimates the statewide population is now approximately 3,100, and that the population has decreased since 2007 (MLF 2017). Applying MLF's population density to suitable habitat in Monterey County, there are an estimated 120 mountain lions in the county, whereas the CDFW low population estimate would be approximately 132 (see Table C-4 in Appendix C).³ The MLF low population estimate is used to conservatively evaluate baseline conditions and project impacts.

Take Data

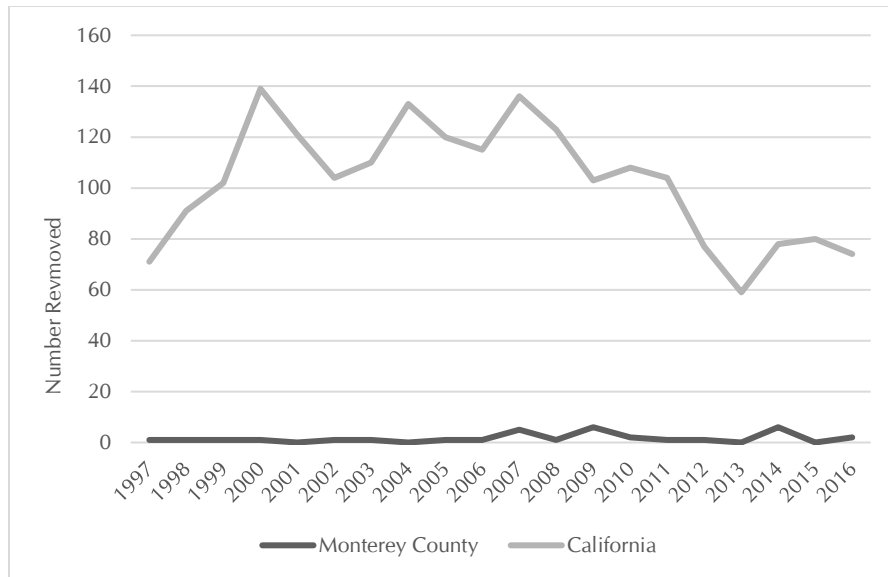
The passage of the California Wildlife Protection Act of 1990 (Proposition 117) by California voters established that mountain lions are a specially protected mammal in California (California Fish and Game Code Section 4800), and that it is unlawful to possess, transport, import, or sell any mountain lion or part or product thereof (including taxidermy mounts). Hunting and trapping, by

³ The Mountain Lion Foundation's estimate of 3,100 lions statewide is based on 1.7 lions/100 square kilometers, which is equivalent to 4.4 lions/100 square miles of suitable habitat. The MLF website also references a 2012 CDFW estimate of 4,000 lions, and that CDFW staff had stated the estimated population had decreased compared to 10 years ago. CDFW's population density ranges from 5 to 7 lions per 100 square miles. The lower MLF density is used to ensure a conservative analysis.

any individual or entity, is illegal. Mountain lions may only be taken with a depredation permit. CDFW issues the permit if the loss or damage is confirmed by CDFW staff to have been caused by mountain lions. The permit may be issued to an agency, jurisdiction, or a private party. CDFW does not have a numerical threshold (number of individuals or percentage) for take.

Between 1997 and 2016, a total of 32 mountain lions were removed under the APHIS-WS IWDM program in the county. In some years, no mountain lions were taken. The county average was less than two individuals per year. Figure 4.1-3 shows the number of mountain lions depredated in Monterey County compared to statewide take under the APHIS-WS program. Mountain lion take in Monterey County over the 20-year period, on average, accounts for approximately 2 percent of statewide take (Table C-4 in Appendix C).

FIGURE 4.1-3: MONTEREY COUNTY AND STATEWIDE MOUNTAIN LION TAKE UNDER APHIS-WS IWDM PROGRAM



Source: USDA 2017a; USDA 2017b

Averaged over the 20-year period, take in Monterey County under the APHIS-WS IWDM program is approximately 1.4 percent of the county low population estimate for the period 1997 to 2016. Relative to the statewide low population estimate, mountain lion take in the county was approximately 0.1 percent for the 20-year average (Table C-4 in Appendix C). CDFW has not established a sustainable harvest level for mountain lion, and manages the species for conservation.

Bobcat

Characteristics

Bobcat (*Lynx rufus*) is a permanent resident game species throughout the majority of California and is found in almost all habitat and successional stages of vegetation growth. The optimal habitat for bobcats is low-growing brushy stages and low- to mid-elevation conifer, oak, and pinyon-juniper forests. This species also prefers all stages of chaparral and riparian habitats. Bobcats are not migratory.

4.1 BIOLOGICAL RESOURCES

Bobcats are mostly carnivorous and consume lagomorphs, rodents, young deer, birds, amphibians and reptiles, and invertebrates. It is also thought that they may consume significant amounts of grass and fruit. This species stalks or ambushes prey using a variety of tactics but will usually only pursue prey for a few leaps or bounds rather than chasing for long distances. Bobcats will also sometimes cache their prey if the meal is too big to consume in one day. Bobcats use natural cavities including caves, logs, snags, or dense shrubs and chaparral for cover. The optimal habitat for bobcats is mountainous and rocky terrain that supports brush and deciduous and conifer forests or chaparral. The species also prefers habitats adjacent to riparian areas and dense forest. Bobcats are active all year and are primarily crepuscular and nocturnal; however, some diurnal activity is not abnormal. Most births (one litter per year) occur in the spring in California with litter sizes known to range between one and seven. Females generally begin breeding in their first year, males in their second. Individuals may live up to 14 years. Bobcats can be preyed upon by mountain lions or large raptors (i.e., young bobcats) and may compete for resources with coyotes (Zeiner et al. 1990a). CDFW has established that no more than 14,400 bobcats may be taken in California annually from hunting, trapping, and USDA Wildlife Services programs, which is the sustainable annual harvest level (CDFG 2004:57).

Population

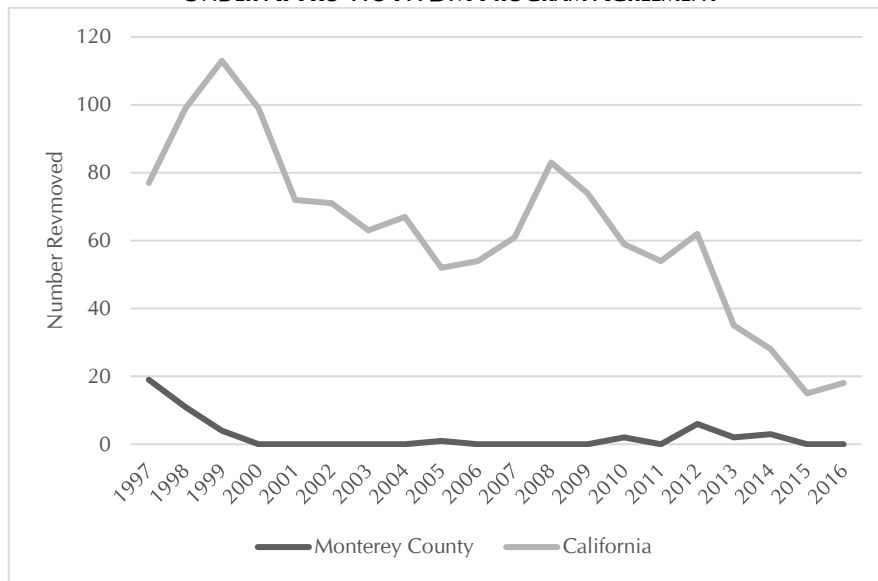
CDFW (CDFG 2004: Appendix 3 [Bobcat Population Model]) estimates there are between approximately 120,000 and 127,000 bobcats in California. Applying the same population dynamics that were used by CDFW to estimate statewide population, the Monterey County bobcat population is estimated to range from approximately 2,500 to approximately 2,600 (see Table C-5 in Appendix C). The low estimate is used to conservatively evaluate baseline conditions and project impacts.

Take Data

In Monterey County between 1997 and 2016, a total of 48 bobcats were removed under the APHIS-WS IWDM program. In some years, no bobcats were taken. The county average is less than three individuals per year, or less than 2 percent (Table C-5 in Appendix C). Figure 4.1-4 shows the number of bobcats depredated in Monterey County compared to statewide take under the APHIS-WS program. Bobcat take in Monterey County over the 20-year period, on average, accounts for approximately 3.8 percent of statewide take (Table C-5 in Appendix C). CDFW has established a sustainable harvest level for bobcats at 20 percent of the adult low population, which is approximately 14,400 bobcats per year (CDFG 2004: 59). Bobcat take in the county is well below the harvest level.

The 20-year average annual bobcat take in the county is less than three individuals per year, and the 20-year average statewide is approximately 63 per year. This is well below the CDFW harvest level of 14,400 bobcats. Averaged over the 20-year baseline period, bobcat take in Monterey County under the APHIS-WS IWDM program is approximately 0.1 percent of the county low estimate population for the period 1997 to 2016. Relative to the statewide low population estimate, bobcat take in the county is 0.002 percent for the 20-year average (Table C-5 in Appendix C). This is well below the CDFW threshold of 14,400 bobcats and suggests that the APHIS-WS activities under its existing CSA with the county under baseline conditions have not had a substantial adverse effect on bobcat population in the county to date.

FIGURE 4.1-4: MONTEREY AND STATEWIDE BOBCAT TAKE UNDER APHIS-WS IWDM PROGRAM AGREEMENT



Source: USDA 2017a; USDA 2017b

Feral Swine (Feral Pig)

Characteristics

Feral swine (*Sus scrofa*) is a nonnative invasive game species regulated by CDFW that was first introduced to the United States by Spanish explorers in the 1500s. Since then, natural breeding, new introductions, and relocation by humans have caused populations to rapidly expand. In the early 1700s, Spanish and Russian settlers introduced domestic pigs to California as livestock and many became feral. In the 1920s, a Monterey County landowner introduced the European wild boar, a wild subspecies of *Sus scrofa*, into California, which bred with the domestic pigs (CDFW 2017b; USDA 2016a; 2016b). Wild pigs occur in 56 of the state's 58 counties and can be found in a variety of habitats ranging from woodland, chaparral, meadow, and grasslands.

Feral swine mature at six to eight months of age. A single sow can have up to two litters of 4 to 12 piglets a year. Feral swine eat mostly vegetation, but recent research shows they will prey on native wildlife as well; they have been known to consume the eggs of ground-nesting birds, reptiles, or amphibians, the young of large mammals such as deer, and both the young and adults of small mammals, reptiles, and amphibians.

The species' behaviors, such as rooting, soil compaction, and wallowing, all pose problems for plants. Consumption of seeds, nuts, and seedlings also reduces the potential for forest growth. Sites disturbed by rooting and wallowing are often vulnerable to erosion and establishment of nonnative, invasive plants. In some habitats, feral swine may eat or uproot protected, sensitive, unique, or rare plants. Feral swine carry or transmit over 30 diseases and 40 parasites that can be transmitted to livestock, people, pets, and wildlife (USDA 2016a). Nationally, in 2016, nearly 59,000 feral swine were removed in 36 states, compared to just under 20,000 in 2006, which is an indicator of the increasing magnitude of problems caused by this animal (USDA 2016b). In 2014, in response to the increasing damage and disease threats posed by expanding feral swine populations in the

4.1 BIOLOGICAL RESOURCES

United States, Congress appropriated \$20 million to APHIS for the creation of a collaborative, national feral swine damage management program. Among its many objectives, APHIS seeks to stabilize and eventually reduce the range and size of feral swine populations in the United States and territories in accordance with management objectives of states, territories, and tribes. APHIS-WS prepared an environmental impact statement for the program and approved a record of decision in July 2015 (USDA 2016b).

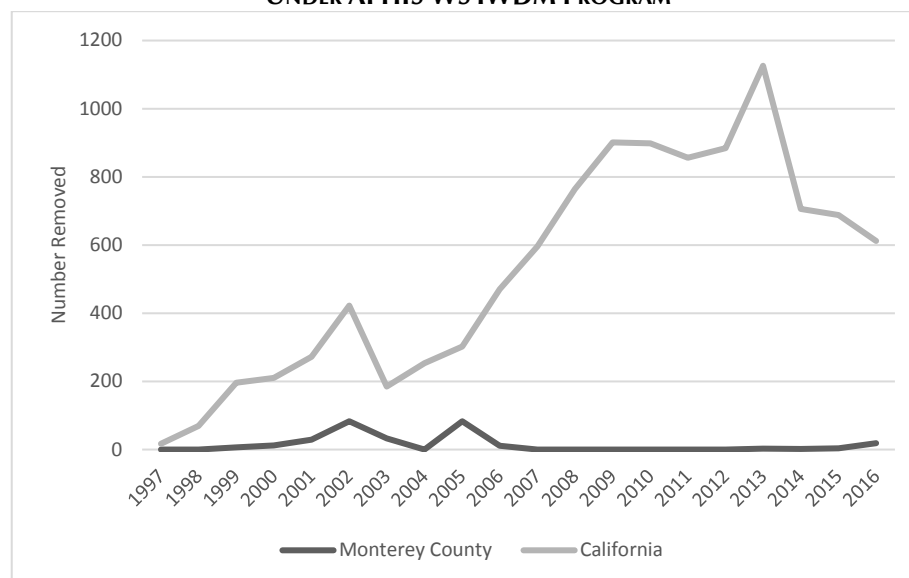
Population

There are no population estimates for feral swine in Monterey County and there is no harvest threshold. Based on harvest percentages, there were an estimated minimum of 70,000 feral swine in California in 2014, with a mean estimate of 110,000 and a maximum estimate of 275,000 (USDA 2015e:Table 3-2). County take over 20 years (408 swine) is less than 0.03 percent of the statewide population, which is neither substantial nor detrimental.

Take Data

In Monterey County between 1997 and 2016, a total of 400 feral swine were removed under the APHIS-WS IWDM program, for an average of approximately 20 per year. Statewide, over 10,400 feral swine were depredated (Table C-6 in Appendix C). Figure 4.1-5 shows the number of feral swine removed in Monterey County compared to statewide take under the APHIS-WS program. Feral swine take in Monterey County over the 20-year period, on average, accounts for approximately 4 percent of statewide take. A depredation permit is required, but California Fish and Game Code Section 4181.1 provides that take may be implemented immediately by the permit holder when the animal is damaging or destroying, or threatening to immediately damage or destroy, land or property, or the landowner, agent, or employee encounters damage or threat. The permit holder is required to report take to CDFW. Sport hunters may also take feral pig.

FIGURE 4.1-5: MONTEREY COUNTY AND STATEWIDE FERAL SWINE TAKE UNDER APHIS-WS IWDM PROGRAM



Source: USDA 2017a; USDA 2017b

Raccoon

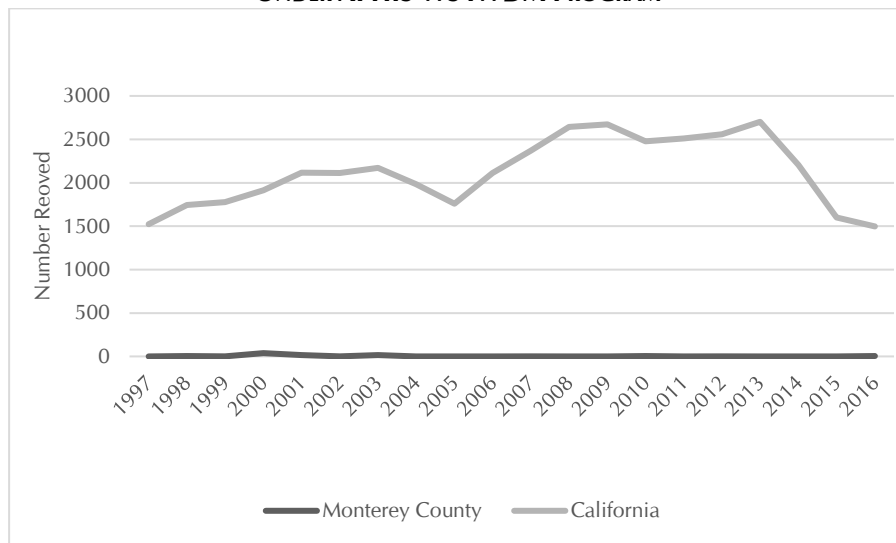
Population

CDFW (CDFG 2004: Appendix 8 [Raccoon Population Model]) estimates there are between approximately 72,400 and 211,200 raccoons in California, although CDFW also believes this is likely an underestimate of the true raccoon population (CDFG 2004:67). Applying the same population dynamics that were used by CDFW to estimate statewide population, the Monterey County raccoon population is estimated to range from approximately 1,500 to approximately 4,500 (see Table C-7 in Appendix C). The low estimate is used to conservatively evaluate baseline conditions and project impacts.

Take Data

In Monterey County between 1997 and 2016, a total of 88 raccoons were removed under the APHIS-WS IWDM program, for an average of approximately 5 per year. Figure 4.1-6 shows the number of raccoons removed in Monterey County compared to statewide take under the APHIS-WS program. Raccoon take in Monterey County over the 20-year period, on average, accounts for less than approximately 0.2 percent of statewide take (Table C-7 in Appendix C). CDFW reports the sustainable harvest level for raccoon is 49 percent (CDFG 2004:43). Raccoon take in the county is well below the harvest level.

FIGURE 4.1-6: MONTEREY COUNTY AND STATEWIDE RACCOON TAKE UNDER APHIS-WS IWDM PROGRAM



Source: USDA 2017a; USDA 2017b

Averaged over the 20-year period, raccoon take in Monterey County under the APHIS-WS IWDM program is less than 0.2 percent of the county low estimate population for the period 1997 to 2016. For the highest historical take (38 individuals in 2000) during that same period, the percentage of the county low population estimate is less than 6 percent. Relative to the statewide low population estimate, the raccoon take in the county is less than 1 percent for the 20-year average and less than 0.1 percent for the highest take (Table C-7 in Appendix C). The magnitude of take for this species is substantially lower than the sustainable harvest level of 49 percent reported by CDFW.

4.1 BIOLOGICAL RESOURCES

Striped Skunk

Characteristics

Striped skunk (*Mephitis mephitis*) is a common nongame permanent resident species throughout California that can be found in almost all habitats but is most densely populated in early successional plant communities of coniferous and deciduous forests; in patchy canopy cover with shrub understory; and in landscaping consisting of herbaceous shrubs and areas with canopy cover. The only place in California this species is not found is in areas of the Mojave and Colorado Deserts.

Striped skunks are omnivorous and mostly eat insects, mammals and other small vertebrates, eggs, crustaceans, fruits, seeds, and sometimes decaying carcasses. They search for food on the ground level digging in the soil, looking under logs and in other ground-level cavities. This species seeks cover in ground-level cavities including under logs, snags, rocks, and houses, and in abandoned burrows. They may also excavate their own burrows in well-drained and easily crumbled soils or den in thick vegetation above the surface. They are primarily nocturnal with limited crepuscular activity and are known to remain in their den during severe weather conditions. For reproduction, they will den in similar types of refuges as where they find cover. Sexual maturity occurs at around 10 months for both males and females, and breeding starts in late January through March. They have one litter per year of an average of about four young, which are typically born between April and June. Natural predators of striped skunks include great horned owls, mountain lions, eagles, coyotes, badgers, foxes, and bobcats (Zeiner et al 1990e).

Population

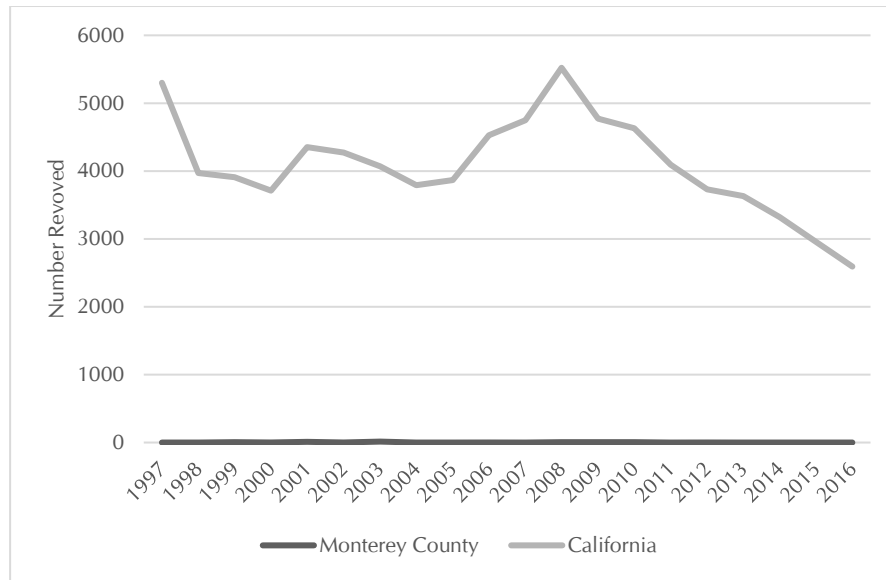
The CDFW (CDFG 2004: Appendix 10 [Striped Skunk Population Model]) estimates there are between approximately 318,000 and 1.5 million striped skunks in California. Applying the same population dynamics that were used by CDFW to estimate statewide population, the Monterey County striped skunk population is estimated to range from approximately 10,500 to nearly 50,000 (see Table C-8 in Appendix C). The low estimate is used to conservatively evaluate baseline conditions and project impacts.

Take Data

In Monterey County between 1997 and 2016, a total of 50 striped skunks were removed under the APHIS-WS IWDM program, for an average of less than three per year. Figure 4.1-7 shows the number of striped skunks removed in Monterey County compared to statewide take under the APHIS-WS program. Striped skunk take in Monterey County over the 20-year period, on average, accounts for less than approximately 0.06 percent of statewide take (Table C-8 in Appendix C).

Averaged over the 20-year period, take in Monterey County under the APHIS-WS IWDM program is less than 1 percent of the county low estimate population for the period 1997 to 2016. Relative to the statewide low population estimate, the striped skunk take in the county is less than 1 percent for the 20-year average (Table C-8 in Appendix C). The CDFW has not identified a harvest threshold for striped skunk (CDFG 2004).

FIGURE 4.1-7: MONTEREY COUNTY AND STATEWIDE STRIPED SKUNK TAKE UNDER APHIS-WS IWDM PROGRAM



Source: USDA 2017a; USDA 2017b

Avian Species

APHIS-WS Directive 2.301 provides guidance for managing damage caused by migratory birds to agriculture, aquaculture, natural resources, property, and public health and safety. Nonlethal and lethal bird controls may be used. No federal permit is required to scare, harass, or herd depredating migratory birds other than migratory birds that are also listed as endangered or threatened species and bald or golden eagles. Table 4.1-1 lists bird species that are federally and state-listed as threatened or endangered, and Table 4.1-2 lists California bird species of special concern in Monterey County. No species included on either of these lists have been removed during the 20-year baseline period.

A variety of common bird species were target species intentionally taken by APHIS-WS and are listed in Table 4.1-4. Many birds were also dispersed. All of the bird species taken during the 20-year baseline period (regardless of whether they were intentional target species or nontarget species) are protected under the MBTA (USFWS 2016). Several hundred American coots have been removed under agreements between APHIS-WS and private parties to mitigate golf course damage since 2006. On occasion, APHIS-WS may assist with one-time removals, such as cliff swallows that had built nests on a hospital in 2011 and presented a health risk to patients from bacteria that had the potential to enter the hospital's ventilation system. The data provided in Table 4.1-4 include both sources of take for disclosure.

APHIS-WS also removes birds for threatened and endangered species protection. For example, harrier (marsh) hawk was a target species removed for natural resources protection in 2011 and 2013 (see Table C-9 in Appendix C). However, that is not part of the take funded under the county's agreement with APHIS-WS for agricultural resources, public health and safety, or property protection.

4.1 BIOLOGICAL RESOURCES

TABLE 4.1-4: MONTEREY COUNTY APHIS-WS TARGET AVIAN SPECIES INTENTIONAL TAKE 1997-2016

Species	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total	Average
Blackbird (Brewer's)	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0	0	0	0	0	8	--
Cliff swallow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30*	0	0	0	0	0	30	--
Coot (American)**	0	0	0	0	48	0	0	0	0	332	305	752	388	106	195	1038	283	107	65	0	3619	181
Cowbird (brown-headed)	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	42	--
Crow (American)	0	0	0	0	0	0	0	0	0	0	0	13	58	38	0	0	0	0	0	0	109	--
Geese (Canada)	0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	0	0	0	0	0	25	--
Gull (California)	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	19	--
Raven	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	--
Starlings (European)	0	0	0	0	0	0	0	0	0	0	0	33	11	0	0	0	0	0	0	0	44	--
TOTAL	0	0	0	0	48	0	0	0	2	332	305	798	529	166	225	1038	283	107	65	0		

Notes:

-- Species taken infrequently or limited to only a few years; annual average not calculated

* included nests and eggs

** not funded by County cost-share agreement with APHIS-WS (private party contracts only); data are provided for disclosure purposes

Source: USDA 2017a (included in Appendix B of the Draft EIR)

Bald and Golden Eagles

Both bald and golden eagles are protected under the Bald and Golden Eagle Protection Act. No bald or golden eagles have been taken. Although the bald eagle is no longer protected under the federal Endangered Species Act (ESA), APHIS-WS follows provisions for the protection of the bald eagle from former ESA consultations with USFWS. APHIS-WS is required to notify the appropriate USFWS office within five days of the finding of any dead or injured bald or golden eagle. Cause of death, injury, or illness, if known, must be reported to USFWS. APHIS-WS monitors and routinely removes carcasses of trapped animals resulting from wildlife damage management conducted in the immediate vicinity of active bald or golden eagle sites to prevent attracting eagles to the area of ongoing wildlife damage management activities. The California APHIS-WS IWDM program has not taken a bald or golden eagle (USDA 2015a:71).

UNINTENTIONAL TAKE AND NONTARGET WILDLIFE SPECIES

Target Unintentional Take

In the course of providing services, particularly through the use of methods to capture a target species, there have been occasions when a target species was killed but the animal killed was not identified as the one causing damage.⁴ Table 4.1-5 presents data about unintentional take for the period 1997–2016. If a target species is caught, but it is not the individual causing damage, APHIS-WS makes every effort to release it unharmed, unless the animal is injured and the APHIS-WS field specialist determines that it would not likely survive if released. Incidents of unintentional target animal deaths are extremely low; most animals are freed. This is due to the techniques used by the APHIS-WS field specialists to ensure that the correct location(s) for the target species of concern is identified.

Nontarget Unintentional Take

Nontarget animals refer to wildlife species that were inadvertently captured and/or killed in conjunction with APHIS-WS IWDM program services performed in the county but were not identified as the specific cause of damage. These species are listed in Table 4.1-6. With few exceptions, the captured animals were freed. A nontarget, unintentional species is only killed if the animal is injured and determined by the APHIS-WS field specialist that it would not likely survive if released. No federal- or state-listed threatened or endangered species were captured or killed during the 20-year period. In 2002, a falcon, which is a bird of prey and is a protected species, was caught in a neck snare but it was released.

TAKE FOR THREATENED AND ENDANGERED SPECIES PROTECTION

Intentional take to protect threatened and endangered species is not funded by the County, but is conducted separately by APHIS-WS. Table C-9 in Appendix C summarizes take data associated with threatened and endangered species protection. Animals removed for the protection of threatened and endangered species are primarily avian species such as American crow and common ravens, but some mammals are also taken as well. Over the 20-year period, feral cat and red fox (non-native species) and striped skunk were mammal species taken with the most frequency and in greatest numbers. As shown by the data in Table C-9 in Appendix C, many

⁴ APHIS-WS does not conduct any aerial hunting in Monterey County through the IWDM funding mechanism, so there is no potential for unintentional take of a target species as a result of aerial hunting.

4.1 BIOLOGICAL RESOURCES

species are also released. This information is presented for disclosure purposes and for use in the cumulative analysis.

WILDLIFE CORRIDORS

As described in the Monterey County General Plan EIR (Monterey County 2008), the term “corridor” refers to contiguous areas of habitat that connect larger areas of habitat and facilitate genetic exchange within a population or between subpopulations by allowing movement within or between habitat patches. Because reduction and fragmentation of habitat are among the principal causes of species decline, identifying and preserving key corridors is important to retaining native populations in the county. A preliminary assessment (the Missing Linkages assessment by California Wilderness Coalition) identified connectivity between habitats in four key areas within the county: Santa Cruz Mountains to Gabilan Range; Santa Lucia Mountains to Fort Ord; Salinas Valley (east-west); and Salinas River (north-south). These habitat linkages are considered to be critical to retaining the viability of local wildlife populations. In addition, the Carmel River and the Pajaro River are also wildlife corridors, particularly as they relate to steelhead migration. Riparian forest habitat provides migration and dispersal corridors for wildlife as well (Monterey County 2008:4.9-10, -42, -43).

HABITAT AND RESOURCE MANAGEMENT PLANS

Although there are USFWS critical habitat plans, there are no regional conservation plans in Monterey County (CDFW 2015a). The Installation-Wide Multi-Species Habitat Management Plan for Former Fort Ord (USACE 1997) establishes the guidelines for conservation and management of plant and wildlife species at the former Fort Ord military base in Monterey County. These lands are currently administered and managed by the Bureau of Land Management.

APHIS-WS does not specifically conduct activities on federal lands in Monterey County under its agreement with the County. However, some work is done in response to requests from ranchers who have BLM grazing leases, and the amount is minimal.

There are approximately 310,000 acres of land managed by the US Forest Service in Monterey County, all in the Los Padres National Forest. The Los Padres National Forest Resource Management Plan, approved in 2005, provides direction for the maintenance of a healthy forest; community protection from wildland fire; managed, sustainable recreation settings and uses; and the management of threatened and endangered species. Monterey County does not fund APHIS-WS activities on federal forest land in Monterey County. As such, this plan is not applicable to the proposed project.

TABLE 4.1-5: MONTEREY COUNTY APHIS-WS TARGET NONINTENTIONAL KILLED AND FREED/RELEASED 1997-2016

Species	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Nonintentional Killed																					
Bobcat	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Duck (mallard)	0	0	0	0	0	0	0	0	0	0	0	0	3	2	12	0	4	5	0	0	26*
Feral swine	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Fox (red)	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Raccoon	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Killed																					36
Nonintentional Freed																					
Blackbird (Brewer's)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Blackbird (red-winged)	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10
Bobcat	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Duck (mallard and feral)	0	0	0	0	17	0	0	0	0	0	0	0	34	2	8	0	0	0	0	0	61
Feral swine	0	3	8	2	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Opossum (Virginia)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Swan (black)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total Freed																					107

Notes:

*Sum of killed/euthanized and immobilized.

Source: USDA 2017a (included in Appendix B of this Draft EIR)

4.1 BIOLOGICAL RESOURCES

TABLE 4.1-6: MONTEREY COUNTY NONTARGET NONINTENTIONAL KILLED AND FREED/RELEASED 1997-2016

Species	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
<i>Nonintentional Killed</i>																					
Badger	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bobcat	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Feral swine	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Fox (red)	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Killed																					9
<i>Nonintentional Freed/Released</i>																					
Deer (mule/other)	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Duck (mallard)	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	6
Falcon	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Feral cat	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Feral dog	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Feral swine	0	7	0	3	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Fox (red)	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Raccoon	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Freed																					38

Source: USDA 2017a (included in Appendix B of this Draft EIR)

4.1.2 REGULATORY FRAMEWORK

Section 2.0, Project Background, describes the regulatory framework that establishes authority for APHIS-WS to conduct wildlife damage management in Monterey County. The following summarizes key legislation at the federal, state, and local levels pertaining to wildlife protection in the county.

FEDERAL

Federal Endangered Species Act of 1973

The ESA, as amended, provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code Sections 1531–1544). The ESA defines “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Title 50, Part 222, of the Code of Federal Regulations (CFR) further defines “harm” to include “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including feeding, spawning, rearing, migrating, feeding, or sheltering.” Activities performed by APHIS-WS must comply with the ESA.

Migratory Bird Treaty Act of 1918

Migratory birds are protected under the MBTA (16 United States Code Sections 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Section 21). APHIS-WS is authorized by the federal government under 50 CFR Section 21.41 to respond to damage caused by migratory birds. No federal permit is required to scare, harass, or herd depredating migratory birds other than migratory birds that are also listed as endangered or threatened species and bald or golden eagles.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16 USC 668) prohibits take and disturbance of individuals and nests. Take permits for birds or body parts are limited to religious, scientific, or falconry pursuits. With the 2007 removal of bald eagle (*Aquila chrysaetos*) from the FESA list of threatened and endangered species, USFWS issued new regulations to authorize the limited take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles under the BGEPA, where the take to be authorized is associated with otherwise lawful activities. A final Eagle Permit Rule was published on September 11, 2009 (74 Federal Register [FR] 46836–46879; 50 CFR 22.26).

Forest Plans

The Los Padres National Forest Resource Management Plan, approved in 2005, provides direction for the maintenance of a healthy forest; community protection from wildland fire; managed, sustainable recreation settings and uses; and the management of threatened and endangered species. Monterey County does not fund APHIS-WS activities on lands managed by the US Forest Service in Monterey County. As such, this plan is not applicable to the proposed project.

4.1 BIOLOGICAL RESOURCES

STATE

California Endangered Species Act

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code [FGC] Section 2070). CDFW also maintains a list of candidate species, which are species formally noticed as being under review for potential addition to the list of endangered or threatened species, and a list of species of special concern, which serves as a species “watch list.” California-listed species with the potential to occur in Monterey County are identified in Tables 4.1-2 and 4.1.3, above. State-listed species are fully protected under the mandates of the CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Activities performed by APHIS-WS must comply with CESA.

Fully Protected Species

California statutes also afford fully protected status to a number of specifically identified birds, mammals, reptiles, and amphibians. The fully protected species are identified in FGC Sections 3511, 3515, and 4700. In Monterey County, fully protected species that may potentially occur are bald eagle, California black rail, California clapper rail, California condor, California least tern, blunt-nosed leopard lizard, and Santa Cruz long-toed salamander. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. To ensure APHIS-WS complies with these regulations, APHIS-WS has consulted with CDFW and USFWS regarding the actions it implements in California and potential effects on protected species. These consultations, which are listed in Table C-1 in Appendix C, have resulted in a finding of no effect or not likely to adversely affect the species. Further consultation by the County is not required to renew the CSA with APHIS-WS.

California Wildlife Protection Act

The California Wildlife Protection Act of 1990 establishes that mountain lions are a specially protected mammal in California, and that it is unlawful to possess, transport, import, or sell any mountain lion or part or product thereof (including taxidermy mounts). No person may sell or possess any mountain lion, part, or product thereof, unless that person is in possession of a valid, nontransferable permit issued by CDFW. APHIS-WS is required to obtain a depredation permit from CDFW in order to take a mountain lion.

California Fish and Game Code

Under FGC Section 2051, some species of fish, wildlife, and plants are in danger of, or threatened with, extinction because their habitats are threatened by destruction, adverse modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors. FGC Section 2080 provides legal protection for threatened and endangered species of fish, wildlife, and plants in the state by prohibiting their take, unless specifically authorized by CDFW.

APHIS-WS capture methods include the use of traps and snares. Trapping regulations for California are specified in FGC Section 465.5, and County-funded APHIS-WS activities in the county must adhere to those regulations. The requirement to comply with FGC Section 465.5 is established in APHIS-WS Directive 2.450, which states that appropriate warning signs must be posted on main entrances or commonly used access points to areas where traps or snares are in use. Signs must be routinely checked by APHIS-WS field specialists to ensure they are present, obvious, and

readable. Appropriate notification signs must be posted within the direct line of sight of mountain lion foot-snare device sets. Capture devices are to be set where they would minimize the public's visibility of captured animals. Pursuant to FGC Section 465.5, traps must be checked at least once daily, and each time traps are checked, all trapped animals must be removed.

Depredation Permits

Under FGC Section 4802, CDFW is required to issue, upon request, depredation permits to individuals reporting livestock loss or damage caused by mountain lions, if the loss or damage is confirmed by CDFW staff to have been caused by mountain lions. The permittee is required to report to CDFW upon the permit's expiration (no take) or fulfillment (take). Depredation by APHIS-WS personnel requires a depredation permit from CDFW. After commercial and recreational bobcat trapping in the state was banned in November 2015, depredation permits were not required for bobcat, but they are required now. FGC Section 4181.1 provides that feral swine take may be implemented immediately by the permit holder when the animal is damaging or destroying, or threatening to immediately damage or destroy, land or property, or the landowner, agent, or employee "encounters" damage or threat.

Migratory Birds and Birds of Prey

Under FGC Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Under APHIS-WS Directive 2.301, APHIS-WS is authorized by the federal government under 50 CFR Section 21.41 to respond to damage caused by migratory birds. No federal permit is required to scare, harass, or herd depredating migratory birds other than migratory birds that are also listed as endangered or threatened species and bald or golden eagles.

LOCAL

Monterey County General Plan

The Monterey County General Plan Conservation Element includes policies pertaining to biological resources protection (Monterey County 2010). Table C-10 in Appendix C lists the policies and a determination whether the proposed project would conflict with any of those policies, as required under CEQA Guidelines Section 15125(d). Based on the analysis, no inconsistencies were identified.

Monterey County Code of Ordinances

Chapter 8.42 of the Monterey County Code sets forth regulations for wildlife protection in the county. Section 8.42.012 states that no person shall feed or in any manner intentionally provide food as sustenance or to encourage domesticity in a nondomesticated animal (with the exception of a bird feeder in the yard), unless the wildlife is maintained, treated, or fed pursuant to a valid certificate or permit issued by the state of California or an agency of the US government; or when the wildlife is maintained, treated, or fed between the time animal control or humane society is notified and the time the wildlife is picked up by such agency (Ordinance 3629).

Section 8.42.014 (Wildlife Protection) states that no person shall take or harass any wildlife or enter an entrance designated as a restricted area set up to protect wildlife, with the following exceptions:

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- A) When a person is licensed to hunt in an authorized area by the California Department of Fish and Game.
- B) When a person is humanely and legally trapping nuisance wildlife that is not protected by the State of California or an agency of the U.S. Government.
- C) When an agency or individual is permitted to trap, shoot or capture wildlife by the County of Monterey, State of California, or an agency of the U.S. Government.
- D) When a person is given authority by controlling agency to enter such restricted area(s).
- E) When wildlife not protected by County, State, or Federal agencies becomes a nuisance or damage occurs as a result of its activities on a commercial situation, accepted and legal control practices may be used.

This section authorizes APHIS-WS to perform activities in the county. It also establishes that persons who take wildlife without a permit or license may be engaging in illegal activity.

Monterey County Health Department

The Monterey County Health Department provides assistance regarding domestic pets, licensing, temporary shelter, feral cats, animal cruelty, complaints, animal bites, and deceased animals on roadways. Monterey County Animal Services, which is part of the Health Department, does not provide assistance for wildlife (which includes small animals such as feral dogs, raccoons, and skunks) but encourages residents and property owners to contact the Society for the Prevention of Cruelty to Animals Wildlife Center (<http://www.spcamc.org/wildlife/found-wildlife-in-need>) or CDFW for issues involving wildlife (Monterey County 2017a).

4.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Appendix G of the 2017 CEQA Guidelines provides a list of topics related to biological resources that may be considered in an EIR.

For purposes of this EIR, the proposed project would have a significant effect on the environment if it would:

- 1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS.
- 2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS.
- 3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- 4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- 5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- 6) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.
- 7) Reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species or biotic community, thereby causing the species or community to drop below self-sustaining levels.

CDFW has identified numerical thresholds for coyote, bobcat, and raccoon species populations that would allow for harvesting without adverse effect on the species population (CDFG 2004). These values, which are shown in Tables C-3, C-5, and C-7 in Appendix C, respectively, are used to determine whether the proposed project would cause the species to drop below self-sustaining levels (threshold 7) both at the project level and cumulatively. Use of the CDFW values is appropriate because CDFW is the regulatory agency responsible for managing wildlife in the state in accordance with federal and state laws and regulations pertaining to wildlife protection. Numerical thresholds have not been developed or approved by CDFW for mountain lion because it is managed as a specially managed species, as explained above. Feral swine is a nonnative, invasive species, and there are no thresholds; this species can be taken in any number.

METHODOLOGY

The potential for the proposed project to result in significant impacts on protected and common wildlife species is based on a review of publicly available data obtained from the USDA APHIS-WS program (MIS) and informational materials prepared by APHIS-WS available on its website, environmental documents prepared by APHIS-WS and CDFW, species lists prepared by the USFWS, CDFW, and California Native Plant Society, and numerous scientific publications, which are listed in Section 7.0 References. The materials listed in Section 7.0 are available for review upon request. To review these items during normal business hours, please contact the Monterey County Office of the Agricultural Commissioner, 1428 Abbott Street, Salinas, CA 93901 (telephone 831-759-7325).

Population estimates for Monterey County for coyote, bobcat, raccoon, and striped skunk were prepared using CDFW population models, as noted above (CDFG 2004) and potentially suitable habitat estimates, as explained in the Environmental Setting. The CDFW population models represent the best available data. A review of published literature to date has not shown that the CDFW values or approach to estimating species populations are invalid or would result in underestimating proposed project impacts. The estimate for mountain lion is based on MLF's population dynamics, which are more conservative than CDFW values, as explained in the Environmental Setting. Numerical thresholds for sustainable harvest developed by CDFW and/or USDA, where such thresholds have been developed, are used as a "bright-line" indicator of potential impact. The analysis uses the low population estimates for target wildlife species populations to ascertain a conservative impact analysis.

For purposes of the impact analysis in the context of evaluating potential impacts on target species populations resulting from take via lethal methods, the historical technical assistance data (Table 2.0-5 in Section 2.0, Project Background), combined with 20-year baseline take data (Table 4.1-3, above), are a reasonable indicator of the projected take in the foreseeable future if the

4.1 BIOLOGICAL RESOURCES

County renews its CSA agreement with APHIS-WS for wildlife damage management. The maximum number of hours identified in the proposed latest annual work plan (2016-17) would remain the same as previous years. The analysis also reflects the annual number of hours spent by APHIS-WS field specialists involved in technical assistance, which has been fairly consistent (see Table 2.0-6 in Section 2.0, Project Background), and would be expected to be similar under the CSA renewal. As such, the likelihood of a substantial increase in APHIS-WS hours under the CSA renewal and the potential for that to result in additional technical assistance efforts resulting in lethal take is unlikely to occur.

APHIS-WS has not, and under the proposed project would not, perform services with County funds for protection of threatened and endangered species. However, the analysis does consider whether the proposed project would result in unintentional take of threatened and endangered species in conjunction with direct control activities conducted for agricultural resource, public health and safety, and property protect. Similar to target species, the baseline data are a reasonable indicator of what would be likely to occur in the future.

PROJECT IMPACTS

Common Wildlife Species (Standard of Significance 7)

Impact 4.1.1 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management could affect wildlife populations through the use of lethal methods to remove animals. **(Less than Significant)**

Impact Overview

Wildlife and humans are constantly interacting and experiencing resource conflicts. Thus, the likelihood of some impact (damage occurring and animals being removed as a result of that damage) is high, with or without the services provided by the APHIS-WS IWDM program. If the County approves the IWDM program and agreement renewal with APHIS-WS, the activities that have been performed for wildlife damage management by APHIS-WS for target species (common wildlife mammals such as coyotes) would continue for five years, beginning in June 2018, with financial work plans updated annually. At the end of the five-year CSA, the County would decide whether to renew the agreement. The County would not be materially involved in providing the services other than to cost-share the financial portion of the program. There would be no direct physical impact on biological resources as a result of renewing the agreement because it is an administrative action. However, continuation of the APHIS-WS IWDM activities in the county by way of the agreement has the potential to result in impacts on wildlife species. These indirect, or secondary impacts, are evaluated in this Draft EIR.

Under the agreement, APHIS-WS personnel would continue to provide information and advice to county residents and resource owners (e.g., phone calls, field visits, presentations, development and dissemination of information, and service visits) regarding recommendations of nonlethal methods. These activities would have no direct effect on wildlife populations.

However, after using the IWDM Decision Model, the APHIS-WS field specialist may determine that an animal causing damage may need to be removed by lethal methods. The techniques used by the IWDM program are designed to be target-specific, and all wildlife specialists are certified and trained in techniques to minimize the risk of capturing nontarget wildlife.

The existing APHIS-WS program does not seek to eradicate any species, regardless of legal status, or result in take that would substantially reduce species' populations. As with the current

agreement, APHIS-WS does not target certain species for reduction. For most wildlife damage management, once a damage situation is resolved, APHIS-WS field specialists do not continue work to remove additional animals unless a problem reoccurs, there are historical problems, and/or a request for assistance is made.

Historically, as illustrated by the data in Table 4.1-3, the total number of target mammal species removals has varied annually. In the last five years, there has been an overall decrease in the total number taken each year. The number of target animals that would be removed by lethal methods as a result of continuing the program would be a function of the number of requests and decisions made by APHIS-WS staff in the field using the agency's decision model. It is reasonable to assume a similar level of take would occur during the five-year CSA, with the potential that some years may experience greater take than others, depending on the resource being protected and the type and number of species causing problems. Moreover, given that the number of hours historically spent by APHIS-WS field specialists has remained fairly constant, and the proposed CSA renewal does not increase the maximum number of hours relative to the existing and previous CSAs, it is also reasonable to assume there would be similar levels of effort directed at wildlife damage activities, including those that may result in the removal of a wildlife species by lethal methods.

Few, if any, nontarget effects would be expected to result from the project. Historically, the number of nontarget species take has been very small (see Tables 4.1-3 and 4.1-4, so it is reasonable to assume continuation of the services would not result in an increase in nontarget take that would affect species populations. However, if a nontarget species is caught, as under the existing program, every effort is made to release it unharmed, unless the nontarget animal is injured and determined to not likely survive if released. Incidents of nontarget animal deaths are extremely low. This is due to the techniques used by the APHIS-WS field specialist to ensure that the correct location(s) for the target species is identified. No aerial hunting would be performed in Monterey County through the IWDM funding mechanism, so nontarget species would not be inadvertently killed by this method. The geographic scope of the program is also limited. Historically, APHIS-WS provided assistance covering approximately 10 percent of the county's total land area; it is reasonable to assume this would continue.⁵ Therefore, in any given geographic area, removals of target species would continue to occur on a small percentage of land.

The analysis below focuses on the impacts on the six mammal species that have historically resulted in the highest number of requests for assistance and removals by lethal methods, which are described in the Environmental Setting. For the remaining mammal species listed in Table 4.1-3, the number and frequency of removals is very low, and some are non-native species (e.g., Virginia opossum and red fox). It is reasonable to assume that a similar level of take would occur and would have little, if any, impact on those species' populations or biodiversity.

All of the direct control methods that could be used by APHIS-WS under its cooperative agreement with the County would be implemented primarily on private land, with a limited amount of work on state and/or federal lands, consistent with historic practices (see USDA 2017d). APHIS-WS's work on federal lands is limited to areas with private grazing leases and/or where public access is not

⁵ APHIS-WS does not implement its services on the total number of reported acres. When an Agreement for Control is signed by the requesting party, the agreement applies to the entire acreage of the parcel(s) for which services are requested. In some cases, this could be hundreds or thousands of acres. The total reflects the sum of all parcel acreages for which the Agreement for Control has been signed. Thus, the "on-the-ground" impact of services is limited in geographic scope to only those specific locations on a property where the wildlife damage is occurring and where control services are actually provided.

4.1 BIOLOGICAL RESOURCES

allowed (for example, work was performed in 2011 and 2012 in Fort Hunter Liggett). APHIS-WS would not perform work in national parks and forests in the county that would be funded under the CSA, where there may be publicly accessible trails and wildlife viewing areas. A minimal amount, if any, would be performed on state or county public lands. However, if traps/snares are used on any land to which the public has access, Directive 2.450 requires that appropriate warning signs be posted on commonly used public access points to areas where traps/snares are in use. Signs must be routinely checked by APHIS-WS field specialists to ensure they are present, obvious, and readable. Appropriate notification signs must be posted within the direct line of sight of mountain lion foot-snare device sets. Capture devices must be set where they would minimize the public's view of captured animals. In California, pursuant to FGC Section 465.5, traps must be checked at least once daily, and each time traps are checked, all trapped animals must be removed. Therefore, it would be highly unlikely for the public to encounter a trapped, dead, or injured animal.

Finally, APHIS-WS in Monterey County coordinates with CDFW, CDFA, and CDPH, as well as federal agencies such as the USFWS, USDA, and Bureau of Land Management. In addition to acting on behalf of private landowners who receive depredation permits from CDFW, APHIS-WS activities are performed in consultation with the above-mentioned agencies. This ensures the use of proper techniques, handling, and accuracy with equipment, chemicals, and animal control methods, all of which reduce potential impacts to common wildlife species.

Target Mammal Species Impacts

Coyote

In Monterey County between 1997 and 2016, a total of 6,262 coyotes were removed under the APHIS-WS IWDM program. The 20-year average annual coyote take in the county was approximately 313 individuals per year. Coyote take by APHIS-WS has been decreasing, as shown in Figure 4.1-2, and for the period 2007-2016, the average was lower, at approximately 204 individuals per year. The 20-year average statewide take was approximately 6,400 per year. Averaged over the 20-year baseline period, take in Monterey County under the APHIS-WS IWDM program has been approximately 4.3 percent of the county low estimate population for the period 1997 to 2016. For the highest historic take (725 individuals) during that same period, the percentage of the county low population estimate was 10 percent. Relative to the statewide low population estimate, the coyote take in the county was 0.07 percent for the 20-year average and 0.2 percent for the highest take. These values are substantially lower than 60 percent threshold needed to maintain population viability.

Under the renewed agreement, APHIS-WS would continue to provide the same services. As with the existing CSA, the number of coyotes removed would be a function of the number of requests for assistance by resource owners and application of the decision model by APHIS-WS field personnel. As shown in Figure 4.1-2, coyote take has been decreasing. However, even if the number of requests for wildlife damage management resulting in coyote take were to reach historic levels (i.e., more than double), this still would be substantially less than the 60 percent threshold. The number of APHIS-WS personnel hours and funding for services are also limited under the CSA, as explained in Section 2.0, Project Description. In order for there to a substantial number of removals such that capping the number of removals would be required to maintain the population, the CSA would need to be modified and additional cost-share funding would need to be approved, which is not proposed or planned. For these reasons, there would be little, if any, change in coyote take compared to baseline conditions. Because the proposed project would not reduce the number or restrict the range of coyote, thereby causing the species or community

to drop below self-sustaining levels under existing plus project conditions, the impact would be less than significant. Cumulative impacts are evaluated in Impact 4.1.7.

Mesopredator Release, Trophic Cascade, and Ecosystem Biodiversity Considerations

Two concepts that have received attention in the scientific community primarily in the context of conservation biology are mesopredator release and trophic cascade. The removal or severe reduction in the number of larger apex⁶ predators, resulting in an increase in abundance of smaller predators, is a theory called mesopredator release.⁷ A trophic cascade is an ecological effect in which a significant change in the trophic level of one species causes disruptions in the numbers of one or more species in other trophic levels in a food chain or web.⁸ The term trophic cascade is usually used to describe a top-down effect such as mesopredator release after the removal of an apex predator, but bottom-up effects may also occur.⁹ There is ongoing debate by scientists and public interest and opinion on these topics. Evidence of these effects frequently referenced by proponents and critics alike is the reintroduction of wolves into Yellowstone National Park in the 1990s after their eradication in the 1930s (see, for example Beschta and Ripple [2009]). More recently, there has been similar and increased interest in how coyote populations are managed in the United States and the potential for mesopredator release.

Critics of the top-down model argue that most terrestrial ecosystems are not simple food chains; rather, they are complex food webs in which many species (e.g., omnivores) interact on multiple trophic levels. For example, disease can affect species populations in any trophic level. The availability of habitat for breeding and nesting can impact population numbers. Bioclimatic effects (the effects of climate on living organisms) such as drought can cause a deficiency or abundance of primary producers. It is also difficult or impossible to test the mesopredator release hypothesis in many ecosystems. The apex predators have already been removed or substantially reduced and there is no baseline (or control) condition to study. When anthropogenic (human-originated) factors are added to an ecosystem, cause-and-effect analysis becomes even more difficult. In an area where natural habitat is fragmented by urban areas, suburban areas, intensive agriculture, and livestock grazing, such as in Monterey County, some wildlife species can exploit the availability of new food sources such as crops, livestock, garbage, carrion (roadkill and dead livestock), pets, and pet food, while other species are adversely affected due to diminishment of their natural food sources and habitats. Very few studies have considered the impact of a combination of bioclimatic effects, anthropogenic effects, and apex predator removal on a mesopredator population. One study from Sweden which did include these factors investigated red foxes and the removal of wolves and lynx and found a mesopredator release effect, but also found that ecosystem productivity, not mesopredator release, determined its strength. Both top-down and bottom-up processes need to be better understood (Polis and Strong 1996; Elmhagen and Rushton 2007).

⁶ An apex predator (sometimes referred to as a keystone predator) occupies the highest trophic level of a food chain and preys on one or more species in lower trophic levels. In the context of large North American terrestrial ecosystems, the historical apex predators are wolves, brown bears, mountain lion, and jaguar. Apex predators in California are generally thought to be mountain lion, bear, and wolf.

⁷ A mesopredator is a mid-trophic-level predator that preys on lower-level animals but is also a potential prey of higher-level mesopredators and apex predators.

⁸ As an example, predators, their herbivore prey, and plants that provide food for the herbivores are three trophic levels that interact in a food chain.

⁹ There are differing opinions in the scientific community about mesopredator release theory or hypothesis, in general, and it remains the subject of ongoing study and debate. It is not the purpose of this Draft EIR to resolve questions about mesopredator release theory but to recognize that it and relevant considerations do exist; that there are studies that are germane to the proposed project; and to disclose relevant information.

4.1 BIOLOGICAL RESOURCES

As to be expected, there are differing scientific opinions whether coyote is an apex predator. Some biologists believe coyotes are apex predators, while others do not. In ecosystems containing wolves, most authors of scientific studies describe coyotes as a mesopredator. Elsewhere, coyotes are often considered to have been promoted to apex predators even though they are occasional prey of mountain lions and they still display many of the common attributes of mesopredators such as their omnivorous, opportunistic diet and their ability to tolerate close contact with humans (Prugh et al. 2009).¹⁰

There is some evidence that coyotes can act as a control on some mesopredator species. A study of wildlife activity captured on cameras in the Santa Cruz mountains (near Monterey County) found a decrease in grey fox activity when coyote activity increased, but no strong relation between coyote activity and raccoon activity (Wang et al. 2015). This study did not investigate the effects of predator removal. In another paper consisting of a review of studies on the relationships between coyotes and mesopredators, the authors questioned the validity of mesopredator release hypothesis in explaining the dynamics between raccoons and coyotes (Gehrt and Clark 2003).

These examples indicate there is yet no widely accepted consensus about mesopredator release and trophic cascade, particularly as it relates to coyote. Nonetheless, the County acknowledges that some researchers and wildlife protection organizations believe that removing coyotes (particularly in large numbers) would result in a mesopredator release effect: smaller mammals would increase in number because they would be less vulnerable to coyote predation. These smaller mammals such as raccoon and fox would prey on yet smaller wildlife such as birds and their eggs, rodents, reptiles, and amphibians, resulting in increased loss of those species' populations. Increased abundance of smaller, primarily herbivore mammals such as rabbits and hares would also increase vegetation removal, which can result in widespread effects.

Some researchers suggest another potential unintended consequence of predator control, particularly as it relates to the coyote, is a reduction in other species' diversity and native ecosystem changes. An oft-cited study is one conducted in the early 1990s in Texas in which coyotes were removed in a controlled experiment (Henke and Bryant 1999).¹¹ Other studies also frequently cited (e.g., Berger 2006; Bergstrom et al. 2014; Bergstrom 2017) speculate about potential adverse effects on biodiversity due to predator removals.¹² There is no published, definitive research or data specifically applicable to conditions in Monterey County. Moreover, the type, numbers, frequency, and methods of species removals (particularly coyote) in Monterey County differ substantially from the conditions reported in these studies.

A limited number of published studies also suggest that aggressive efforts to remove large numbers of coyotes may increase coyote populations through compensatory reproduction by changing population dynamics (e.g., greater numbers of younger coyotes causing damage). In its analysis

¹⁰ Similarly, this Draft EIR does not attempt to draw any conclusions whether coyote is an apex predator or a mesopredator.

¹¹ In the Henke and Bryant (1999) study, a significant portion of the coyotes (354 individuals, approximately 50 percent) were systematically removed on University of Texas lands under the direction of Texas Tech University researchers. The experiment was conducted on two approximately 24,700-acre (approximately 39 square miles) control plots. Coyotes were removed by aerial shooting, and the remaining fauna was studied and compared to control plots with no coyote removal. The most significant result was that the kangaroo rat became the dominant and only remaining rodent after 12 months. Studies such as this and similar studies are not reproducible because of intense government and public scrutiny and protocols that must be followed when animals are used for experimental purposes. Further, the results of a single controlled experiment in a small area are not readily transferable to an area the size of Monterey County and its diverse habitats.

¹² These studies focus primarily on reintroduction of wolves and wolf-coyote and deer and sheep predation, using historical removal data and retrospective evaluation. They do not include any data or interpretation specific to Monterey County.

of the potential effects of coyote removals under its furbearing and nongame animal hunting and trapping regulations, CDFW (CDFG 2004:60) noted there is a potential for such compensatory reproduction to increase the population. Other studies suggest that longer-term removals may also have a similar effect on population increases (e.g., Henke 1995; Henke and Bryant 1999; Jackson 2014). In some cases, there is conflicting information, or disagreement among experts. Overall, however, there is a general consensus that additional research is needed on this topic. There is no published, definitive research or data specifically applicable to conditions in Monterey County.

In summary, mesopredator release and trophic cascade and related effects on species biodiversity remain the subject of debate and opinion. There are no studies or data to date that are specific to Monterey County, and the conditions evaluated in published studies to date are not readily transferable to how wildlife damage management is conducted on land in the county. Under the IWDM program CSA with the county, as with other cooperative agreements, APHIS-WS targets specific individuals causing damage and only responds to requests for assistance. The CSA does not provide for large-scale removals to increase game species. As shown in Table 4.1-3, the number of coyote removals is small, and as explained above, the percentage of removals is also small relative to county and statewide low population estimates. It may be surmised that given the low level of coyote take that would likely occur under the renewed agreement, the potential for adverse effects on biodiversity would be unlikely. Nonetheless, after having thoroughly reviewed and considered available information, the County finds that a significance conclusion regarding mesopredator release and biodiversity impacts related to coyote take is too speculative for evaluation. No impact determination is made, as provided for under CEQA Guidelines Section 15145.

Mountain Lion

Mountain lions may only be taken with a depredation permit. CDFW issues the permit if the loss or damage is confirmed by CDFW staff to have been caused by mountain lions. The permit may be issued to an agency, jurisdiction, or a private party. CDFW has not established a sustainable harvest level for mountain lion and manages the species for conservation.

Between 1997 and 2016, a total of 32 mountain lions were removed under the APHIS-WS IWDM program in the county. In some years, no mountain lions were taken. The county average was less than two individuals per year. Mountain lion take in Monterey County over the 20-year period, on average, accounted for approximately 2 percent of statewide take. Averaged over the 20-year period, take in Monterey County under the APHIS-WS IWDM program was approximately 1.4 percent of the county low estimate population for the period 1997 to 2016. Relative to the statewide low population estimate, mountain lion take in the county was approximately 0.1 percent for the 20-year average (Table C-4 in Appendix C).

Under the renewed agreement, APHIS-WS would continue to provide the same services. No changes in the CSA are proposed that would allow for increasing mountain lion take. Moreover, mountain lion may only be taken with a depredation permit from CDFW. As with the existing CSA, the number of mountain lions removed would be a function of the number of requests for assistance by resource owners. However, even if the number of requests for wildlife damage management resulting in mountain lion take were to increase to the highest take in the 20-year baseline period (6 individuals), this still would not be substantial. Because CDFW manages the species via depredation permits and take is on the order of 1 percent of the population, the proposed project would not reduce the number or restrict the range of mountain lion, thereby causing the species or community to drop below self-sustaining levels compared to baseline

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conditions. The impact would be less than significant. Cumulative impacts are evaluated in Impact 4.1.7.

Bobcat

In Monterey County between 1997 and 2016, a total of 48 bobcats were removed under the APHIS-WS IWDM program. In some years, no bobcats were taken. The 20-year average annual bobcat take in the county is less than three individuals per year, and the 20-year average statewide is approximately 63 per year. Averaged over the 20-year baseline period, bobcat take in Monterey County under the APHIS-WS IWDM program is approximately 0.1 percent of the county low estimate population for the period 1997 to 2016. Relative to the statewide low population estimate, bobcat take in the county is 0.002 percent for the 20-year average. The county and statewide values are substantially lower than CDFW's threshold of 14,400 bobcats needed to maintain population viability.

Under the renewed agreement, APHIS-WS would continue to provide the same services. No changes in the CSA are proposed that would allow for increasing bobcat take. As with the existing CSA, the number of bobcats removed would be a function of the number of requests for assistance by resource owners. However, even if the number of requests for wildlife damage management resulting in bobcat take were to increase to the highest take in the 20-year baseline period (19 individuals), this still would not be substantial because it would be well under CDFW's harvest threshold. Because the proposed project would not reduce the number or restrict the range of bobcat, thereby causing the species or community to drop below self-sustaining levels compared to baseline conditions, the impact would be less than significant. Cumulative impacts are evaluated in Impact 4.1.7.

Feral Swine

In Monterey County between 1997 and 2016, a total of 408 feral swine were removed under the APHIS-WS IWDM program, for an average of approximately 20 per year. Statewide, over 10,400 feral swine were depredated. Feral swine take in Monterey County over the 20-year period, on average, accounts for approximately 5 percent of statewide take.

Because feral swine is a nonnative, invasive species that causes extensive damage, California FGC Section 4181.1 provides that take may be implemented immediately by the permit holder when the animal is damaging or destroying, or threatening to immediately damage or destroy, land or property, or the landowner, agent, or employee "encounters" damage or threat. Sport hunters may also take feral pig. As noted in the Environmental Setting, APHIS is implementing a national program to stabilize and eventually reduce the range and size of feral swine populations.

Under the renewed agreement, APHIS-WS would continue to provide the same services. As with the existing CSA, the number of feral swine removed would be a function of the number of requests for assistance by resource owners. The number of requests for assistance resulting in the need for feral swine removal is expected to continue in the county at levels equal to or greater historic levels. Feral swine are highly prolific and not managed for species protection. Ongoing take would not cause the species or community to drop below self-sustaining levels under existing plus project conditions, and the impact would be less than significant. While correcting habitat damage caused by feral swine is not an objective of IWDM, nor is the County or APHIS-WS the agencies responsible for such activities, removal of feral swine may provide a benefit to sensitive habitat and protected species.

Raccoon

Averaged over the 20-year period, raccoon take in Monterey County under the APHIS-WS IWDM Program was less than 6 percent of the county low estimate population. For the highest historical take during that same period, the percentage of the county low population estimate was less than 3 percent. Relative to the statewide low population estimate, the raccoon take in the county was less than 1 percent for the 20-year average and less than 0.1 percent for the highest take. The level of take for this species is substantially lower than the sustainable harvest level of 49 percent established by CDFW.

Under the renewed agreement, APHIS-WS would continue to provide the same services. No changes in the CSA are proposed that would allow for increasing raccoon take. As with the existing CSA, the number of raccoons removed would be a function of the number of requests for assistance by resource owners. However, even if the number of requests for wildlife damage management resulting in raccoon take were to increase to the highest take in the 20-year baseline period (38 individuals), this still would not be substantial because it would be well under CDFW's 49 percent harvest threshold. Because the proposed project would not reduce the number or restrict the range of raccoon, thereby causing the species or community to drop below self-sustaining levels compared to baseline conditions, the impact would be less than significant. Cumulative impacts are evaluated in Impact 4.1.7.

Striped Skunk

Averaged over 20 years, striped skunk take in Monterey County under the APHIS-WS IWDM Program was less than 1 percent of the county low estimate population for the period 1997 to 2016. Relative to the statewide low population estimate, the striped skunk take in the county was less than 1 percent for the 20-year average.

Under the renewed agreement, APHIS-WS would continue to provide the same services. No changes in the CSA are proposed that would allow for increasing striped skunk take. As with the existing CSA, the number of striped skunks removed would be a function of the number of requests for assistance by resource owners, and historically the number removed has been very low. Because the proposed project would not reduce the number or restrict the range of striped skunk, thereby causing the species or community to drop below self-sustaining levels compared to baseline conditions, the impact would be less than significant. Cumulative impacts are evaluated in Impact 4.1.7.

Other Small Mammals and Birds

Historically, take of other small mammals has been limited and infrequent. Most bird take has been performed for natural resources protection or through separate contracts with private parties and not funded by the county's CSA with APHIS-WS. It is reasonable to assume minimal take would continue to occur, and it would be similar to historical levels. APHIS-WS uses nonlethal deterrent methods such as pyrotechnics, although this is uncommon and primarily focused on bird damage to crops. Therefore, there is the potential PHIS-WS could use nonlethal deterrent methods such as pyrotechnics for bird control in the county. However, such use would be determined on a case-by-case basis by the field specialist to ensure that nests and eggs of special-status avian species and birds protected under the MBTA would not be affected.

Mitigation Measures

None required.

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Special-Status Species and Species of Special Concern (Standards of Significance 1 and 7)

Impact 4.1.2 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would have little or no adverse effect on protected species and/or sensitive habitat supporting those species. **(Less than Significant)**

Table 4.1-1 lists special-status species in Monterey County that are protected under the ESA and CESA. California species of special concern are listed in Table 4.1-2. APHIS-WS has consulted with USFWS's Ecological Services and CDFW concerning the proposed program's potential to affect federally and state-listed threatened and endangered species, and also species that are proposed for federal listing. Migratory birds are protected under the MBTA, and the majority of birds that are present in Monterey County would be protected under the MBTA.

APHIS-WS is not allowed to implement activities that would intentionally result in take of a protected species. Special efforts are made to avoid jeopardizing threatened and endangered species. APHIS-WS consults with the USFWS and CDFW when any APHIS-WS program activities may affect animals or plants protected under the ESA and CESA so that restrictions or mitigation measures are applied when necessary. In the 20-year period that IWDM management activities have been performed under an agreement with Monterey County, none has resulted in killing a protected species. It is reasonable to assume the likelihood of take of a protected species would remain minimal.

APHIS-WS could use nonlethal deterrent methods such as pyrotechnics for bird control. However, such use would be determined on a case-by-case basis by the field specialist to ensure that nests and eggs of special-status avian species and birds protected under the MBTA would not be affected.

In the unlikely event a protected species is captured (e.g., in a trap, snare, or cage), APHIS-WS is required to make efforts to release it unharmed, unless the animal is injured and the field specialist has determined that it would not likely survive if released. As noted in Impact 4.1.1 and as illustrated by the data in Table 4.1-4, incidents of nontarget animal deaths are extremely low, and with few exceptions all were freed. It is reasonable to assume that if a protected species were caught, the likelihood of death would also be low. This is due to the techniques used by the APHIS-WS field specialist to ensure that the correct location(s) for the target species is identified. Also, APHIS-WS does not conduct any aerial hunting in Monterey County through the IWDM Program funding mechanism, and none would occur if the agreement is renewed. As such, protected species that may otherwise be impacted by aerial hunting would not be affected.

As explained in Impact 4.1.1, continuation of APHIS-WS services under the agreement with the County would not eradicate nor reduce predator species populations (particularly coyote) to levels that would result in increased populations of other, smaller animals such as raccoon, striped skunk, fox, and opossum that prey on smaller species such as birds and their eggs.

APHIS-WS is not authorized to modify sensitive habitat(s) that support protected species, nor does it make that recommendation to landowners. Program activities do not involve land development, construction, or soil/vegetation removal. A negligible amount of ground disturbance would occur with the placement of capture devices. However, the capture devices would not be a permanent feature. Field specialists may access sites on foot or vehicle, which may involve off-trail or off-road use. It is possible that this would occur where sensitive habitat or special-status plant species occur. It would be speculative to ascertain which habitats or plant

species could be affected. However, this would have minimal impact on habitat or special-status plants because it would be of limited spatial extent, infrequent, and temporary.

Therefore, the proposed project would not result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS; nor would it reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species, thereby causing the protected species to drop below self-sustaining levels compared to baseline conditions. The impact would be less than significant.

Mitigation Measures

None required.

Wetlands (Standard of Significance 3)

Impact 4.1.3 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would have no adverse effect on federally protected wetlands or waters of the state. **(No Impact)**

As described in Impact 4.1.2, APHIS-WS is not authorized nor does it perform activities such as land development, construction, or soil vegetation removal, nor recommend this to landowners. Therefore, if the agreement is renewed, there would be no modification of federally protected wetlands as defined by Section 404 of the Clean Water Act (e.g., marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means, or impacts on waters of the state. There would be no impact.

Mitigation Measures

None required.

Wildlife/Migratory Corridors (Standard of Significance 4)

Impact 4.1.4 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would have minimal effect on wildlife corridors. **(Less than Significant)**

As described in the Monterey County General Plan EIR description of biological resources, “corridor” is used to refer to contiguous areas of habitat that connect larger areas of habitat and facilitate genetic exchange within a population or between subpopulations by allowing for movement within or between habitat patches. Six such linkages have been described in the county: Santa Cruz Mountains to Gabilan Range, Santa Lucia Mountains to Fort Ord, Salinas Valley (east-west), Salinas River (north-south), the Carmel River, and the Pajaro River.

Land development projects that result in habitat loss or fragmentation have the potential to adversely affect wildlife corridors. The wildlife damage management services that would be provided to requestors under the renewed CSA with APHIS-WS would not involve ground disturbance such as soil and vegetation removal, construction of buildings, or creation of artificial barriers (e.g., a roadway) to wildlife movement or migration patterns.

Capture methods would involve the use of traps, snares, or cages, as described in Direct Control Methods in Appendix B, and these devices would be used to target a specific animal in a specific

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location. They are used sparingly and are not placed or grouped in a manner that would be so wide as to physically impede wildlife movement. APHIS-WS does not target fish species or perform activities in habitat supporting fish species.

The only targeted mammal species evaluated in this Draft EIR that exhibits migratory behavior is the mountain lion, a species that generally has a fixed range and migrates seasonally in response to prey movements, following migrating herds of mule deer. APHIS-WS would only target a mountain lion for potential take if it is confirmed by APHIS-WS that it is the animal causing loss or damage. It would not target the entire migration corridor. A depredation permit is required from CDFW to take mountain lion, so the number of mountain lions that may be removed is substantially limited and would remain similar to the low levels of take in the county, as shown in Figure 4.1-3 (see also Table C-4 in Appendix C). As such, there is no compelling evidence the IWDM activities performed under the County's agreement with APHIS-WS would substantially or adversely affect mountain lion migratory patterns.

For the reasons stated in Impacts 4.1.1 and 4.1.2, the wildlife damage management activities targeting specific animals under the renewed agreement would not reduce species populations to levels that would not be self-sustaining or reduce biodiversity, nor eliminate or reduce migration corridors. Therefore, the proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites compared to baseline conditions. Impacts would be less than significant.

Mitigation Measures

None required.

Consistency with Policies Protecting Biological Resources (Standard of Significance 5)

Impact 4.1.5 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would not conflict with Monterey County General Plan policies for protection of biological resources. **(No Impact)**

Section 15125(d) of the CEQA Guidelines requires that an EIR discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans as part of the environmental setting. The applicable plan is the Monterey County General Plan, which was adopted in 2010 by the Board of Supervisors.

Table C-10 in Appendix C lists all of the policies in the Monterey County General Plan that pertain to the protection of biological resources. These policies address species and habitat. Many of the policies concern growth under the General Plan and land development associated with that growth, which are not applicable to the CSA renewal. For completeness, however, for each policy listed in Table C-10, there is a corresponding analysis of consistency with that policy. No inconsistencies were identified.

As noted above, a portion of Monterey County is in the Los Padres National Forest for which a management plan has been approved. County-funded APHIS-WS services are not performed in the national forest. There would be no conflict with the resource plan.

The proposed project would be consistent with Section 8.42.014 (Wildlife Protection) of the County Code of Ordinances, which states that no person shall take or harass any wildlife or enter an entrance designated as a restricted area set up to protect wildlife, with five exceptions, which are listed in the Regulatory Setting. The services provided by APHIS-WS are authorized by the County

under Sections 8.42.014.B through 8.42.014.E, and no amendments to the county code are necessary to ensure consistency and compliance with the code. There would be no impact.

Mitigation Measures

None required.

Habitat Conservation Plan (Standard of Significance 6)

Impact 4.1.6 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management would not conflict with any habitat conservation plan or natural community conservation plan. **(No Impact)**

There are no regional conservation plans in Monterey County (CDFW 2015a). The Installation-Wide Multi-Species Habitat Management Plan for Former Fort Ord (USACE 1997) establishes the guidelines for conservation and management of plant and wildlife species at the former Fort Ord military base. The lands are currently administered and managed by the Bureau of Land Management, and APHIS-WS would not conduct activities on those lands under the renewed CSA. There would be no impact.

Mitigation Measures

None required.

4.1.4 CUMULATIVE IMPACTS

Section 4.0, Introduction to the Analysis, provides a general overview of the requirements for a cumulative analysis and the approach used in this Draft EIR. As provided by CEQA Guidelines Section 15130(b), the discussion of cumulative impacts must reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as much detail as is provided for the effects attributable to the project alone.

The results of the analyses in Impacts 4.1.3 (Wetlands), 4.1.5 (Consistency with General Plan), and 4.1.6 (Habitat Conservation Plans) show that the proposed project would result in no impacts for these topics. As such, no cumulative impact analysis for these topics is required.

Although the proposed project would result in less than significant impacts on species and wildlife corridors (Impacts 4.1.1, 4.1.2, and 4.1.4), in accordance with CEQA, the cumulative impact analysis, below, evaluates the proposed project's contribution to impacts that may occur on a cumulative level.

CUMULATIVE CONTEXT

The geographic area for the cumulative analysis comprises Monterey County, the APHIS-WS San Luis District that includes Monterey County, and the state. For purposes of the cumulative impact analysis, projects with the potential to cause related effects on wildlife species are growth and development under the Monterey County General Plan, trapping by licensed trappers, hunting that requires a permit or license from CDFW, other APHIS-WS activities in the county that are not funded by the county, and APHIS-WS services districtwide and statewide. The analysis addresses the mammal species that have historically resulted in the most technical assistance and removals, as evaluated in Impacts 4.1.1, 4.1.2, and 4.1.4.

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Take of avian species has been limited to agreements with private parties not funded by the county or for threatened and endangered species protection, which is also not funded by the county, and would result in minimal impacts that do not require an analysis of cumulative impacts.

Activities such as poaching or killing wildlife without required permits or licenses from CDFW and which may also be a violation of Monterey County Code of Ordinances Section 8.42.014 do not require analysis in an EIR and, as such, are not included in the cumulative analysis. The analysis recognizes such activities could occur, however, but estimates of take would be speculative.

CUMULATIVE IMPACTS

Impact 4.1.7 Renewal of the APHIS-WS IWDM program and agreement in Monterey County for wildlife damage management, in combination with cumulative projects, would not directly or indirectly result in adverse impacts on protected or common wildlife species or habitat supporting those species. The proposed project's contribution would be **less than cumulatively considerable**, and the cumulative impact is **less than significant**.

Projects and Actions Contributing to Cumulative Impacts

Cumulative impacts on wildlife species may occur as a result of physical changes in the environment (e.g., loss of habitat supporting species) or result in actual take of the species. The following describes the types of projects that could contribute to these impacts.

Monterey County General Plan

The Monterey County General Plan is the blueprint for land use in Monterey County through 2030. Full buildout is projected to occur by 2092. The General Plan EIR (State Clearinghouse No. 2007121001), certified by the Monterey County Board of Supervisors in October 2010, evaluated how buildout under the General Plan could affect biological resources such as habitat, protected species, and wildlife corridors. The General Plan EIR concluded land use and development consistent with the General Plan could result in adverse impacts on CEQA-defined special-status species in Monterey County, particularly those in or near areas that are contemplated for future urban uses. Impacts on CEQA-defined special-status species would include direct loss of individuals or localized populations, elimination or degradation of habitat, and isolation of subpopulations due to habitat fragmentation. Conversion of existing natural habitat to urban development, roadways, and other infrastructure could result in the elimination of populations of CEQA-defined special-status species where present within the limits of proposed grading and development. The installation of new vineyards, row crops, and other actively managed agricultural uses (including routine and ongoing agriculture), mining extraction, and other activities could also eliminate essential habitat for CEQA-defined special-status species. Indirect impacts would include disruption of critical functions affecting reproductive success; degradation of habitat quality to such an extent that occupied habitat is no longer suitable for individual survival, and other influences. Indirect impacts to CEQA-defined special-status species could also occur due to increases in stormwater runoff, erosion and downstream sedimentation, and use of pesticides for agriculture and landscaping (Monterey County 2008:4.9-65). The General Plan EIR concluded that implementation of General Plan policies and Mitigation Measures BIO-1.1 through BIO-1.5, and BIO-2.1 through BIO-2.3, would reduce impacts on CEQA-defined special-status species and their habitat (sensitive habitat such as riparian areas and wetlands) to a less than significant level for the 2030 planning horizon; however, due to uncertainty about which species or sensitive habitat may be identified and/or affected by future development, the General Plan EIR conservatively concluded these would be significant and unavoidable impacts for buildout. The General Plan EIR also evaluated potential impacts on wildlife corridors and migratory birds, and concluded that with mitigation (BIO-3.1 and BIO-3.2), impacts would be less than significant.

Hunting and Trapping

Sport hunting and commercial trapping has resulted in take of coyote, bobcat, feral swine, raccoon, and striped skunk. Table C-11 in Appendix C summarizes take data for hunting and trapping for each of these species. Mountain lion may only be taken with a depredation permit issued by the CDFW.

Coyote

For the target species of concern in Monterey County, licensed commercial fur trappers may take coyotes, even though they are nongame species. According to records maintained by CDFW, in Monterey County, a total of 163 coyotes were trapped between fiscal year 1997–98 and 2010–11. Since fiscal year 2011–12, there were no reported trapping takes. For the fiscal years 1997–98 through 2010–11, in some years, no coyotes were trapped. For the years in which they were trapped, the trapping take ranged from 9 to 27, the average was approximately 14. Statewide, over the 20-year period, coyotes were trapped every year, and the annual average was 278 coyotes, representing 1 to 6 percent of total trapping take of all species that may be legally trapped. The county's portion of trapping take is very small compared to statewide take. Given the low level of trapping take in the county and statewide historically, and typically low pelt value, it is anticipated that coyote trapping will remain similarly low in the future and would not represent a substantial contribution to cumulative take with or without the proposed project.

Although a permit and reporting is not required for coyote hunting, the CDFW does have information about coyote hunting, which it obtains through hunter surveys. Between 1996–97 and 2010–11 (the most currently available survey), the number of coyotes taken by hunters in Monterey County has varied from 200 to over 3,200 on an annual basis. For those years, the county hunter average was approximately 1,480 per year.¹³ By comparison, the number of coyotes taken by APHIS-WS in Monterey County for the same time period was approximately 380 (approximately 75 percent less than sport hunter take). The statewide sport hunter average take was approximately 55,300 on an annual basis (compared to an average APHIS-WS take of approximately 6,400 coyotes, or 89 percent less than sport hunter take).

The CDFW commissioned an independent survey completed in 2015, which reported on statewide and regional hunter take for 2014–15. There are no data specific to Monterey County or the region. However, at the statewide level, survey data showed approximately 94,000 coyotes were killed. Of those, survey participants indicated approximately 65 percent of the coyotes were killed for property protection, and the remaining 35 percent for sport hunting (Responsive Management 2015: 14, 15, 24).

Bobcat

Bobcats have been hunted and trapped commercially and by sport hunters in Monterey County. According to records maintained by CDFW, in Monterey County, bobcats were only trapped in fiscal year 1997–98 (11 bobcats) and in fiscal year 2011–12 (6 bobcats). An average of 112 bobcats per year were taken by sport hunters in the county during the same time frame, compared to an average of 1,388 statewide, or approximately 8 percent of the statewide average. Commercial and recreational bobcat trapping in the state was banned in November 2015. Because trapping is no longer legal, the only future take would be associated with sport hunting, which requires a hunting license. There is a season bag limit of five per year. CDFW (CDFG 2004:59) established a

¹³ No survey report was issued for fiscal year 2009–10. Average reflects all years for which reports were published.

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quota of 14,400 bobcats per year. Hunter take is well below this quota. Because sport hunter bobcat hunting is regulated by CDFW, and APHIS-WS cannot depredate bobcat in the state without a permit from CDFW, cumulative take without the project would not be substantial.

Raccoon and Striped Skunk

Raccoons and striped skunks may also be legally trapped, but the species is rarely trapped in the county. According to records maintained by CDFW, in Monterey County, in fiscal year 2015–16, 12 raccoons were trapped, and none for the previous 10 years. Between fiscal years 1997–98 and 2005–06, a total of 54 were taken, and not in every year. Striped skunk trapping for the period 1997–2016 was also minimal; only 37 were trapped during that time period, and many years no skunks were trapped. A numerical harvest threshold for striped skunk has not been identified by CDFW, but the agency notes that annual trapping harvest is well below the number of young produced each year and trapping constitutes a minor portion (CDFG 2004:68). Raccoon and striped skunk licensed trapping in the county does not contribute substantially to cumulative effects on species populations without the proposed project (CDFG 2004:67–69).

CDFW Environmental Review

CDFW has completed environmental documents in accordance with CEQA for evaluating its hunting and trapping regulations. The most recent documents were completed in 2004: *Draft Environmental Document, Sections 265, 460-467, and 472-480, Title 14, California Code of Regulations Regarding Furbearing and Nongame Mammal Hunting and Trapping*; and *Final Environmental Document, Sections 250, 250.5, 251, 251.5, 252, 257, 257.5, 307-310, 310.5, 311, and 354, Title 14, California Code of Regulations Regarding Resident Small Game Mammal Hunting*. Mammal species addressed in the environmental documents were badger, beaver, bobcat, coyote, gray fox, mink, muskrat, raccoon, spotted skunk, striped skunk, Virginia opossum, and weasel. CDFW concluded that even with APHIS-WS take (conservatively assumed to be 33 percent of statewide take) and in conjunction with other related past, present, and reasonably foreseeable future projects and actions identified in the cumulative analysis,¹⁴ cumulative impacts would not be significant (CDFG 2004:32–35, 47, 95–111).

Take by APHIS-WS in Monterey County under Existing and Previous Agreements

The Environmental Setting, above, presents historical take data and associated analysis that represent past and present conditions for purposes of the cumulative analysis. These data demonstrate IWDMM program activities under the existing CSA with the County to date have not substantially reduced species populations or biodiversity.

Take Requiring CDFW Depredation Permits

CDFW data for the period 2000 to 2015 show that nearly 1,400 mountain lions were depredated statewide (an average of approximately 92 per year). Monterey County accounted for approximately 2 percent of the takes. It is reasonable to assume there would be future take in the County and statewide. As explained above, California law establishes that mountain lions may not be hunted or trapped, and they may only be taken with a depredation permit from CDFW. Because mountain lion depredation is regulated by CDFW to ensure species conservation, future

¹⁴ In addition to a 33 percent assumption for APHIS-WS take, the following projects and actions were assumed in the cumulative analysis: wildfires, drought and floods, disease, illegal harvest (poaching), vehicle-caused mortality, habitat loss and degradation, and major development projects.

cumulative take without the project would be within limits established by CDFW. Similarly, bobcat may be taken with a depredation permit from CDFW and would be expected to occur in the county.

Take by Private Parties

In the case of coyotes, CDFW noted there are an unknown number of coyotes taken for damage control purposes by private property owners and other entities or persons (CDFG 2004:A-4). As explained above, coyote is a nongame species and may be taken for any reason without a permit or license. CDFW concluded that even if over 61,000 coyotes were removed by nuisance wildlife control operators, private property owners, and other entities or parties, it would be far below the estimated number of young animals produced each year and would not have a significant impact on the coyote population in California (CDFG 2004:61). Take by private parties in Monterey County would have to be approximately 4,400 individuals (60 percent of the county low population estimate of 7,300) on an annual basis, which would be highly unlikely.

Similar to coyotes, the other mammal species taken by private parties for damage control is unknown because there is no requirement for reporting. In its estimate of take and potential impacts on furbearing and nongame mammal hunting and trapping, CDFW concluded that even with an unknown number of animals taken by private property owners and other entities or persons in addition to APHIS-WS take, there would be no adverse impacts on bobcat, raccoon, or striped skunk populations (CDFG 2004:57–71).

APHIS-WS removes some species (primarily birds) under separate contract to the private parties. An example of this is American coots, which cause damage to privately operated golf courses. On occasion, APHIS-WS may assist with one-time removals, such as cliff swallows that had built nests on a hospital and presented a health risk to patients from bacteria. Take requested by private parties is on a site-specific and case-by-case basis, has been primarily birds, is not funded by the County, and does not represent a substantial contributor to cumulative impacts.

APHIS-WS Activities in Monterey County Not Funded by County

APHIS-WS provides services for threatened and endangered species protection, but these are not funded by the County. As shown in Table C-9 in Appendix C, take for threatened and endangered species protection has not resulted in take of listed species. Raccoon and coyote are rarely taken and as such contribute minimally to cumulative impacts without the project. The mammal most frequently taken for threatened and endangered species protection is striped skunk, which is abundant in terms of population. Feral cats and red foxes are also frequently taken for endangered species protection. As noted above, take of avian species—although they are protected under the MBTA—is authorized by federal law for wildlife damage management. APHIS-WS has also performed work under separate private contracts (e.g., American coot control on golf courses). Therefore, the only cumulative impacts without the project would be associated with historical take of common wildlife species, which are not significant, as explained in Impacts 4.1.1, 4.1.2, and 4.1.4, above.

APHIS-WS Activities in San Luis and South Districts

Monterey County is one of 16 counties in the APHIS-WS San Luis and South districts. APHIS-WS completed an environmental assessment (EA) in 1997 for the San Luis and South districts that provided estimates of species take under its existing programs within the districts and in combination with other sources of take. This included an additional 30 percent take (referred to as “inflated” take in the EA) to account for counties in which it did not provide assistance (USDA

4.1 BIOLOGICAL RESOURCES

1997:21). It also evaluated an expanded program that would include work on public lands (Bureau of Land Management and US Forest Service) that were not covered in work plans or cooperative agreements, and that could also expand onto all other land classes as permitted by federal and state laws and regulations. Coyote, black bear, mountain lion, bobcat, gray fox, nontarget species, and threatened and endangered species were addressed in the EA. The EA provided population estimates for coyote and bobcat along with other species within the two districts and take estimates for APHIS-WS combined with sport hunting and trapping take. The EA concluded APHIS-WS activities in the San Luis and South districts would not result in cumulatively significant environmental impacts (USDA 1997).

In 2003, APHIS-WS completed an EA for the San Luis and South districts for predator damage management for the protection of livestock and property (USDA 2003). The EA evaluated impacts on coyote, mountain lion, black bear, bobcat, gray fox, red fox, feral dog, and raccoon as well as nontarget threatened and endangered species. For target species, the EA concluded APHIS-WS predator damage management in the districts would result in negligible impacts at the project level and cumulatively (USDA 2003:20–23).

APHIS-WS Activities in California

APHIS-WS prepared an EA in 2005 that evaluated its mammal damage management activities statewide. The EA evaluated impacts on coyote, bobcat, gray fox, red fox, feral dog, raccoon, skunk, Virginia opossum, badger, muskrat, and ground squirrel as well as nontarget threatened and endangered species. For target species, the EA concluded APHIS-WS mammal damage management would result in negligible impacts at the project level and cumulatively (USDA 2005: 41, 48).

To date, APHIS-WS has not prepared CEQA documents for its activities in the state. However, APHIS-WS has signed an MOU with the CDFA to complete a statewide, joint NEPA/CEQA analysis for its activities in California, which will include updated information. Until the statewide document is published, the information in the 1997, 2003, and 2005 EAs represents the best available and most current information with respect to APHIS-WS' evaluation of cumulative impacts with respect to Monterey County. The County is not aware of any peer-reviewed technical studies prepared by researchers or any government agencies that invalidate or contradict the conclusions of the previously prepared EAs as they relate to conditions in Monterey County.

Cumulative Impact Analysis

The following evaluates whether the proposed project's contribution to the projects and actions comprising the cumulative context described above would be cumulatively considerable.

Growth under the Monterey County General Plan

The proposed project would not result in a cumulative contribution to the less than significant or significant and unavoidable impacts identified in the Monterey County General Plan EIR. The APHIS-WS IWDM program does not involve land development, intentionally take protected species, modify habitat supporting those species, modify sensitive habitats such as riparian areas and wetlands, or impair the use of wildlife corridors, as explained in Impacts 4.1.1 through 4.1.5, above. Further, the proposed project is a short-term agreement renewal (five years), which would not coincide with 2030 or buildout conditions. Therefore, the proposed project's contribution would not be cumulatively considerable in the context of biological resources impacts associated with growth under the county's adopted General Plan.

Cumulative Take of Target Mammal Species

As described above, activities that would contribute to cumulative take impacts on common mammal species include the proposed project, APHIS-WS activities in the county that are not covered by the cooperative agreement, APHIS-WS activities in the San Luis District and statewide, commercial trapping, sport hunting, and take that requires a depredation permit. As explained, activities such as poaching or killing wildlife without required permits or licenses from CDFW are excluded from the analysis because they are illegal. However, to account for unknown activities, 33 percent is added to account for take by private parties and all other known sources of mortality. It is consistent with the factor applied by APHIS-WS in assessing impacts (USDA 2015a: 50) as well as CDFW in its review of hunting and trapping (CDFG 2004). Tables C-3, C-4, C-5, C-7, and C-8, respectively, in Appendix C provide a quantified analysis of cumulative impacts for coyote, mountain lion, bobcat, raccoon, and skunk. Feral swine is evaluated qualitatively.

The following analysis evaluates whether renewal of the County's agreement with APHIS-WS (proposed project) would result in a contribution to cumulative impacts that would be cumulatively considerable for the mammal species evaluated in detail in this Draft EIR. Although APHIS-WS has prepared cumulative analyses and documented those results in the 1997, 2003, and 2005 EAs, the analysis presented herein reflects the County's independent evaluation of cumulative impacts and does not rely on the impact conclusions presented in the 1997, 2003, and 2005 EAs with regard to cumulative impacts of renewing the CSA.

Coyote

Table 4.1-7 presents a quantitative analysis of potential coyote take under cumulative conditions. It combines baseline take with likely sources of cumulative take beyond the project (which includes hunting and trapping) plus an additional 33 percent to account for take by private parties and all other known sources of mortality. As shown, cumulative annual take is estimated to be approximately 66,100 individuals, or 15 percent of the state low population estimate. This is well below the threshold of 60 percent for species viability. The County's contribution to that would be approximately 2.9 percent, which would not be cumulatively considerable. Even if take were to approach the historic county high in one year during the 20-year period (725) and state high for one year during the 20-year period (8,785), combined with highest historic hunting and trapping take, the project's contribution would be similarly low (2.8 percent), which also would not be cumulatively considerable (see Table C-3 in Appendix C).

In addition, the services that have historically been provided by APHIS-WS in the county under the CSA is limited in geographic scope to only those specific locations on a property where the wildlife damage has occurred and where control services have actually been provided in response to a request for assistance. Under the renewed agreement, APHIS-WS work would only be in the county and would not expand into other counties. As with the existing CSA, the geographic impact and frequency of take would continue to be a function of the number of requests for assistance by resource owners and application of the decision model by APHIS-WS field personnel.

For the reasons stated above, the project's contribution would be **less than cumulatively considerable**, and cumulative impact on coyote population if the agreement is renewed would be less than significant.

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TABLE 4.1-7: CUMULATIVE COYOTE TAKE

Population Estimate Calculation	Take (Individuals)	Percentage
County average take (1997-2016) under APHIS-WS agreement with County	313	
County average take compared to low population		4.3%
County average take plus 33%*	416	
County average take plus 33% compared to county low population		6%
County average plus 33% compared to state low population		0.1%
County average plus 33% plus county average trapping + hunting = cumulative county	1,908	
Cumulative county average take compared to county low population		26%
State average take plus 33% (APHIS-WS statewide take)	8,550	
State average take plus 33% plus state average trapping + hunting = cumulative state take	64,188	
State average plus 33% plus trapping state compared to state low population		15%
County cumulative plus state cumulative	66,096	
Total county plus state cumulative compared to state low population		15%
County contribution		2.9%
Threshold		60%
Cumulatively considerable impact?		No

Notes:

* 33% is added to account for take by private parties and all other known sources of mortality. It is the factor applied by APHIS-WS (see USDA 2015 EA:50) in assessing impacts and has been used in this analysis for consistency. See Table C-3 in Appendix C for detailed calculations and assumptions.

Mountain Lion

Cumulative mountain lion impacts would only be the result of CDFW issuance of depredation permits, which may be issued to agencies such as APHIS-WS or private parties. Averaged over a 20-year period, take in Monterey County under the APHIS-WS IWDM program was approximately 1.4 percent of the county low estimate and approximately 0.1 percent for the 20-year statewide average based on the lower MLF factor for estimating population (Table C-4 in Appendix C). It is reasonably expected that future take under the renewed CSA would be similar to baseline conditions because no changes are proposed to the agreement that would allow for more take than allowed by the CDFW, and take would only be a function of responding to requests for assistance. Given the low level of removals and CDFW's role in managing the species population, the project's contribution would be **less than cumulatively considerable**, and the cumulative impact would be less than significant.

Mountain lion is the only target species exhibiting migratory behavior. The General Plan EIR concluded future growth under the General Plan has the potential to impact migration corridors and associated habitat. However, the proposed project would not contribute to this impact because, as explained in Impact 4.1.4, APHIS-WS activities would not involve ground disturbance such as soil and vegetation removal, construction of buildings, or creation of artificial barriers (e.g., a roadway) to wildlife movement or migration patterns. Capture methods are used sparingly and are not placed or grouped in a manner that would physically impede wildlife movement. APHIS-WS would only target a mountain lion for potential take if it is confirmed by APHIS-WS that it is the animal causing loss or damage. It would not target the entire migration corridor. Therefore, the project would result in a **less than cumulatively considerable contribution** to wildlife corridor impacts.

Bobcat

In Monterey County between 1997 and 2016, a total of 48 bobcats were removed under the APHIS-WS IWDW program. In some years, no bobcats were taken. The 20-year average annual bobcat take in the county was less than three individuals per year, while the 20-year average statewide was approximately 63 per year. The county and statewide take values are substantially lower than CDFW's threshold of 14,400 bobcats needed to maintain population viability.

Under cumulative conditions, bobcat take in the county would be an average of approximately 125 individuals per year and approximately 1,900 individuals per year statewide. This is substantially below CDFW's 14,400 sustainable harvest value and represents approximately 1.6 percent of the low population estimate (see Table C-5 in Appendix C).

It is reasonably expected that future take under the renewed CSA would be similar to baseline conditions because no changes are proposed to the agreement that would allow for more take than allowed by CDFW, and take would only be a function of responding to requests for assistance. The cumulative impacts Monterey County's contribution to take would be approximately 6.6 percent, which is not substantial and the number of individuals would be well below the CDFW threshold. Therefore, the project's contribution would be **less than cumulatively considerable**, and the cumulative impact would be less than significant.

Feral Swine

Cumulative actions, including take that would occur under the renewal of the CSA, would have no adverse cumulative impact on feral swine. As explained in the Environmental Setting, feral swine are being managed at the national and local levels to stabilize and reduce the population in an effort to control damage caused by this nonnative, invasive species. The project's contribution to take would be **less than cumulatively considerable** and would be considered beneficial. The cumulative impact would be less than significant.

Raccoon and Striped Skunk

Tables C-7 and C-8 in Appendix C provide cumulative take estimates for raccoon and striped skunk, respectively. Historically, raccoon and striped skunk take by APHIS-WS has been less than 1 percent of the county and statewide low population estimate. It is reasonably expected that future take under the renewed CSA would be similar to baseline conditions because no changes are proposed to the agreement that would allow for more take than allowed by CDFW, and take would only be a function of responding to requests for assistance. Even with the addition of other cumulative sources of take (including striped skunk removed for threatened and endangered species protection), cumulative take would be negligible, and the project's contribution would be **less than cumulatively considerable**. The cumulative impact would be less than significant.

Mitigation Measures

None required.

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5.0 PROJECT ALTERNATIVES

5.1 INTRODUCTION

OVERVIEW

CEQA Guidelines Section 15126.6(a) states that an EIR shall describe and analyze a range of reasonable alternatives to a project. These alternatives should feasibly attain most of the basic objectives of the project, while providing a means of avoiding or substantially lessening one or more of the project's significant environmental impacts that would otherwise result from implementation of a proposed project. An EIR need not consider every conceivable alternative to a project, nor is it required to consider alternatives that are infeasible. The discussion of alternatives is to focus on those alternatives that are capable of avoiding or substantially lessening any significant effects of the project, even if they impede the attainment of the project objectives to some degree or would be more costly (CEQA Guidelines Section 15126.6[b]). The Guidelines also provide that the alternatives discussion should not be remote or speculative (CEQA Guidelines Section 15126.6[f][3]).

CEQA Guidelines Section 15126.6(e)(1) requires that a no project alternative be analyzed. Beyond the no project alternative, the CEQA Guidelines establish that several factors need to be considered in determining the range of alternatives to be analyzed in an EIR and the level of analytical detail that should be provided for each alternative. These factors include (1) the nature of the significant impacts of the proposed project; (2) the ability of alternatives to avoid or lessen the significant impacts associated with the project; (3) the ability of the alternatives to achieve the objectives of the project; and (4) the feasibility of the alternatives. Each of these factors as they relate to the proposed project are described below.

Impact Avoidance

The analyses of project Impacts 4.1.1, 4.1.2, and 4.1.4 and cumulative Impact 4.1.7 in Section 4.1, Biological Resources, provides substantial evidence that the renewal of the agreement with APHIS-WS would not result in significant impacts on federal or state special-status species or species of special concern in California, interfere substantially with wildlife movement or established wildlife corridors, substantially reduce animal populations to levels that would not be sustainable compared to baseline conditions, or result in a contribution to cumulative impacts that would be cumulatively considerable. The proposed project would result in no impact on wetlands (Impact 4.1.3) or conflict with General Plan policies regarding biological resources (Impact 4.1.5) or other adopted resource plans (Impact 4.1.6). As such, other than the CEQA-required no project alternative, analysis of a reasonable range of alternatives that would reduce or avoid significant impacts, as required by CEQA, is limited for this project. Nonetheless, this Draft EIR does present five alternatives to the proposed project that evaluate whether the proposed project's less than significant biological resources impacts could be further reduced.

During the NOP public scoping process, the County received comments that alternatives to lethal control should be evaluated in the Draft EIR. To be responsive to these concerns and to aid the decision-making process, this Draft EIR has identified an alternative that would limit direct controls to nonlethal methods only and two additional alternatives that would involve a different strategy. However, it is important to note that it is not the purpose of the Draft EIR to promote or advocate a particular strategy for wildlife damage management, to debate or resolve ethical issues (particularly as they relate to lethal control), or to justify costs and benefits of particular methods of control. The purpose of the alternatives analysis in this Draft EIR is to determine, based on available information, whether an alternative could avoid or substantially reduce the proposed project's environmental impacts.

5.0 PROJECT ALTERNATIVES

Project Objectives

CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible, and establishes that a public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment. It recognizes that in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors (CEQA Guidelines Section 15021 [Duty To Minimize Environmental Damage And Balance Competing Public Objectives]).

The overall goal of the proposed project is to ensure that wildlife damage management on land in Monterey County, for the purposes of protecting agricultural resources, public health and safety, and property, is performed in a biologically sound, environmentally safe, and accountable manner and in accordance with applicable federal and state laws and regulations. The County has identified the following objectives of the proposed project:

- 1) Provide an administrative mechanism for the private citizens and property owners in Monterey County to continue to request assistance for wildlife damage management services.
- 2) Facilitate access to on-site educational services (e.g., informational materials, advice, and demonstrations) regarding wildlife damage management specific to conditions in Monterey County.
- 3) Implement an integrated approach to wildlife damage management that allows qualified professionals to consider the range of options available for wildlife damage management that take into account the species responsible, magnitude of the problem, environmental conditions, legal restrictions such as listed species and permitting, and other considerations to formulate and implement appropriate strategies for the situation.
- 4) Have a process through which professionals who specialize in wildlife damage management can continue to provide technical assistance to resource owners about the variety of nonlethal methods that can be used to resolve problems (e.g., animal husbandry practices, guard animals, fencing, frightening) and where it is appropriate for resource owners to resolve the problem themselves.
- 5) Ensure that methods and techniques for lethal control to handle wildlife damage situations that may be difficult or dangerous for the public to use are implemented by professionals who are specially trained in such methods and who provide those services in a legal manner that is protective of human health and the environment.
- 6) Provide a transparent process for monitoring and documenting wildlife damage management activities to ensure accurate reporting of the types of wildlife damage and number of wildlife species removed by lethal methods, and to help assess the impacts of wildlife damage and associated wildlife damage management activities in the county.
- 7) Continue to provide wildlife damage management at similar funding levels and ensure County funds for wildlife damage management are used in a fiscally sound manner.
- 8) Ensure that processes remain in place for the protection of public safety.

Feasibility

CEQA Guidelines Section 15126.6(f)(1) states that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, jurisdictional boundaries, and whether the applicant can reasonably acquire, control or otherwise have access to alternative sites.”

The factors suggested in the guidelines are typically associated with development projects and are not intended to be all-encompassing nor to narrow how feasibility should be addressed. In terms of the proposed agreement renewal, feasibility is considered in the context of Monterey County’s authority and discretion to decide whether the agreement with APHIS-WS should be renewed and how County funds should be used within the context of regulatory, environmental, and economic considerations, along with practicality and ease of implementation.

5.2 PROJECT ALTERNATIVES

OVERVIEW

The proposed project is the renewal of an agreement with APHIS-WS to provide technical assistance to private citizens and property owners for wildlife damage management. Renewal of the agreement is an administrative action. The services provided under the renewed agreement, which may include direct controls involving lethal or nonlethal methods for wildlife damage management, are described in Section 3.0, Project Description. Conversely, if the County does not renew its cooperative agreement with APHIS-WS, this would be the “no project” alternative.

APPROACH TO IDENTIFYING ALTERNATIVES

Because the decision to be made by the County is whether to approve an agreement for wildlife damage management services that the County would fund but would not directly provide, there are five “no project” alternatives, which are independently evaluated. The County recognizes that this may be perceived as a departure from a typical EIR alternatives analysis that considers only one no project alternative. However, this approach is a function of the nature of the project: to approve or not approve an agreement with APHIS-WS for wildlife damage management comprising technical assistance and direct control measures that could result in removing animals by lethal means.

There are five possible scenarios: (1) the County does not renew the contract and takes no further action to provide wildlife damage management services in the county (No Project/No Action); (2) the County does not renew the agreement with APHIS-WS but provides the entire range of services itself (including lethal methods); (3) the County does not renew the agreement and provides the services itself, but would not use lethal methods; (4) the County does not renew the agreement, and would implement a cost-share reimbursement program that requires resource owners to use nonlethal methods; and (5) the County does not renew the agreement, and develops and implements an indemnity program for agricultural resources and property damage.

Thus, for each of four other “no project” alternatives, the analysis describes what could be reasonably expected to occur in the foreseeable future and the practical result of non-approval if the County does not renew the agreement with APHIS-WS. This approach is consistent with CEQA Guidelines Section 15126.6. For ease of reference, only the name of the alternative is used (without reference to “no project”).

- **Alternative 1 – No Project/No Action**

The proposed project under consideration is renewal of the County's existing contract with APHIS-WS. Under this alternative, Monterey County would not renew its agreement with APHIS-WS for wildlife damage management services, and consequently APHIS-WS would not provide County-funded technical assistance of any kind (including direct control lethal and/or nonlethal methods) to the county, its residents, or resource owners. APHIS-WS may conduct wildlife damage management in the county for threatened and endangered species protection, but, identical to the existing contract, no County funds would be used for this purpose. The County also would not provide any wildlife damage management services.

- **Alternative 2 – Monterey County Provides Wildlife Damage Management Services**

Under this alternative, Monterey County would not renew its agreement with APHIS-WS. Instead, the County would provide wildlife damage management services that would have otherwise been directed to APHIS-WS. Since these services would be provided under the direction of the County, to implement this alternative, the County would need to have qualified staff and/or enter into subcontracts with qualified professionals to provide the services formerly delivered by APHIS-WS field specialists. As with the existing agreement, the funded services would be used for addressing agricultural losses, public health and safety, and property damage, and would include direct control (nonlethal and lethal methods). Wildlife damage management to protect threatened and endangered species or California species of special concern would not be performed, identical to the existing agreement.

- **Alternative 3 – Monterey County Provides Technical Assistance but No Lethal Control Methods Used**

In this alternative, the County would not have an agreement with APHIS-WS. The County would offer technical assistance in the form of responding to requests for information and/or advice via telephone and field visits (including making recommendations to resource owners about nonlethal methods for loss/damage control), informational materials, and educational programs and demonstrations. To implement this alternative, the County would need to have qualified staff and/or enter into subcontracts with qualified professionals for these services. The funded services would be used to address agricultural losses, public health and safety, and property damage. No lethal control methods would be used for wildlife damage management.

- **Alternative 4 – Monterey County Cost-Share and Loss Indemnity Program for Nonlethal Control Methods for Agricultural Resources Protection Only**

Under Alternative 4, Monterey County would establish a cost-share program funded and administered by the County to help producers implement their own nonlethal control methods such as guard animals (e.g., dogs, llamas), electric fencing, scare devices, and herd shepherding to protect livestock and crops. The County would reimburse livestock producers for losses, provided the producers use nonlethal methods to help minimize losses and losses are verified. This alternative would not provide for property protection. It would include methods that could benefit crop producers as well. This alternative could be used in combination with Alternatives 2 or 3. However, for purposes of the analysis, the comparative analysis evaluates only the cost-share aspect.

- **Alternative 5 – Agricultural Resource and Property Loss Indemnity Program**

The County considered an alternative that would reimburse resource owners for agricultural or property losses instead of funding services by APHIS-WS or the County for technical assistance. Under this alternative, neither APHIS-WS nor the County would provide advice or guidance, and there would be no use of lethal methods by APHIS-WS or the County.

PUBLIC SAFETY CONSIDERATIONS IN THE ALTERNATIVES ANALYSIS

The wildlife damage management services focus primarily on agricultural resources and property protection in Monterey County. However, an important element of wildlife damage management is also addressing human-wildlife conflicts, particularly those that cause human injury or are fatal (e.g., mountain lion). Many wildlife species adapt well to human settlements and activities, but their proximity to humans increases the threats to public health and safety as well as to wildlife itself. The urban fringe provides readily available food supply that can include garbage, pet food, small dogs, and domestic cats, among other things. The CDFW has developed “Keep Me Wild: Mountain Lion” (<https://www.wildlife.ca.gov/Keep-Me-Wild/Lion>) and “Keep Me Wild: Coyote” (<https://www.wildlife.ca.gov/keep-me-wild/coyote>) campaigns to help educate the public about these animals and ways to minimize risks of encounters or attacks.

Incidents of mountain lion encounters and attacks¹ are investigated and managed by the CDFW provided the incident is reported to them. Under the CDFW's Public Safety Wildlife Guidelines, an animal is deemed to be a public safety threat if there is “a likelihood of human injury based on the totality of the circumstances.” Factors that are considered include the lion's behavior and its proximity to schools, playgrounds and other public gathering places. The determination of whether an animal is a public safety threat is made by the CDFW or local law enforcement personnel on the scene in accordance with its Department of Fish and Game Departmental Bulletin Number: 2013-02 (CDFW 2013). Similarly, the CDFW or local law enforcement would be involved in the investigation of a coyote attack.

There is an existing process in place to protect public safety if a mountain lion or coyote has attacked a human. This process would be in place regardless of whether the CSA is renewed or if the County were to implement a wildlife damage management program on its own. As with the current CSA, the CDFW, which is the resource agency responsible for managing wildlife in the state, and local law enforcement would provide initial response after an incident has been reported. CDFW and/or local law enforcement would then coordinate with APHIS-WS, which would mobilize field staff to locate the animal and remove it. If the CSA were not renewed and there were no County-operated program, APHIS-WS staff would still be available to provide assistance to CDFW and/or local law enforcement, but there would be additional administrative actions that would need to occur, and there could be a potential for delay because APHIS-WS field staff may not be immediately available to respond. If the County were to operate the program, it would have trained staff who could respond. As such, wildlife damage management for public safety as it relates to wildlife attacks on humans is inherent in each of these alternatives, and the alternatives analysis does not need to consider a scenario in which there would be no response services for incidents involving wildlife attacks on humans. However, there may be a

¹ Encounters are not the same as attacks. The CDFW defines attack as an encounter in which human skin is broken or there is a death.

5.0 PROJECT ALTERNATIVES

difference in the availability of wildlife damage management services as it relates to food safety (e.g., crop or food contamination), which is addressed in the alternatives.

5.3 COMPARATIVE ANALYSES OF ALTERNATIVES

INTRODUCTION

As described in the Environmental Setting in Section 4.1, Biological Resources, the APHIS-WS activities in Monterey County have resulted in the removal of several wildlife species by lethal methods, which are listed in Table 4.1-3. These species were removed because APHIS-WS field specialists determined they were responsible for livestock predation or property damage, or were a public health and safety concern. Table 2.0-1 summarizes which species were responsible for each kind of damage. It is reasonable to assume that with or without the proposed project, there will continue to be wildlife damage of some kind in Monterey County, and that some resource or property owners would implement nonlethal control methods and/or seek to reduce losses by removing the responsible animal by lethal means. As a result, some loss of common wildlife species that have historically caused the most damage (e.g., coyotes) in the county will continue to occur beyond what would be expected due to natural mortality. For mountain lion and bobcat, legal take would be limited to depredation permits, and there is a season limit on bobcat. Some estimate of coyote take by private parties can be estimated from hunter surveys, which is discussed in Impact 4.1.7 (Cumulative Impacts) in Section 4.1, Biological Resources. Survey data for one season indicated 65 percent of the respondents killed coyotes for property protection, while the other 35 percent was for sport hunting. The number of additional coyotes that could be killed by private parties cannot be predicted.

ALTERNATIVE 1: NO PROJECT/NO ACTION

Comparative Analysis of Biological Resources Impacts

If the contract with APHIS-WS is not renewed, and the County does not provide any services similar to those provided by APHIS-WS, it is reasonably expected that wildlife causing damage or loss will be killed either by individual resource or property owners or by private parties hired by those individuals. In the case of coyote, it is a nongame species that can be taken for any reason and without approval from CDFW, with the exception of a commercial trapping permit. As such, the potential number of removals that could occur if private parties do not request assistance or if they decide to kill coyotes is unknown. In addition, while APHIS-WS field specialists target an individual coyote because it has been confirmed as the animal causing a loss, a private party may not apply the same criteria, so more coyotes than the one(s) causing damage could be killed. Therefore, it is not possible to develop an estimate of coyote removals and whether those would be substantially more or less than what would be expected to occur based on historical data. However, similar to the proposed project, in order for there to be a reduction in the coyote population that would be so substantial as to affect species viability, take by private parties in Monterey County would have to be approximately 4,400 individuals (60 percent of the County low population estimate of 7,300) on an annual basis, which would be highly unlikely.

For other species such as mountain lion and bobcat, a permit would be required from CDFW to legally take one of these animals. A depredation permit for mountain lion requires that CDFW verify the loss before issuing it to the requestor, which substantially limits how many mountain lions may legally be killed by a private party. If a resource owner determines a bobcat is causing damage, a hunting license would be required to legally take the animal. CDFW limits the number of bobcats that may be hunted under one license to five per year, which limits the number of species that can be removed in a year. Historically, under the APHIS-WS program, an average of

less than three per year were taken. The examples for mountain lion and bobcat assume individuals would comply with applicable laws and regulations. Although feral pigs require a hunting license, this is an invasive, damaging species with a large population. Take of feral pigs by private parties for resource protection would not have an adverse effect on the species population beyond what would occur without the project. This Draft EIR is not required to speculate to what extent illegal common wildlife species take by private parties—absent the APHIS-WS IWDM program or a County-run program in Monterey County—might have on species populations. Such activities could also include illegal take of listed species.

In addition, under the No Project/No Action alternative, the services provided by APHIS-WS, e.g., investigating and responding to requests for assistance, recommending nonlethal control methods to resource owners to resolve problems, and where it is appropriate for resource owners to resolve the problem themselves) would not occur, and the County would also not provide such services. Resource owners could, however, seek assistance from other sources and implement direct controls, which could include nonlethal and lethal removals. The potential effect on species populations absent a process for reporting damage and resultant removals cannot be ascertained based on available information and would be speculative at best.

Compared to the proposed project, this alternative has the potential to result in additional take of certain target species, particularly coyote, and it is unknown whether additional take of other species could occur that would be more or less than that of the proposed project. Therefore, there is no compelling evidence this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

Ability to Achieve Project Objectives

The No Project/No Action alternative would not achieve project objectives 1 through 7. A process would still be in place to protect public safety if there were a reported wildlife attack on a human, but protection of public safety in the food production industry (e.g., APHIS-WS activities to investigate and manage crop contamination resulting from wildlife) may not be readily available. As such, the No Project/No Action alternative would only partially meet objective 8.

Feasibility

The No Project/No Action alternative is feasible because the decision whether to renew the agreement is at the discretion of the County. However, as noted above, it would not achieve any of the project objectives.

ALTERNATIVE 2: MONTEREY COUNTY PROVIDES WILDLIFE DAMAGE MANAGEMENT SERVICES

Comparative Analysis of Biological Resources Impacts

Under this alternative, Monterey County would not renew the cooperative agreement with APHIS-WS and would, instead, perform the technical assistance functions APHIS-WS would have performed using County staff and/or subcontractors. For purposes of the analysis, this alternative is assumed to be identical to the proposed project in terms of its scope of activities, as described in Section 3.0, Project Description. The County would provide wildlife damage management services for the protection of agricultural resources, public health and safety, and property. Therefore, the less than significant biological resources impacts would be the same as those identified in Impacts 4.1.1, 4.1.2, 4.1.4, and 4.1.7, and it would not avoid or substantially reduce any of the proposed project's less than significant impacts.

5.0 PROJECT ALTERNATIVES

Ability to Achieve Project Objectives

Alternative 2 would meet most of the project objectives because it would provide a mechanism for residents and resource owners in the county to obtain assistance for wildlife damage management that would be applied in accordance with applicable laws and regulations. It would implement an integrated approach to wildlife damage management in a responsible and accountable manner, and would provide information and data about how to help the County assess the impacts of wildlife damage and associated wildlife damage management activities in the county, which would be available to the public and decision-makers as well as the state's wildlife resource agency (CDFW) and USDA APHIS-WS. It would also be consistent with objective 8. As discussed below, however, this alternative may not be economically feasible for the County to implement, so it would not achieve Objective 7.

Feasibility

The number of hours and the County's cost share of funds needed to implement this alternative is based on the services provided by trained and highly experienced field specialists whose services are guided by the WS Policy Manual and Directives. The Board of Supervisors has approved a certain level of funding for the cost-share program. The County does not have staff with similar qualifications as APHIS-WS field specialists and their supervisors. In order for the County to assume responsibility for wildlife damage management, it would either have to hire qualified specialists who already have the appropriate training and experience, train its own staff, or subcontract the work to similarly qualified persons. The level of expertise provided by APHIS-WS is necessary to ensure that control methods are biologically sound, environmentally safe, and legal. A private or commercial trapper or hunter would not have this expertise. Although there are private companies who provide wildlife rescue and control services, these companies' services are generally limited to animals such as raccoon and opossum, rodents, reptiles, and other small animals around homes in urban environments.

The County also does not have the vehicles (e.g., ATVs), equipment, and materials that are available to APHIS-WS personnel and therefore would need to acquire them. APHIS-WS also maintains an extensive database (its Management Information System) for its services, which is necessary to document wildlife damage and implemented controls, and which is used by other USDA programs as well as CDFW. However, the County would not have access to this database, so it would likely need to develop one of its own. This administrative-type function along with others would require staff in addition to field specialists and technical supervisors. While the Agricultural Commissioner's Office collaborates closely with the UC Cooperative Extension to provide general information and resources about integrated pest management, neither have staff who specialize in evaluating wildlife damage situations and recommending possible nonlethal control strategies to residents and resource owners.

If the County were to train existing staff or new hires, there would be additional costs associated with the training and supervision.² Additional staff would also be needed to perform administrative functions. The County would need to acquire vehicles, equipment, and materials. There would be an initial period of training and startup during which no services would be available. On a cost-per-hour basis, the County would not be able to provide the same level of service as APHIS-WS. In addition, there would no longer be a cost-share agreement, so the entire cost would have to be funded by the County. As an example, under the current annual work and financial plan for fiscal

² For example, in Placer County, the job description for wildlife specialist indicates supervision is provided by the Agricultural Commissioner's Office and functional supervision from the APHIS-WS district supervisor (Placer County 2017a).

year 2015-16, the total cost for IWDM program services was \$179,940, and the County's cost-share portion of that was \$149,195 (USDA 2015e). By comparison, the approved 2016-17 budget for a Placer County-operated integrated wildlife damage program that provides technical assistance and direct controls similar to APHIS-WS is \$540,942 (Placer County 2016:137).³

Given the additional funding that would be needed to hire and train new personnel and acquire vehicles, equipment, and materials, along with having to fully fund the cost of services rather than a cost-share, this alternative is deemed infeasible because the County would not be able to provide the same level of expertise and scope of services as APHIS-WS without burdening the County with additional costs. Moreover, as explained above, the biological resources impacts would be identical to the project. Beyond its practical and economic infeasibility, it is also considered infeasible because it would not avoid or substantially reduce any of the less than significant biological resources impacts.

ALTERNATIVE 3: MONTEREY COUNTY PROVIDES TECHNICAL ASSISTANCE BUT NO LETHAL CONTROL METHODS USED

Overview

In Alternative 3, the contract with APHIS-WS would not be renewed, and the County would, instead, provide professional technical assistance, which would include responding to requests for information and/or advice via telephone and field visits (including making recommendations to resource owners about nonlethal methods for loss/damage control), providing informational materials, and conducting educational programs and demonstrations. The County would not perform any services that would result in the removal by lethal methods of an animal causing damage.

As part of technical assistance, the County would make recommendations to resource owners about the variety of nonlethal methods that can be used to resolve problems and where it is appropriate for resource owners to resolve the problem themselves. Those methods, which are described in Appendix B (Direct Control Methods) include resource management (e.g., animal husbandry practices, guard animals, lure crops), physical exclusion (e.g., fences and pens) deterrents (e.g., frightening devices and harassment), and modifying human behavior (e.g., not feeding wildlife). While the County would recommend types of nonlethal controls, County funds would not be used to help resource owners implement the methods. Further, the decision as to which methods to use (or whether to use nonlethal methods) would be at the discretion of the resource owner. An alternative that examines a cost-share program in which the County could help fund nonlethal methods is presented in Alternative 4.

Efficacy of Nonlethal Methods for Wildlife Damage Management

Data compiled by NASS show that producers surveyed in California implement an array of nonlethal methods to prevent predation on livestock. NASS survey data for California show that producers of cattle and calves use nonlethal techniques including livestock guard animals (29.8 percent), exclusion fencing (74.6 percent), frequent checks (20.3 percent), carcass removal (26.6

³ Placer County's program includes technical assistance for behavior modification, use of repellents, exclusion, and habitat modification (nonlethal controls). Personnel primarily trap problem skunks, raccoons, and opossums in and around the urban areas as well as in rural areas, but they also respond to depredation calls involving the loss of livestock and pets from predators like coyotes, mountain lions, and bears. Lethal controls are used where necessary (Placer County 2017b).

5.0 PROJECT ALTERNATIVES

percent), culling (5.2 percent), and other techniques such as night penning, herding, and the use of fright tactics (NASS 2011). Similar techniques are used for sheep: fencing (78.6 percent), shed lambing (31.0 percent), the use of guard animals (guard dogs [40.5 percent], llamas [10.2 percent], and donkeys [8.4 percent]), frequent checks (19.8 percent), culling (10.9 percent), night penning (38.9 percent), carrion removal (12.6 percent), and other techniques such as herding and the use of fright tactics (USDA 2015c).

An ongoing topic in the scientific community and debated by decision makers and the public is whether lethal methods of predator control should be used at all due to the availability of effective nonlethal techniques. The County is aware of numerous studies evaluating the usefulness and potential benefits of nonlethal methods that may help minimize and sometimes reduce predation on livestock. These studies, which have been ongoing for decades, include: Bergstrom (2017); Conner et al. (1998); Davidson-Nelson and Gehring (2010); Defenders of Wildlife (2012); Knowlton, Gese, and Jaeger (1999); Lance et al. (2010); Musiani et al. (2003); Project Coyote (n.d); Shivik, Treves, and Callahan (2003); Stone et al. (2017); Treves and Karanth (2003); Wallach, Ramp, and O'Neill (2017); and Warnert (2015).⁴ Methods and results varied among the studies. A common opinion expressed by some authors and the public who advocate the use of nonlethal methods is that lethal methods are ineffective in protecting livestock from predation. Oft-cited studies in support of that opinion include Harper et al. (2008); Musiani et al. (2003); Treves, Krofel, and McManus (2016); and Wielgus and Peebles (2014).

Successful use of nonlethal methods in minimizing or reducing losses would be the result of a combination of many site-specific variables, which cannot be predicted with any accuracy, based on available information. Most studies cited by advocates of nonlethal methods were controlled studies (e.g., penned animals and a single predator of interest). A strategy that works in one location may not be suitable for another. The applicability to grazing cattle and sheep on tens of thousands of acres where there are many predators, such as in Monterey County, is less clear. The County is not aware of any published, peer-reviewed scientific studies specific to Monterey County regarding the efficacy of nonlethal control methods for livestock protection.

Given the number of variables, it would be speculative to draw any conclusion whether the exclusive use of nonlethal methods would, in fact, result in fewer predators being removed than by lethal methods. Other questions remain: Could the exclusive use of nonlethal methods affect population dynamics and distribution of target species, affect nontarget species, or species diversity in a particular habitat; or could the use of a specific method (e.g., fencing) endanger other wildlife through entanglement or by blocking migratory wildlife corridors? The results of ongoing studies, such as at the UC Division of Agriculture and Natural Resources Hopland Research and Extension Center in Mendocino County, County-funded livestock protection programs such as in Marin County, and anecdotal reporting from producers and wildlife managers about practical application of nonlethal methods, will help to further inform this topic.

⁴ In its review of these studies, the County noted that some focused on nonlethal control of wolves in other states. There are no wolves in Monterey County and these were controlled studies, but the concepts of nonlethal controls are relevant to the analysis and are therefore acknowledged.

Comparative Analysis of Biological Resources Impacts

If no lethal methods are used, then the numbers of damage-causing wildlife removed under a County-operated program would decrease to zero.⁵ This would reduce the magnitude of the less than significant impacts identified in Impacts 4.1.1, 4.1.2, 4.1.4, and 4.1.7 because the County would not be contributing to the removals and associated species population impacts. However, it is reasonable to assume that absent lethal controls implemented by the County, some residents and property owners would independently pursue other measures to reduce losses, some of which might involve lethal methods.

Under this alternative, County-funded professionals would be able to provide recommendations about nonlethal controls. However, the decision whether to use new or additional nonlethal methods would be at the discretion of the resource owner, not the County. There are no regulations that require resource owners to monitor the effectiveness of nonlethal controls and report their observations. As such, it cannot be ascertained whether controls would actually deter wildlife species to levels where a particular species would no longer pose a problem that ultimately would result in the animal's removal by lethal means. It is unknown whether additional take of target or other species could occur that would be more or less than that of the proposed project because the actions of private parties cannot be predicted with any certainty. Therefore, there is no compelling evidence this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

Ability to Achieve Project Objectives

Alternative 3 would generally achieve the intent of project objectives 1, 2, and 4 because it would provide a mechanism for residents and resource owners in the county to obtain professional assistance for wildlife damage management, and it could facilitate gathering some information and data about the use of nonlethal methods, which would be available to the public and decision-makers as well as the state's wildlife resource agency (CDFW) and USDA APHIS-WS. Objective 5 would not be applicable because this alternative would not involve the use of lethal controls through a County-funded mechanism. Objective 7 could be met because it would involve fewer personnel hours than the fully funded alternative (Alternative 2) and minimal equipment, so it would be expected that costs would be less. As described above, there is an existing process in place to protect public safety in the event of wildlife attack on a human. However, it is unknown whether this alternative could achieve objective 8 in the context of food safety.

Under this alternative, it is assumed resource owners would use nonlethal controls for wildlife damage management, based on their own experience or with guidance from the County. However, resource owners would not be required to report on the types or effectiveness of nonlethal controls, unless the County establishes a process as part of its technical assistance program for them to do so. Absent such information, it is unknown what nonlethal measures resource owners might use. This would not achieve the intent of Objective 6. There is also the possibility that resource owners would decide to use lethal controls on their own or hire private parties to remove animals. Resource owners would be required to obtain depredation permits from the CDFW for mountain lion and bobcat, but it is unknown what other species and what number would be removed because no reporting would be done. This alternative also has the potential to result in inadvertent take of a protected species, which may be illegal, or methods

⁵ For purposes of this analysis, it is assumed the County would take a similar number of species as taken by APHIS-WS. It would be speculative to estimate whether there would be more or less because there are no data.

5.0 PROJECT ALTERNATIVES

used by individuals not familiar with or having no expertise in lethal methods. This would not achieve the intent of Objective 5.

In an integrated wildlife damage approach, the alleviation of wildlife damage is the main focus, whether addressed by APHIS-WS or County professionals or other individuals, and consists of one or a combination of three basic strategies: manage the resource being damaged so it is more difficult for the wildlife species to cause the damage; manage the wildlife species responsible for or associated with the damage so they cannot cause damage; or physical separation of the two so that the damage is minimized. Under this alternative, resource owners could implement nonlethal controls to manage their resources, but the ability to successfully manage the wildlife species responsible for damage may or may not be successful. For example, better animal husbandry and exclusion practices might help reduce damage in one location, but predators (such as opportunistic coyotes) would likely seek easier prey elsewhere. In other words, the problem is not remedied; it is just relocated. In that regard, this alternative would not fully achieve integrated wildlife damage management. As such, Objective 3 would only partially be met.

Feasibility

This alternative may be feasible economically and relatively easy to implement because it would be similar in scope to integrated pest management assistance provided by the County. Similar to Alternative 2, the County would likely have to train or hire additional staff to provide technical assistance services specific to the types of wildlife damage situations beyond those typically encountered in integrated pest management. As described for Alternative 2, there would no longer be a cost-share agreement with APHIS-WS, so the County would be responsible for funding services in their entirety. However, with technical assistance only, this may result in fewer staff hours and reduced expenses, which could offset the difference.

ALTERNATIVE 4: MONTEREY COUNTY COST-SHARE AND LOSS INDEMNITY PROGRAM FOR NONLETHAL CONTROL METHODS FOR AGRICULTURAL RESOURCES PROTECTION ONLY

Background for the Comparative Analysis

Under Alternative 4, Monterey County would develop a program in which it would reimburse livestock producers for losses, provided the producers use nonlethal methods to help minimize losses, similar to a cost-share reimbursement approach that was used in Marin County until a few years ago. This program would not address property damage. Nonlethal methods that could be used under this alternative are described in Alternative 3, above. The County would determine which producers would be eligible for the program and would enter into a cost-share agreement with them. County staff would be responsible for assessing the need through field visits, periodic inspections to verify that only methods approved by the County are being used, ensuring that producers are correctly monitoring and reporting the effectiveness of the controls, and enforcement in the event that cost-share terms are not being followed.

Historically, APHIS-WS had provided services to Marin County, but in late 2000, the Marin County Board of Supervisors decided to implement its own program with a county-administered predator damage management program under the direction of the Agricultural Commissioner's Office. Under the Ranch Improvement/Non-lethal Control and Indemnity Plan (or Livestock Protection Program, as it was known locally), qualified sheep ranchers with verified livestock losses resulting from predation could receive reimbursement for losses, provided they were using at least two approved nonlethal methods. The program went into effect in fiscal year 2001-02. The initial budget for the program was approximately \$43,000, increasing to \$57,000 the following year, and

below \$50,000 thereafter. Most commonly used methods were night penning, guard animals, and scare devices. There was some increase in sheep producers participating in the program in the early years of the program (Larson 2006), and the program documented some decrease in sheep predation by coyotes through the use of nonlethal methods (Project Coyote n.d.).

The Livestock Protection Program is still in place, but there have been changes to the program over the years, and it is now substantially less robust. In 2003, the County capped the reimbursement for losses because the number of requests far exceeded available funds. The County subsequently eliminated the reimbursement for losses component altogether about five years ago. More recently, beef cattle and chickens were added to the program, but the greatest number of program participants and recipients are the sheep ranchers. The fiscal year 2015-16 budget was \$20,000, and those funds may only be used to help assist resource owners in obtaining and/or maintaining nonlethal deterrents such as guard dogs (acquiring the animal but not training it, and care). The maximum that is paid to a resource owner is \$3,000, but may be less. Financial assistance is provided on a pro-rated basis, depending on the resource (sheep, cattle, or chickens) and the number of animals. Although the budget was \$20,000, in 2015-16, Marin County paid out only \$17,000, which they believe reflects resource owners' declining interest in the program as well as the availability of county staff to provide program assistance. This may be due, in part, to changes in ranching with more open range grazing practices occurring in and near areas of high brush encroachment, which provides cover for coyotes, and where the use of nonlethal controls (such as night penning) in such settings is less practical. Marin is the only county in the state with this type of assistance-type program for nonlethal methods for wildlife damage management (Larson 2017).

Comparative Analysis of Biological Resources Impacts

Even with a cost-share reimbursement program, livestock loss, property damage, and human-animal conflicts would still occur in the county. There will still be situations when agricultural and property damage or loss occurs, but neither APHIS-WS nor the County would provide assistance in situations when removing the problem animal by lethal means may be the only solution. Instead, it is reasonable to assume resource owners would likely seek assistance elsewhere or implement direct controls themselves, which could include lethal removals. Similar to the other two alternatives that involve nonlethal methods only (Alternatives 3 and 4), it is unknown whether additional take of target or other species could occur that would be more or less than that of the proposed project because the actions of private parties cannot be predicted with any certainty. Therefore, there is no compelling evidence this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

Ability to Achieve Project Objectives

A cost-share reimbursement program that would provide wildlife damage management assistance and financial incentives for nonlethal control methods would generally achieve the intent of project objectives 1, 2, and 4, but the level of technical assistance would not be as comprehensive as the proposed project. Objective 5 would not be applicable because this alternative would not involve the use of lethal controls by APHIS-WS or the County. If a program is established in which ranchers must demonstrate they have deterrents in place in order to qualify for cost-share reimbursement of losses, this would partially meet Objective 6 because use of the controls would be verified and losses would have to be confirmed. As described above, there is an existing process in place to protect public safety in the event of wildlife attack on a human. However, it is unknown whether this alternative could achieve objective 8 in the context of food safety.

5.0 PROJECT ALTERNATIVES

As explained in Alternative 3, integrated wildlife damage management encompasses three basic strategies: manage the resource, manage the wildlife species, or physically separate the two so that the damage is minimized. Under this alternative, resource owners could implement nonlethal controls to manage their resources, but the ability to successfully manage the wildlife species responsible for damage may or may not be successful. In that regard, this alternative would not fully achieve integrated wildlife damage management. As such, Objective 3 would only partially be met. It is unknown whether this alternative could achieve Objective 7 because funding levels would be determined by the Board of Supervisors and would be based on numerous factors, the analysis of which is beyond the scope of this EIR.

Feasibility

This alternative would be similar in scope to integrated pest management assistance provided by the County but with additional services. Similar to Alternative 3, the County would likely have to train or hire additional staff to provide technical assistance services specific to the types of wildlife damage situations beyond those typically encountered in integrated pest management. However, there are also several constraints. In order for this type of program to be developed, it would also require personnel to perform site visits to ensure nonlethal controls are in place, investigate and validate all losses, and determine and administer appropriate compensation, which would require funding. Depending on staffing and funding, it may not be possible to assess and confirm losses in a timely manner for all requests, and as a result some losses may not be verified and would not be compensated. There would no longer be a cost-share agreement with APHIS-WS, so the County would be responsible for funding services in their entirety. Therefore, it is likely the costs of this alternative would be at least similar to existing expenditures.

Other considerations for this alternative are practicality and cost/benefit. While there was some success with a cost-share reimbursement program in Marin County, its viability in Monterey County would be less certain. This is primarily because livestock production in the two counties differs in terms of the numbers of head of livestock and how livestock is managed (open range cattle grazing versus fenced/penned sheep). For example, over the last 15 years, the number of sheep in Marin County has been in the range of 9,000 to 10,000 head on a yearly basis. By comparison, the number of sheep in Monterey County in 2016 was 1,100 head, a substantial decrease from 2,500 head in 2000. With respect to cattle and calves, in 2016, there were approximately 72,100 head of beef cattle/calves and stockers in Monterey County, while in Marin County there were approximately 14,000 head (Marin County 2000, 2015; Monterey County 2000; Monterey County 2017c). Given the magnitude of livestock production in Monterey County and its focus on cattle production, not sheep, a cost-share program similar to Marin County's would be difficult to implement. Unlike sheep, which can be successfully protected with fencing/penning and guard animals, cattle and calves are not as easily managed, with the exception of holding expectant females in pens or sheds to protect births and by holding newborn livestock in pens for the first two weeks. Open-range cattle and calves are less likely to tolerate the presence of guard animals such as dogs. In addition, sheep ranching is a very small contributor to Monterey County livestock production in terms of dollars (less than 2 percent), so a program that focuses on sheep protection would not be cost-effective. Nonlethal controls are used by many sheep ranchers and wool growers in the county, and there are anecdotal reports they still have losses. In some cases, sheep ranchers and wool growers have decided to simply discontinue raising sheep. Moreover, as demonstrated by Marin County's recent experience, described above, the efficacy of a cost-share and reimbursement for losses type of program may not be as successful as envisioned.

For the reasons described above, this alternative is deemed infeasible.

ALTERNATIVE 5: INDEMNITY FOR LOSSES**Background for the Comparative Analysis**

Under this alternative, the County would reimburse resource owners for agricultural or property losses instead of funding services by APHIS-WS or the County for technical assistance. Under this alternative, neither APHIS-WS nor the County would provide advice or guidance, and there would be no use of lethal methods by APHIS-WS or the County.

An example of a reimbursement approach is the USDA's Farm Service Agency's Livestock Indemnity Program, in which livestock producers may be compensated 75 percent of the average fair market value for losses in excess of normal mortality caused by adverse weather, eligible disease, or attacks by eligible animals. This federal program does not address public health and safety or property damage. Benefits are provided if the producer submits the required application and documentation in a timely manner and the Farm Service Agency determines the loss is eligible for reimbursement. Under the federal program, an eligible attack means an attack by animals reintroduced into the wild by the federal government or protected by federal law, including wolves and avian predators, which directly results in the death of eligible livestock in excess of normal mortality. No animals have been reintroduced into the wild in Monterey County by the federal government. Livestock Indemnity Program payments in California for the 20-year period 1995-2014 totaled \$31.7 million, with nearly \$26 million of that in one year (2007). However, no payments under this program were made to producers in Monterey County during that 20-year period (EWG 2017). Only one county in California (Marin County; see Alternative 4) has attempted an indemnity program, but it is used in conjunction with a cost-share program.

Tables 2.0-2 and 2.0-3 in Section 2.0, Project Background, presents information about confirmed agricultural resource and property losses in Monterey County. Not all resource, property, or landowners who experience damage from wildlife report the damage or request assistance. Because only a fraction of the losses is reported or can be confirmed, loss in Monterey County is likely underestimated.

Comparative Analysis of Biological Resources Impacts

If no lethal methods are used, then the numbers of damage-causing wildlife removed by APHIS-WS would decrease to zero. This would reduce the magnitude of the less than significant impacts identified in Impacts 4.1.1, 4.1.2, 4.1.4, and 4.1.7, because APHIS-WS would not be contributing to the removals and associated species population impacts.

Agricultural resource and property loss would still occur, but neither APHIS-WS nor the County would provide assistance in situations when removing the problem animal by lethal means may be the only solution. Instead, it is reasonable to assume resource owners would likely seek assistance elsewhere or implement direct controls themselves, which could include lethal removals. Similar to the other two alternatives that would involve nonlethal methods only (Alternatives 3 and 4), it is unknown whether additional take of target or other species could occur that would be more or less than that of the proposed project because the actions of private parties cannot be predicted with any certainty. Therefore, there is no compelling evidence this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

5.0 PROJECT ALTERNATIVES

Ability to Achieve Project Objectives

This alternative would generally achieve the intent of objectives 1 and 2 because private citizens and resource owners could request assistance from the County. However, it would not achieve objectives 3, 4, 5, 6, or 7 because it would not implement any integrated wildlife damage management strategies. As described above, there is an existing process in place to protect public safety in the event of wildlife attack on a human. However, it is unknown whether this alternative could achieve objective 8 in the context of food safety.

Feasibility

There is no indemnity program administered by Monterey County for use within the county. A number of factors could affect the efficacy of such a program, were one to be developed. It would require personnel to investigate and validate all losses and to determine and administer appropriate compensation, which would require funding. Depending on staffing and funding, it may not be possible to assess and confirm losses in a timely manner for all requests, and as a result some losses may not be verified and would not be compensated. Similar to the federal program, compensation would most likely be below full market value. An indemnification approach has the potential to be a disincentive to livestock and property owners to limit damages through the use of nonlethal controls such as improving animal husbandry practices, use of exclusion fencing, and guard animals.

It would be within the County's discretion whether to develop and implement an indemnification program. However, this alternative would not avoid or substantially reduce the less than significant biological resources impacts of the proposed project and would not achieve most of the project objectives. The cost implications of this alternative cannot be determined with available information. As such, this alternative is deemed infeasible.

5.4 ALTERNATIVES REJECTED FROM ANALYSIS OF COMPARATIVE BIOLOGICAL RESOURCES IMPACTS

ANIMAL CONTROL BY MONTEREY COUNTY HEALTH DEPARTMENT

It has been suggested that wildlife control could be provided at the local level by animal control personnel. The Monterey County Health Department provides assistance regarding domestic pets, licensing, temporary shelter, feral cats, animal cruelty, complaints, animal, and deceased animals on roadways. Monterey County Animal Services, which is part of the Health Department, does not provide assistance for wildlife (which includes small animals such as feral dogs, raccoons, and skunks) but encourages residents and property owners to contact the Society for the Prevention of Cruelty to Animals Wildlife Center (<http://www.spcamc.org/wildlife/found-wildlife-in-need>) or CDFW for issues involving wildlife (Monterey County 2017a). In order for Animal Services to provide technical assistance and control services, it would require funding as described in Alternative 2. This alternative was rejected from further analysis in this Draft EIR because it is not feasible.

MONTEREY COUNTY AGREEMENT WITH APHIS-WS TO PROVIDE TECHNICAL ASSISTANCE BUT NO LETHAL CONTROL METHODS USED

In response to comments on the NOP, the County considered whether it could renew the CSA but would stipulate that APHIS-WS would be prohibited from removing by lethal means any animal it has identified as causing damage or loss. Under this scenario, APHIS-WS would only provide technical assistance in the form of responding to requests for information and/or advice via telephone and field visits (including making recommendations to resource owners about

nonlethal methods for loss/damage control), providing informational materials, and conducting educational programs and demonstrations).

As explained in Section 2.2, Project Background, APHIS-WS is authorized by the federal government to perform wildlife damage management services under cooperative service agreements. APHIS-WS activities are a combination of technical assistance and direct controls that are determined on a case-by-case basis by the field specialist(s) using the APHIS-WS decision model. While field specialists may recommend nonlethal controls to resource owners, the current federal program does not allow for federal funds to be used in a cost-share program to provide materials (e.g., fencing or fladry) or resources (e.g., guard animals) directly to private resource owners for use by and for the benefit of private resource owners.

Similar to Alternative 3, absent lethal controls implemented by APHIS-WS, some residents and property owners would likely independently pursue other measures to reduce losses, some of which might involve lethal methods, and potentially without regard for potential biological resources effects or humaneness. The decision whether to use new or additional nonlethal methods would be at the discretion of the resource owner, not APHIS-WS, and there are no regulations that require resource owners to report on nonlethal methods used. As part of the federal authorization, APHIS-WS is required to document, report, and monitor its wildlife damage management activities. Under a nonlethal methods scenario, APHIS-WS would not be able to document or report on the types or nonlethal methods used or their effectiveness. As a result, if the County limited APHIS-WS's scope of services to technical assistance only, APHIS-WS would not be able to fulfill its reporting obligations under federal law.

This alternative was rejected from further analysis in the Draft EIR because APHIS-WS would not be able to fully perform wildlife damage management in accordance with existing laws and regulations, the current program does not allow federal funds to be used to provide materials for nonlethal controls directly to private resource owners in Monterey County, and there is no compelling evidence it would avoid or substantially reduce the project's biological resources impacts.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 5.0-1 summarizes the results of the comparative analysis of alternatives, based on the evaluation presented above. The project would not result in any significant impacts for which alternatives that would avoid or substantially reduce impacts are required under CEQA. The No Project/No Action alternative would not be environmentally superior because there is no compelling evidence it would avoid or substantially reduce the project's biological resources impacts, and it would not achieve any of the project objectives. Therefore, the identification of an "environmentally superior" alternative is not required (CEQA Guidelines Section 15126[e][2]).

5.0 PROJECT ALTERNATIVES

TABLE 5.0-1: COMPARISON OF ALTERNATIVES

Evaluation Criteria	Comparison					
	Project	Alternative 1 (No Project/No Action)	Alternative 2 (County WDM)	Alternative 3 (County Nonlethal Only)	Alternative 4 (Cost-Share and Loss Indemnity)	Alternative 5 (Indemnity for Loss)
4.1 Wildlife Populations	Less than significant	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
4.2 Special-Status and Protected Species and Habitat	Less than significant	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
4.3 Wetlands	No impact	No impact	No impact	No impact	No impact	No impact
4.4 Wildlife Corridors	Less than significant	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
4.5 Policies	No impact	No impact	No impact	No impact	No impact	No impact
4.6 Conservation Plans	No impact	No impact	No impact	No impact	No impact	No impact
4.7 Cumulative	Less than cumulatively considerable	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
Ability to Achieve Objectives?						
	Yes	No	Yes, partially	Yes, partially	No	No
Feasible?						
	Yes	Yes	No	Yes, with limitations	No	No

Notes:

* Impact is reduced only in absolute terms with regard to quantification of potential impacts on species populations directly affected by APHIS-WS or the County's activities. As stated in the comparative analyses, it is unknown how many animals would be killed by private parties for wildlife damage control if there is no program or if only nonlethal controls are used.

6.0 OTHER CEQA TOPICS

6.1 INTRODUCTION

This section evaluates growth inducement, in accordance with CEQA Guidelines Sections 15126.2(b) through 15126.2(d). It also addresses CEQA Guidelines Appendix F regarding energy conservation.

CEQA Guidelines (Section 15130) requires an analysis of cumulative impacts of a proposed project. The cumulative impact analysis is presented in Impact 4.1.7 in Section 4.1, Biological Resources.

As provided by CEQA Guidelines Section 15127, an evaluation of significant irreversible environmental changes (CEQA Guidelines Section 15126.2[c]) is not required. The analysis in Section 4.1, Biological Resources, provides substantial evidence that the project would not result in any significant impacts that cannot be mitigated. As such, no further analysis or description is required (CEQA Guidelines Section 15126.2[a][b]).

6.2 GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126.2(d) requires that an EIR evaluate the growth-inducing impacts of a proposed project, and that the analysis should consider:

...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also ... the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The Initial Study (Appendix A:Section VI.13) evaluated growth inducement and concluded the proposed project would not directly induce population growth in the county or in surrounding areas because it does not include the construction of new homes or result in the need for new homes. In addition, the project would not result in or encourage the extension of paved roadways or public service/utility infrastructure into an undeveloped area and thus indirectly encourage population and housing growth.

6.3 ENERGY CONSERVATION

CEQA Guidelines Appendix F, Energy Conservation, requires consideration of project impacts on energy and focuses particularly on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code Section 21100[b][3]). The potentially significant energy implications of a project must be considered in an EIR to the extent relevant and applicable to the project.

Fuel would be consumed in vehicles used by APHIS-WS personnel. The same number of vehicles and all-terrain vehicles (ATVs) currently in use under the existing IWDM program agreement would continue. There would be changes to how the APHIS-WS program operates in the county that may substantially increase vehicle and ATV use. As such, fuel use in vehicles and ATVs would remain similar to existing conditions. Therefore, the project would not result in inefficient, wasteful, or unnecessary consumption of energy.

6.0 OTHER CEQA TOPICS

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7.0 REFERENCES

These reference materials are available for review upon request. To request or to review these items during normal business hours, please contact the Monterey County Office of the Agricultural Commissioner, 1428 Abbott Street, Salinas, CA 93901 (telephone 831-759-7325).

- Baker, Rex O., and Robert M. Timm. 1998. *Management of Conflicts between Coyotes and Humans in Southern California*. UC Davis: Hopland Research and Extension Center.
- Berger, Kim Murray. 2006. "Carnivore-Livestock Conflicts: Effects of Subsidized Predator Control and Economic Correlates on the Sheep Industry." *Conservation Biology* 20 (3): 751–761. doi:10.1111/j.1523-1739.2006.00336.x.
- Bergstrom, Bradley J. 2017. "Carnivore conservation: shifting the paradigm from control to coexistence." *Journal of Mammalogy* 98 (1): 1–6. doi:10.1093/jmammal/gyw185.
- Bergstrom, Bradley J., Lily C. Arias, Ana D. Davidson, Adam W. Ferguson, Lynda A. Randa, and Steven R. Sheffield. 2014. "License to Kill: Reforming Federal Wildlife Control to Restore Biodiversity and Ecosystem Function." *Conservation Letters* 7 (2): 131–142. doi:10.1111/conl.12045.
- Beschta, Robert L., and William J. Ripple. 2009. "Large predators and trophic cascades in terrestrial ecosystems of the western United States." *Biological Conservation* 142 (11): 2401–2414. doi:10.1016/j.biocon.2009.06.015.
- California Department of Conservation. 2014. Farmland Mapping and Monitoring Program. <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Monterey.aspx>.
- Caltrans (California Department of Transportation). 2010. *2010 California Public Road Data*.
- CDC (Centers for Disease Control and Prevention). 2016. Rabies. https://www.cdc.gov/rabies/location/usa/surveillance/wild_animals.html.
- CDFG (California Department of Fish and Game). 2004. *Draft Environmental Document, Sections 265, 460–467, and 472–480, Title 14, California Code of Regulations Regarding Furbearing and Nongame Mammal Hunting and Trapping*.
- CDFW (California Department of Fish and Wildlife). 2007. Commonly Asked Questions About Mountain Lions. Updated December 2007. <https://www.wildlife.ca.gov/Conservation/Mammals/Mountain-Lion/FAQ>.
- . 2011. CDFW News: "DFG Recommends Caution Around Coyotes." Accessed April 2017. <https://cdfgnews.wordpress.com/2011/05/25/dfg-recommends-caution-around-coyotes-2/>.
- . 2013. *Human/Wildlife Interactions in California: Mountain Lion Depredation, Public Safety, and Animal Welfare*. Department of Fish and Game Departmental Bulletin Number 2013-02.
- . 2015a. California Regional Conservation Plans [map].
- . 2015b. CDFW News: "Coyote Incidents in Southern California Prompt Precautionary Reminders." <https://cdfgnews.wordpress.com/2015/07/08/coyote-incidents-in-southern-california-prompt-precautionary-reminders/>.

7.0 REFERENCES

- . 2017a. Licensed Fur Trappers' and Dealers' Reports. Fiscal years 1997–98 through 2015–16: Table 3 of each report. <https://www.wildlife.ca.gov/Licensing/Trapping>.
- . 2017b. Wild Pig Management Program. <https://www.wildlife.ca.gov/Conservation/Mammals/Wild-Pig>.
- . 2017c. Verified Mountain Lion Attacks on Humans in California (1986 through 2014). <https://www.wildlife.ca.gov/Conservation/Mammals/Mountain-Lion/Attacks>.
- . 2017d. Bobcat Harvest Assessment Reports. Fiscal years 1996–97 through 2015–16. <https://www.wildlife.ca.gov/Hunting/Nongame-Furbearers#22863334-harvest-data>.
- . 2017e. California Natural Diversity Database QuickView Tool in BIOS 5. Sacramento: CDFW Biogeographic Data Branch. Accessed April 2017. <http://map.dfg.ca.gov/bios/?tool=cnddbQuick>.
- . 2017f. Game Take Hunter Survey Reports. Fiscal years 1996–97 through 2010–11. <https://www.wildlife.ca.gov/Hunting/Upland-Game-Birds#22503332-harvest-data>.
- CNPS (California Native Plant Society). 2017. Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Accessed April 2017. <http://www.rareplants.cnps.org/>.
- Conner, Mary M., Michael M. Jaeger, Theodore J. Weller, and Dale R. McCullough. 1998. "Effect of Coyote Removal on Sheep Depredation in Northern California." *Journal of Wildlife Management* 62 (2): 690–699. doi:10.2307/3802345.
- Davidson-Nelson, Sarah J., and Thomas M. Gehring. 2010. "Testing fladry as a nonlethal management tool for wolves and coyotes in Michigan." *Human-Wildlife Interactions* 4 (1): 87–94.
- Defenders of Wildlife. 2012. *Final Report from Defenders of Wildlife, Project Title: Turbo-fladry Experimental Project*.
- Elmhagen, Bodil, and Stephen P. Rushton. 2007. "Trophic control of mesopredators in terrestrial ecosystems: top-down or bottom-up?" *Ecology Letters* 10: 197–206. doi:10.1111/j.1461-0248.2006.01010.x.
- EWG. 2017. EWG Farm Subsidy Database. https://farm.ewg.org/progdetail.php?fips=06053&progcode=tot_lvstin.
- Gehrt, Stanley D., and William R. Clark. 2003. "In My Opinion: Raccoons, coyotes, and reflections on the mesopredator release hypothesis." *Wildlife Society Bulletin* 31 (3): 836–842.
- Harper, Elizabeth K., William J. Paul, L. David Mech, and Sanford Weisberg. 2008. "Effectiveness of Lethal, Directed Wolf-Depredation Control in Minnesota." *Journal of Wildlife Management* 72 (3): 778–784. doi:10.2193/2007-273.
- Henke, Scott A. 1995. "Effects of Coyote Control on Their Prey: A Review." Symposium proceedings—Coyotes in the Southwest: A Compendium of Our Knowledge. San Angelo, TX. December 13–14.

- Henke, Scott E., and Fred C. Bryant. 1999. "Effects of Coyote Removal on the Faunal Community in Western Texas." *Journal of Wildlife Management* 63 (4): 1066–1081.
- Jackson, Patrick J. 2014. "Effects of removal on a lightly exploited coyote population in eastern Nevada." *Human–Wildlife Interactions* 8 (2): 180–194.
- Jay, M. T., M. Cooley, D. Carychao, G. W. Wiscomb, R. A. Sweitzer, L. Crawford-Miksza, and R. E. Mandrell. 2007. "Escherichia coli O157:H7 in Feral Swine near Spinach Fields and Cattle, Central California Coast." *Emerging Infectious Diseases* 13 (12), 1908–1911. doi:10.3201/eid1312.070763.
- Knowlton, Frederick F., Eric M. Gese, and Michael M. Jaeger. 1999. "Coyote depredation control: An interface between biology and management." *Journal of Range Management* 52 (5): 398–412.
- Lance, N. J., S. W. Breck, C. Sime, P. Callahan, and J. A. Shivik. 2010. "Biological, technical, and social aspects of applying electrified fladry for livestock protection from wolves (*Canis lupus*)." *Wildlife Research* 37 (8): 708–714.
- Larson, Stephanie. 2006. "The Marin County Predator Management Program: Will It Save the Sheep Industry?" Proceedings of the 22nd Vertebrate Pest Conference: 294–297.
- . 2017. County Director and Livestock Range Management Advisor, UC Cooperative Extension Sonoma County. Telephone conversation with Alice Tackett, Environmental Planner, Michael Baker International. May 30.
- Marin County. 2000. *Annual Crop Report*.
- . 2015. *2015 Marin County Livestock & Crop Report*.
- MLF (Mountain Lion Foundation). 2017. Mountain Lions in the State of California. <http://mountainlion.org/us/ca/-ca-portal.asp>.
- Monterey County. 2000. Office of the Agricultural Commissioner. *Monterey County Crop Report 2000*.
- . 2008. *Monterey County General Plan Draft Environmental Impact Report*, State Clearinghouse No. 2007121001. <http://www.co.monterey.ca.us/government/departments-i-z/resource-management-agency-rma/-planning/resources-documents/2010-general-plan/draft-environmental-impact-report-deir>.
- . 2010. *Monterey County General Plan*. Conservation/Open Space Element.
- . 2017a. Health Department. Monterey County Animal Services. <http://www.co.monterey.ca.us/government/departments-a-h/health/monterey-county-animal-services>.
- . 2017b. Office of the Agricultural Commissioner. *Annual Crop Reports (1998–2016)*.
- . 2017c. Office of the Agricultural Commissioner. *Monterey County 2016 Crop Report*.

7.0 REFERENCES

- Musiani, Marco, Charles Mamo, Luigi Boitani, Carolyn Callaghan, and C. Cormack Gates. 2003. "Wolf Depredation Trends and the Use of Fladry Barriers to Protect Livestock in Western North America." *Conservation Biology* 17 (6): 1538–1547. doi:10.1111/j.1523-1739.2003.00063.x.
- NASS (USDA National Agricultural Statistics Service). 2011. "Cattle Death Loss." <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1625>.
- . 2012. 2012 Census of Agriculture, County Profile, Monterey County, California.
- NRDC (Natural Resources Defense Council). 2012. NRDC Issue Paper: *Fuzzy Math: Wildlife Services Should Improve Its Economic Analysis of Predator Control*.
- Pitt, William C., Frederick F. Knowlton, and Paul W. Box. 2001. "A New Approach to Understanding Canid Populations Using an Individual-Based Computer Model: Preliminary Results." *Endangered Species Update* July/August 2001 18(4). *USDA National Wildlife Research Center – Staff Publications*. Paper 562.
- Placer County. 2016. *County of Placer Final Budget 2016–17*.
- . 2017a. Human Resources Department. Wildlife Specialist (#14805) Position Description. <https://www.jobaps.com/Placer/specs/classspecdisplay.asp?ClassNumber=14805&R1=&R3=>.
- . 2017b. Agricultural Commissioner/Sealer of Weights and Measures. <https://www.placer.ca.gov/departments/agriculture>.
- Polis, Gary A., and Donald R. Strong. 1996. "Food Web Complexity and Community Dynamics." *The American Naturalist* 147 (5): 813–846. doi:10.1086/285880.
- Project Coyote. n.d. Marin County Livestock & Wildlife Protection Program: Ranching with Wildlife. <http://www.projectcoyote.org/project/marin-county-livestock-wildlife-protection-program/>.
- Prugh, Laura R., Chantal J. Stoner, Clinton W. Epps, William T. Bean, William J. Ripple, Andrea S. Laliberte, and Justin S. Brashares. 2009. "The Rise of the Mesopredator." *Bioscience* 59 (9): 779–791.
- Rashford, Benjamin S., Jared M. Grant, and Brian Strauch. 2008. "Economics of Predator Control to Protect Agriculture: The Unanswered Questions." *Western Economics Forum*, Fall 2008: 25–32.
- Responsive Management. 2015. *Harvest of Small Game, Upland Birds, and Other Wildlife in California*. Prepared for California Department of Fish and Wildlife.
- Shivik, John A., Adrian Treves, and Peggy Callahan. 2003. "Nonlethal Techniques for Managing Predation: Primary and Secondary Repellents." *Conservation Biology* 17 (6): 1531–1537. doi:10.1111/j.1523-1739.2003.00062.x.

- Shwiff, Stephanie A., Ray T. Sterner, Katy N. Kirkpatrick, Richard M. Engeman, and Craig C. Coolahan. 2006. "Benefits and Costs Associated with Wildlife Services Activities in California." *Proceedings of the 22nd Vertebrate Pest Conference*: 356–360.
- Shwiff, Stephanie, Ray Sterner, Katy Steffen, Rick Engeman, and Craig Coolahan. n.d. *Wildlife Services in California: Economic Assessments of Select Benefits and Costs, Monterey County*. Prepared under Cooperative Agreement No. 03-7403-0483 (RA).
- Shwiff, Stephanie A., Steven J. Sweeney, Julie L. Elser, Ryan S. Miller, Matthew Farnsworth, Pauline Nol, Steven S. Shwiff, and Aaron M. Anderson. 2016. "A benefit-cost analysis decision framework for mitigation of disease transmission at the wildlife-livestock interface." *Human–Wildlife Interactions* 10 (1): 91–102.
- Stone, Suzanne A., Stewart W. Breck, Jesse Timberlake, Peter M. Haswell, Fernando Najera, Brian S. Bean, and Daniel J. Thornhill. 2017. "Adaptive use of nonlethal strategies for minimizing wolf–sheep conflict in Idaho." *Journal of Mammalogy* 98 (1): 33–44. doi:10.1093/jmammal/gyw188.
- Timm, Robert M., and Rex O. Baker. 2007. "A History of Urban Coyote Problems." *Proceedings of the 12th Wildlife Damage Management Conference*.
- Timm, Robert M., Rex O. Baker, Joe R. Bennett, and Craig C. Coolahan. 2004. "Coyote Attacks: An Increasing Suburban Problem." *Proceedings of the 21st Vertebrate Pest Conference*: 47–57.
- Treves, Adrian, and K. Ullas Karanth. 2003. "Human-Carnivore Conflict and Perspectives on Carnivore Management Worldwide." *Conservation Biology* 17 (6): 1491–1499. doi:10.1111/j.1523-1739.2003.00059.x.
- Treves, Adrian, Miha Krofel, and Jeannine McManus. 2016. "Predator control should not be a shot in the dark." *Frontiers in Ecology and the Environment* 14 (7): 380–388. doi:10.1002/fee.1312.
- UC ANR (University of California, Agriculture and Natural Resources). 2007. *Pest Notes: Coyote*. UC ANR Publication 74135.
- USACE (US Army Corps of Engineers). 1997. *Installation-Wide Multi-Species Habitat Management Plan for Former Fort Ord*. Sacramento: USACE.
- USDA (US Department of Agriculture). 1997. Animal and Plant Health Inspection Service, Animal Damage Control. *Environmental Assessment, Wildlife Damage Management for the Protection of Livestock, Property and Human Health and Safety in the California ADC South and San Luis Districts*.
- . 2003. Animal and Plant Health Inspection Service – California Wildlife Services Program. *Environmental Assessment, Predator Damage Management for the Protection of Livestock and Property in the California APHIS-WS South and San Luis Districts*.
- . 2005. Animal and Plant Health Inspection Service – California Wildlife Services Program. *Pre-Decisional Environmental Assessment, Mammal Damage Management for the Protection of Human Health & Safety, Property, Agricultural Resources and Natural Resources in California*.

7.0 REFERENCES

- . 2015a. Animal and Plant Health Inspection Service – California Wildlife Services Program. *Pre-Decision Environmental Assessment, Mammal Damage Management in California APHIS-WS North District*.
 - . 2015b. Office of the Inspector General. *APHIS Wildlife Services – Wildlife Damage Management*. Audit Report 33601-0002-41. <https://www.usda.gov/oig/webdocs/33601-0002-41.pdf>.
 - . 2015c. *Sheep and Lamb Predator and Nonpredator Death Loss in the United States, 2015*. Fort Collins, CO: USDA–APHIS–VS–CEAH–NAHMS.
 - . 2015d. Animal and Plant Health Inspection Service Wildlife Services. Subject: Attention to MIS Agreement Details. Memorandum from William H. Clay, Deputy Administrator, to All Wildlife Services (WS) Employees. August 31.
 - . 2015e. Animal and Plant Health Inspection Service. *Final Environmental Impact Statement. Feral Swine Damage Management: A National Approach*.
 - . 2016a. Animal and Plant Health Inspection Service – California Wildlife Services Program. *Feral Swine: Impacts to Native Wildlife*.
 - . 2016b. APHIS National Feral Swine Damage Management Program. <https://www.aphis.usda.gov/aphis/resources/pests-diseases/feral-swine/feral-swine-program>.
 - . 2016c. Animal and Plant Health Inspection Service – California Wildlife Services Program. Management Information System Technical Assistance Datasets for Monterey County.
 - . 2017a. Animal and Plant Health Inspection Service – California Wildlife Services Program. Management Information System Species Take Datasets for Monterey County.
 - . 2017b. Animal and Plant Health Inspection Service. Program Data Reports for Years 1997–2016. https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_Reports.
 - . 2017c. Animal and Plant Health Inspection Service – California Wildlife Services Program. Management Information System Wildlife Damage Value Dataset for Monterey County.
 - . 2017d. Animal and Plant Health Inspection Service – California Wildlife Services Program. Management Information System Wildlife Hours Worked Dataset for Monterey County.
 - . 2017e. Work and Financial Plans between Monterey County and United States Department of Agriculture Animal and Plant Health Inspection Service Wildlife Services (APHIS-WS) for 2009 through 2016. Agreement Number: 15-73-06-5243-RA.
 - . 2017f. Animal and Plant Health Inspection Service. Wildlife Services Directives (cited in Draft EIR). https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_ws_program_directives/ct_ws_directives
- USFS (US Department of Agriculture, Forest Service). 2017. CALVEG, ESRI file geodatabase, ExistingVegCenCoast1997_2013_v1. McClellan, CA: USDA–Forest Service, Pacific Southwest Region.

- USFWS (US Fish and Wildlife Service). 2016. List of Migratory Bird Species Protected by the Migratory Bird Treaty Act as of December 2, 2013 ("10.13 List"). <https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php>.
- . 2017a. Environmental Conservation Online System. Accessed June 2017. <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>
- . 2017b. Information, Planning, and Conservation (IPaC) System. Accessed April 2017. http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm.
- Wallach, Adrian D., Daniel Ramp, and Adam J. O'Neill. 2017. "Cattle mortality on a predator-friendly station in central Australia." *Journal of Mammalogy* 98 (1): 45–52. doi:10.1093/jmammal/gyw156.
- Wang, Yiwei, Maximilian L. Allen, and Christopher C. Wilmers. 2015. "Mesopredator spatial and temporal responses to large predators and human development in the Santa Cruz Mountains of California." *Biological Conservation* 190 (2015): 23–33.
- Warnert, Jeannette E. 2015. "Non-lethal Predator Control Helps Keep Livestock Safe." *ANR News Blog*, UC Agriculture and Natural Resources.
- White, Lynsey A., and Stanley D. Gehrt. 2009. "Coyote Attacks on Humans in the United States and Canada." *Human Dimensions of Wildlife* 14: 419–432.
- Wielgus, Robert B., and Kaylie A. Peebles. 2014. "Effects of Wolf Mortality on Livestock Depredations." *PLOS ONE* 9 (12).
- Zeiner, David C., William F. Laudenslayer, Kenneth E. Mayer, and Marshall White, eds. 1990a. *California's Wildlife*. Volume III: Mammals. Life History Account M166 (Bobcat).
- . 1990b. *California's Wildlife*. Volume III: Mammals. Life History Account M146 (Coyote).
- . 1990c. *California's Wildlife*. Volume III: Mammals. Life History Account M165 (Mountain Lion).
- . 1990d. *California's Wildlife*. Volume III: Mammals. Life History Account M153 (Raccoon).
- . 1990e. *California's Wildlife*. Volume III: Mammals. Life History Account M146 (Striped Skunk).

7.0 REFERENCES

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