

BUTTE COUNTY
US DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH
INSPECTION SERVICE –
WILDLIFE SERVICES
INTEGRATED WILDLIFE DAMAGE
MANAGEMENT PROGRAM
COOPERATIVE SERVICE AGREEMENT
DRAFT ENVIRONMENTAL IMPACT REPORT

State Clearinghouse No. 2021030129

Prepared for:

BUTTE COUNTY
DEPARTMENT OF AGRICULTURE/WEIGHTS & MEASURES
316 NELSON AVENUE
OROVILLE, CA 95965

Prepared by:

Michael Baker
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2729 PROSPECT PARK DRIVE, SUITE 220
RANCHO CORDOVA, CA 95670

APRIL 2021

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LIST OF ABBREVIATIONS

APHIS-WS	Animal and Plant Health Inspection Service - Wildlife Services
BCAG	Butte County Association of Governments
BRCP	Butte Regional Conservation Plan
BLM	US Bureau of Land Management
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game (name changed to California Department of Fish and 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
CFR	Code of Federal Regulations
CSA	Cooperative Service Agreement
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIR	environmental impact report
EIS	environmental impact statement
ESA	Endangered Species Act
FGC	California Fish and Game Code
IWDM	Integrated Wildlife Damage Management
MBTA	Migratory Bird Treaty Act
MIS	Management Information System
MOU	Memorandum of Understanding
NAHC	Native American Heritage Commission
NASS	National Agricultural Statistics Service
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
OIG	US Office of the Inspector General

OPR	Governor's Office of Planning and Research
SCH	State Clearinghouse
USC	United States Code
USDA	US Department of Agriculture
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
WID	Work Initiation Document
WS	Wildlife Services

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ES EXECUTIVE SUMMARY

The project evaluated in this Draft Environmental Impact Report (EIR) is the ongoing implementation of an Integrated Wildlife Damage Management (IWDM) program in Butte County under a Cooperative Service Agreement (CSA) between Butte County and the US Department of Agriculture (USDA) Animal and Plant Health Inspection Service - Wildlife Services (APHIS-WS) for wildlife damage management assistance in the County (proposed project). Butte County is the lead agency for the proposed project.

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

Butte County currently has a CSA with APHIS-WS that expires on June 30, 2021. The purpose of this Draft EIR is to determine whether ongoing implementation of the IWDM program under a CSA with APHIS-WS for fiscal year 2021-22 would result in any significant environmental impacts. Section ES.3 provides information about the IWDM program background, and Section ES.4 summarizes the types of activities that would be performed.

ES.2 LOCATION AND ENVIRONMENTAL SETTING

The proposed project is located in Butte County, which is in north-central California at the northern end of the Sacramento Valley, approximately 70 miles north of Sacramento (Figure 3.0-1). The county is bounded on the west by Glenn and Colusa counties, with the Sacramento River and Butte Creek forming portions of the western boundary. To the north and northwest, the county adjoins Tehama County; to the east, Plumas County; and on the south and southeast, Sutter and Yuba counties. There are five incorporated cities: Chico, Oroville, Gridley, Biggs and the Town of Paradise. The county occupies approximately 1,677 square miles, of which approximately 1,636 square miles is land area. Nearly 1,400 square miles of the county consists of lands not under federal or state or other public agency jurisdiction or management. Portions of the Plumas and Lassen National Forests (approximately 212 square miles) are in the county and comprise approximately 13 percent of the County's land area.

Agriculture is the largest land use in Butte County. Agricultural lands include field and row crops, orchards, rice, grazing, dry farming and timber. Crops are the most land-intensive use and occupy approximately 425,500 acres, or approximately 40 percent of the County's land area. Leading crop commodities include fruit and nut crops and field crops, totaling a gross production value of over \$589.5 million, or approximately 86 percent of the gross crop production value of \$688.4 million in 2019.

ES.3 BACKGROUND

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 IWDM program does not seek to eradicate any species, regardless of legal status, or result in take that would substantially reduce species' populations. APHIS-WS does not target certain species for reduction. For most wildlife damage management, once a damage situation is resolved, APHIS-WS wildlife specialists do not continue to remove additional

animals unless a problem reoccurs, there are historical problems, and/or a request for assistance is made. Removal of animals by lethal methods is only used when other methods of control are not practical or have not been successful. Nonlethal methods are used or may be recommended to a resource owner or manager to help disperse wildlife, as appropriate.

Butte County has continuously maintained the IWDM program in its current form with APHIS-WS since at least 1939, with sporadic records for earlier years going back to 1924. It is implemented throughout Butte County, including incorporated cities. The most recent CSA annual work and financial plan was approved by the County Board of Supervisors for the period July 1, 2020, through June 30, 2021. The CSA provides for an APHIS-WS wildlife specialist to assist property owners, ranchers, farmers, businesses, private citizens, and local agencies in resolving wildlife damage problems. Section 2.0, Project Background, provides additional information about the IWDM program in the County.

Raccoon, striped skunk, Virginia opossum, coyote, feral swine, and American beaver are the primary mammal species for which the most technical assistance has been provided over the last 10 years (see Table 2.0-2 in Section 2.0, Project Background) and which account for the greatest number of species removed by lethal methods. Two of the targeted animals are not native to California (e.g., Virginia opossum and feral swine, the latter of which is also an invasive species). Blackbirds, pigeons, cowbirds, and starlings comprised most of the avian species management efforts.

ES.4 PROJECT SUMMARY

The proposed project is the ongoing implementation of the IWDM program in Butte County for fiscal year 2021-22, as provided by the CSA and in accordance with an annual work and financial plan required by the CSA. The overall goal of the proposed project is to ensure that wildlife damage management in Butte County for purposes of protecting infrastructure, 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.

Under the proposed project, the IWDM services would be provided solely by APHIS-WS personnel and only at the request of the resource owner or manager. Butte County would not decide whether a resource owner or manager 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. Neither APHIS-WS nor Butte County is proposing any changes to the APHIS-WS IWDM program as it currently operates in the County.

The services that would be provided are summarized in this Executive Summary. Section 3.0, Project Description, includes a detailed description of the types of activities that would be performed. Activities performed under the IWDM program would continue to be implemented by an APHIS-WS wildlife specialist in accordance with the regulations, standards, and guidelines of the APHIS-WS IWDM program, which are described in Section 2.0, Project Background.

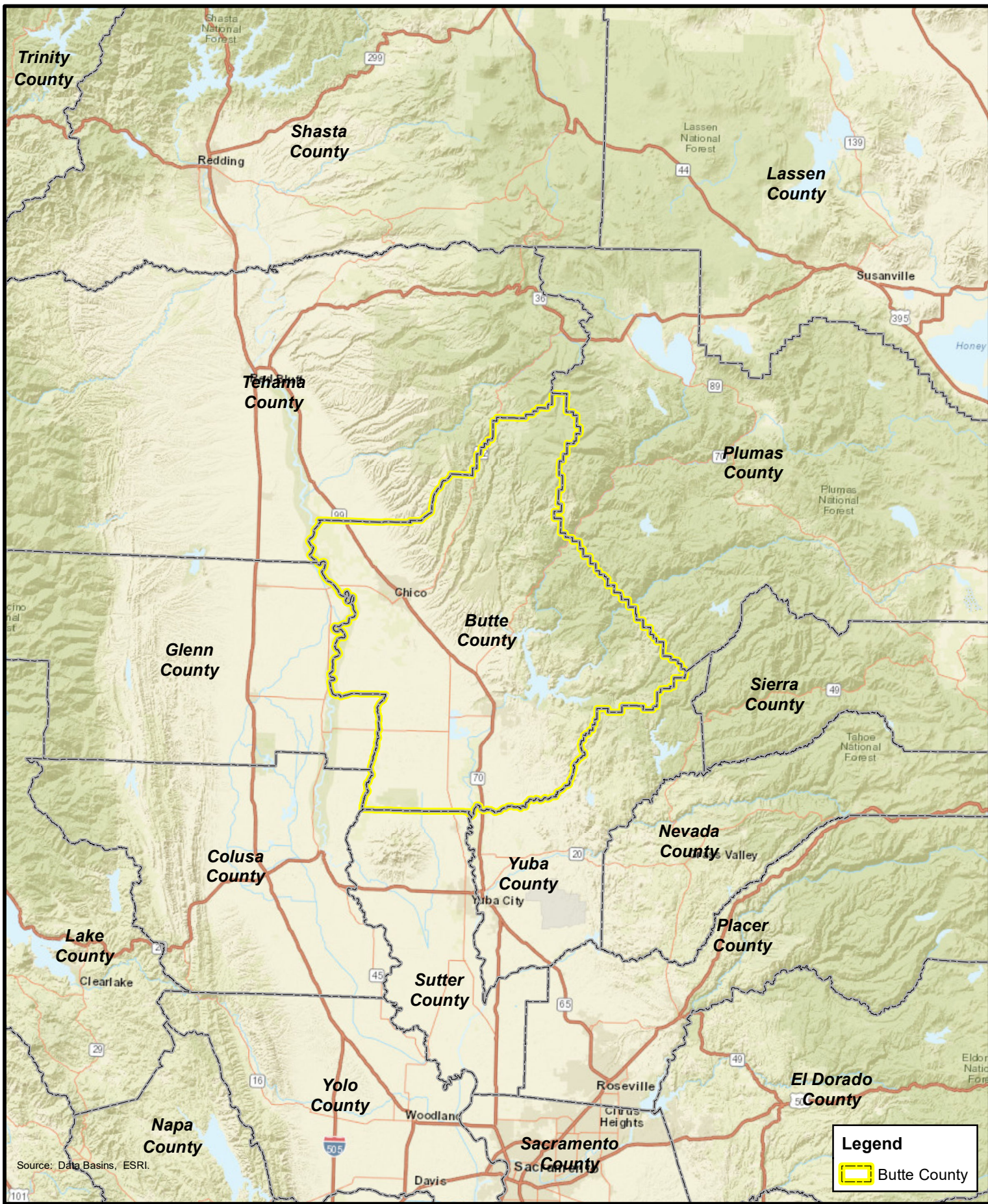


FIGURE ES-1
Project Location

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The IWDM program (as operated by APHIS-WS and approved by signature of the CSA and work plans) includes the following:

- Assignment of an APHIS-WS wildlife specialist trained in wildlife control methods and state and federal regulations, and certified in the safe handling and use of firearms and other control equipment.
- 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 CSA, APHIS-WS would continue to provide the following IWDM program services in Butte County:

- Nonlethal recommendations and technical assistance through demonstration and instruction of wildlife damage prevention and/or control techniques. This may be in the form of site visits by USDA wildlife specialists, recommendations for implementing various nonlethal techniques, and/or providing official USDA pamphlets. Techniques commonly recommended by wildlife specialists include exclusion, habitat modification, scare devices, hazing (where safe and legal), and husbandry modifications.
- Direct control activities, which may include but are not limited to:
 - Monitoring, trapping, dispersal, and removal of wildlife known to cause damage to property, livestock, or agricultural crops;
 - Wildlife species identification and verification of property, livestock, crop, or natural resource damage;
 - Wildlife removal when property damage is verified and nonlethal methods have failed or are infeasible;
 - Response to wildlife disease concerns that may be transmitted to pets or livestock.
- Public safety response: When identified by local or state authorities, wildlife specialists will assist with trapping or control work targeting wildlife that may endanger public safety.

Examples of public safety events where wildlife specialists may provide assistance include:

- Predatory or territorial attacks on people;
 - Unusually behaving and/or otherwise diseased animals;
 - Invading homes by large wildlife;
 - Wildlife presence on school grounds;
 - Wildlife that have become hazards on roadways or landing strips.
- Wildlife disease sampling:
 - Wildlife Services conducts wildlife disease sampling surveillance statewide. Opportunistically, Wildlife Services collects disease samples from animals taken during control activities. These samples are tested for diseases that can be transmitted to humans, livestock, and pets.

Technical assistance would be provided only at the request of affected resource owners or managers. The majority of services would be performed on private land and at infrastructure (e.g., levees, dams, irrigation, roads) operated and maintained by public entities because that has historically resulted in the most requests for technical assistance and where most of the work continues to be performed. However, technical assistance would also be available for protection of public health and safety (human-animal conflicts) and other property. Before wildlife damage management is conducted, a Work Initiation Document (WID) must be signed by APHIS-WS and the landowner or manager. The County would not be involved in this action because it would be an agreement between APHIS-WS and the landowner or manager. The project would not involve ground disturbance, alteration or removal of built environment structures, or alteration or removal of natural habitat.

The following local actions and approvals by Butte County would be required to implement the proposed project: Butte County Board of Supervisors certification of the EIR; and approval of the 2021-22 CSA. No state agency approvals are required.

The APHIS-WS IWDM program analyzed in the EIR is not limited by the time frame of the 2021-22 CSA. Potential future renewal of the IWDM program for subsequent CSAs with annual financial and work plans would be considered a later activity of the proposed project and is considered within the scope of analysis in this Draft EIR.

ES.5 ENVIRONMENTAL REVIEW PROCESS

The County published a Notice of Preparation (NOP) of an EIR for the project on March 4, 2021, for a 30-day review period ending on April 2, 2021. A scoping meeting was held on March 11, 2021. The NOP and comments received on the NOP during the public review period are included in Appendix A of this Draft EIR.

The Draft EIR will be circulated for public and agency review and comment for 45 days. The review period is **April 14, 2021 to May 28, 2021**. Public comment on the Draft EIR will be accepted in written form and may be sent via regular mail, email, or fax, or delivered in person and should be addressed to:

Louie B. Mendoza, Agricultural Commissioner
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316 Nelson Avenue
Oroville, CA 95965
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Phone: (530) 552-4100
Fax: (530) 538-7594

ES.6 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 ongoing implementation of the IWD program activities under the CSA 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. Three of the alternatives consider nonlethal methods. The analysis is presented in Section 5.0, Project Alternatives. The four alternatives evaluated in the Draft EIR are:

Alternative 1: No Project/No CSA with APHIS-WS

Alternative 2: Butte County Provides Wildlife Damage Management Services

Alternative 3: Butte County Provides Technical Assistance but No Lethal Control Methods Used

Alternative 4: Butte County CSA with APHIS-WS but No Lethal Control Methods Used

Alternative 5: Loss Indemnity and/or Cost-Share Reimbursement Program (no lethal control methods)

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

ES.7 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

A common, key issue of concern to the public and various organizations at the local and national is whether lethal controls should be used for wildlife damage management and the efficacy (cost/benefit) of those controls, and/or whether APHIS-WS should have contracts with counties to implement activities that would remove wildlife by lethal methods. Another topic of concern is humanness of methods used to capture animals and animal suffering. These are controversial topics subject to much debate and varying opinions, but they are not CEQA issues and, therefore, 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 methods.

The issues to be resolved by the County are whether to continue 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.

ES.8 SUMMARY OF ENVIRONMENTAL IMPACTS

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

TABLE ES-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impact	Level of Significance Without Mitigation	Mitigation Measure
4.1.1 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS could affect target common wildlife species populations through the use of lethal methods to remove animals.	Less than significant	None required.
4.1.2 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS 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 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS would have no adverse effect on federally protected wetlands or waters of the state.	No impact	None required.
4.1.4 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS would have minimal effect on wildlife corridors.	Less than significant	None required.
4.1.5 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS would not conflict with Butte County General Plan policies for protection of biological resources.	No impact	None required.
4.1.6 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS would not conflict with any habitat conservation plan or natural community conservation plan.	No impact	None required.
4.1.7 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS, 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 to evaluate the environmental impacts of integrated wildlife damage management activities that would be implemented by US Department of Agriculture (USDA) Animal and Plant Health Inspection Service - Wildlife Services (APHIS-WS) in Butte County. As described in CEQA Guidelines Section 15121(a), an EIR is a public informational document that assesses the potential environmental impacts of a project. The County of Butte (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

USDA 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 cause damage to property, infrastructure, agricultural or livestock commodities, and public health and safety or are nonnative species. The IWDM program does not seek to eradicate any species, regardless of legal status, or result in take that would substantially reduce species' populations. APHIS-WS does not target certain species for reduction. For most wildlife damage management, once a damage situation is resolved, APHIS-WS wildlife specialists do not continue to remove additional animals unless a problem reoccurs, there are historical problems, and/or a request for assistance is made. Removal of animals by lethal methods is only used when other methods of control are not practical or have not been successful. Nonlethal methods are also used or may be recommended to a resource owner or manager.

The IWDM program in Butte County is implemented through a cooperative service agreement (CSA) with APHIS-WS. Butte County has continuously maintained the IWDM program through a CSA in its current form with APHIS-WS since at least 1939, with sporadic records for earlier years going back to 1924. It is implemented throughout Butte County, including incorporated cities. The CSA between Butte County and APHIS-WS provides for a federal wildlife specialist to assist property owners, ranchers, farmers, businesses, private citizens, and local agencies in resolving wildlife damage problems. Section 2.0, Project Background, provides additional information about the IWDM program in the County.

The most recent annual work and financial plan under the current CSA is for the period July 1, 2020 through June 30, 2021. The proposed project is a new CSA that would provide for the ongoing implementation of the IWDM program in Butte County for fiscal year 2021-22. Neither APHIS-WS nor Butte County is proposing any changes to the APHIS-WS IWDM program as it currently operates in the County. 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 IWDM program, and it would not direct which activities or control methods would be used for wildlife damage management. Section 3.0, Project Description, includes a detailed description of the types of activities that would be performed.

1.0 INTRODUCTION

There would be no direct physical environmental impacts as a result of administrative actions that would provide for ongoing implementation of the IWDM program and thus do not require analysis under CEQA. However, continuation of the APHIS-WS IWDM program activities in the County by way of the CSA 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 ongoing implementation of the IWDM program under the CSA with APHIS-WS would result in any significant environmental impacts.

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 published a Notice of Preparation (NOP) of an EIR for the project on March 4, 2021, for a 30-day review period ending April 2, 2021. The NOP was provided to the State Clearinghouse, which distributed the NOP to the following state agencies: Air Resources Board; Department of Conservation; Department of Transportation (Caltrans) District 3; Caltrans Division of Aeronautics; Caltrans Division of Transportation Planning; California Highway Patrol; California Public Utilities Commission; Central Valley Flood Protection Board; Department of Fish and Wildlife Region 2; Department of Food and Agriculture; Department of Forestry and Fire Protection (Cal Fire); Department of Parks and Recreation; Department of Pesticide Regulation; Department of Resources Recycling and Recovery; Department of Toxic Substances Control; Department of Water Resources; Governor's Office of Emergency Services, Native American Heritage Commission (NAHC); Natural Resources Agency, Office of Historic Preservation; Regional Water Quality Control Board (RWQCB) Region 5; Sierra Nevada Conservancy; State Lands Commission; State Water Resources Control Board (SWRCB) Division of Drinking Water; and SWRCB Division of Water Quality. The County provided notice of availability of the NOP via direct mailing to other interested parties to solicit comments on the proposed project. The County received one comment letter, from the Native American Heritage Commission (NAHC).¹ The NOP and written comments are included in Appendix A.

The County held a scoping meeting on March 11, 2021, to provide an opportunity for comments on the NOP. There were four attendees, but there were no comments.

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 State Clearinghouse and a Notice of Availability (NOA) with the Butte County Clerk to begin the public review period (Public Resources Code Section 21161).

¹ The NAHC comment letter identified general requirements under Assembly Bill (AB) 52 and Senate Bill (SB) 18 pertaining to tribal consultation. Results of AB 52 consultation are presented in subsection 4.0.4. SB 18 is not applicable to the project.

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 **April 14, 2021 to May 28, 2021**. Public comment on the Draft EIR will be accepted in written form and may be sent via regular mail, email, or fax, or delivered in person and should be addressed to:

Louie B. Mendoza, Agricultural Commissioner
Butte County Department of Agriculture/Weights & Measures
316 Nelson Avenue
Oroville, CA 95965
email: butteag@buttecounty.net
Phone: (530) 552-4100
Fax: (530) 538 7594

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. The Draft EIR, together with the Final EIR, comprise the EIR for the proposed project.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The Butte County Board of Supervisors will review and consider the EIR and may certify the 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 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 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 in this Draft EIR concludes that ongoing implementation of the IWDM program by APHIS-WS in the County would not result in any significant project impacts or cumulative impacts. As such, findings would not be required.

1.3 ORGANIZATION OF THE DRAFT EIR

This Draft EIR is organized in the following sections:

EXECUTIVE SUMMARY

This section 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.

1.0 INTRODUCTION

SECTION 1.0 – INTRODUCTION

This section 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 background for the APHIS-WS IWDM program in Butte County, including the overall regulatory framework for the program and data specific to Butte County.

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 – INTRODUCTION TO THE ANALYSIS

This section describes the process to establish baseline conditions for the impact analysis and the scope of the analysis. This section also identifies impacts that were determined not to be significant and are not evaluated in detail in the Draft EIR, as provided under CEQA Guidelines Section 15128.

SECTION 4.1 – BIOLOGICAL RESOURCES

This section describes the environmental setting, laws, and regulations that are applicable to the proposed project, and potential impacts on wildlife species and habitat.

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. Four 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 Louie B. Mendoza, Agricultural Commissioner, Butte County Department of Agriculture/Weights & Measures, 316 Nelson Avenue, Oroville, CA 95965. Phone: (530) 552-4100. Email: butteag@buttecounty.net.

SECTION 8.0 – REPORT PREPARERS

This section lists 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.

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2.0 PROJECT BACKGROUND

2.1 INTRODUCTION

This section provides a context for the IWDM program services that would be provided by APHIS-WS 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 (both nonlethal and lethal methods). This section also presents information about resource value and wildlife damage loss data from the USDA and the Butte County Department of Agriculture/Weights & Measures. Data regarding the types of assistance provided by APHIS-WS is also included. 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.

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 Butte County appears at the end of this section under the "Butte County Information" subheading.

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 (transmissible from wildlife to humans) are one of the leading infectious causes of illness and death to humans. 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. Because beavers defecate in water in which they live, giardia parasites can contaminate water that may be ingested by humans. Wildlife can also result in odor and noise nuisances (skunks and raccoons under houses). Coyotes and other mammals on airport property can damage aircraft, affect flights, and threaten human safety if present on runways during takeoffs and landings. Flood protection facilities (e.g., levees and berms) can be subject to damage by beavers and muskrats that burrow into these features, which causes the structure to weaken. Debris left by these species in irrigation canals can reduce capacity or redirect flows, which can also pose an increased flood risk. The species most commonly involved in human health and safety conflicts in California are coyotes, mountain lions, black bears, beavers, raccoons, and striped skunks.

2.0 PROJECT BACKGROUND

Agriculture

Agricultural resources that can be damaged by wildlife include hay, pasture, vegetable and fruit crops, and apiaries. 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 can damage and consume row crops, orchards, and vineyards.

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 disease to livestock. Introduction of disease into the domestic livestock herds can damage the infected herd as well as the livestock industry.

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 while foraging and displaying during the breeding season.

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 damage to restoration or conservation lands).

WILDLIFE DAMAGE MANAGEMENT

Federal Wildlife Damage Management Program Authority

The primary statutory authorities for the APHIS-WS Integrated Wildlife Damage Management (IWDM) program are the Animal Damage Control Act of 1931 (7 United States Code Section 426-426c; 46 Stat 1468) and the 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 APHIS-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. APHIS-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 (USDA 2019a).¹ Services are also conducted in compliance with applicable federal, state, and local laws and regulations as required under APHIS-WS Directive 2.210.

Overview of Integrated Wildlife Damage Management Approach

APHIS-WS uses an adaptive IWDM approach, sometimes called integrated pest management (WS Directive 2.105), in which a combination of methods is 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).

The APHIS-WS wildlife 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. If the incident involves predation, the APHIS-WS specialists not only confirm that the loss was caused by a predator but also which predator species was responsible.

Before wildlife damage management is conducted, a Work Initiation Document (WID) must be signed by APHIS-WS and the landowner or manager, or an APHIS-WS work plan is presented to the land management administrator or agency representative for 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 memorandums of understanding (MOUs) between APHIS-WS and other agencies.

¹ The entire WS Policy Manual and WS Directives are available at https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_WS_Program_Directives. All directives specifically referenced throughout this Draft EIR are included in USDA 2019a.

FIGURE 2.0-1: APHIS-WS DECISION MODEL



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. The reduction of wildlife damage may also require that offending animal(s) be removed through lethal means. Removal of animals by lethal methods is only used when other methods of control are not practical or have not been successful. 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 IWDM 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.

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 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 APHIS-WS's Management Information System (MIS) 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. The OIG concluded that APHIS-WS wildlife damage management activities and its system for tracking controlled materials complied with all

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

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 WIDs (Form 12s). APHIS-WS agreed with the audit's findings and recommendations and is implementing the recommended improvements to the MIS (USDA 2015b, 2015c).

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 authorize APHIS-WS to enter into cooperative agreements (cooperative service agreement [CSA]) 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. Butte County is an example of a cooperator. However, the directives do not require that local jurisdictions such as Butte County enter into cooperative agreements. The decision to enter into a cooperative agreement with APHIS-WS is at the discretion of each entity. The CSAs are generally for a period of five years, with annual work and financial plans established for each year. However, shorter-term CSAs (e.g., one year) are not precluded.

CSA terms, agreements for control, MOUs, 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 Butte 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, 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 34 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

2.0 PROJECT BACKGROUND

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. Butte County is in the North District.

Environmental Review of APHIS-WS Activities in California

To implement its IWDM services in California, and in Butte County, specifically, APHIS-WS has prepared the following environmental reviews for its activities:

- *Pre-decisional Environmental Assessment for Mammal Damage Management for the Protection of Human Health and Safety, Property, Agricultural Resources and Natural Resources in California* (USDA 2005)
- *Pre-decision Environmental Assessment for Mammal Damage Management in California APHIS-WS North District* (USDA 2015a)

In 2018, APHIS-WS entered into an MOU with the CDFA to prepare a joint environmental impact report/environmental impact statement (EIR/EIS) pursuant to CEQA and the National Environmental Policy Act (NEPA) that will address APHIS-WS IWDM activities at the statewide level. The CEQA Notice of Preparation (NOP) prepared by CDFA and the NEPA Notice of Intent (NOI) prepared by APHIS-WS were released for public review on September 10, 2020, for a 60-day period ending November 10, 2020 (CDFA 2020a; USDA 2020c). As of April 2021, the joint EIR/EIS has not been completed. The draft EIR/EIS is expected to be circulated for public and agency review in early 2022 (CDFA 2020b).

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 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 CSA, APHIS-WS may act on the permit at the permit holder's request.

Services provided by APHIS-WS to the County under the CSA 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 an individual animal that has been identified as the animal 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. In the case of an animal that may have been captured unintentionally and that was not

the individual determined by the APHIS-WS wildlife specialist to be the cause of damage, every effort is made to release it unharmed, unless the animal is injured and the APHIS-WS wildlife specialist determines that it would not likely survive if released.

CDFW has completed environmental documents in accordance with the California Environmental Quality Act (CEQA) for evaluating its hunting and trapping regulations. The most recent documents were completed in 2004 and 2001, respectively: *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: 32-35, 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.

BUTTE COUNTY ANIMAL CONTROL

Butte County Animal Control receives calls for service involving sick, injured, dead, rabies-suspected, trapped, or threatening wildlife. While staff handles many of the calls, callers are typically referred to CDFW (e.g., for mountain lions) or the County's APHIS-WS trapper.

2.4 INTEGRATED WILDLIFE DAMAGE MANAGEMENT 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 [e.g., 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. Butte County staff 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. 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 Butte 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, Butte County would not be responsible for determining the specific method to be used by the APHIS-WS wildlife specialist for a particular situation. Although not required under CEQA, Appendix B also addresses humaneness of capture methods for informational and disclosure purposes.

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2.5 BUTTE COUNTY INFORMATION

COOPERATIVE SERVICE AGREEMENT

The IWDM program in Butte County is implemented through a CSA with APHIS-WS. Butte County has continuously maintained the IWDM program in its current form with APHIS-WS since at least 1939, with sporadic records for earlier years going back to 1924. It is implemented throughout Butte County, including incorporated cities. The most recent annual work and financial plan under the current CSA was approved by the County Board of Supervisors for the period July 1, 2020, through June 30, 2021 (Butte County Department of Development Services 2020; USDA 2020b). The CSA provides for a USDA Wildlife Services specialist to assist property owners, ranchers, farmers, businesses, private citizens, and local agencies in resolving wildlife damage problems.

Between 2007 and 2019, the wildlife damage management services provided under the County's CSA with APHIS-WS have been performed primarily on private land comprising approximately 75 percent of the total number of acres for which WIDs were established (approximately 116,000 acres).³ Services were also performed on state lands, including state-managed wildlife areas and the CSU Chico University Farm, totaling approximately 20 percent of the acreage. A limited amount of work was performed on county- and/or city-managed land. No work funded by the County was performed on federal lands. As noted above, APHIS-WS does not implement its services on the total number of acres. When a WID 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 annual acreage reflects the sum of all parcel acreages for which the WID 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.

Historically, APHIS-WS has not provided any services in the County for ranchers leasing BLM land for grazing. However, if APHIS-WS were to respond to requests from private ranchers leasing BLM land, some work could be performed on federal land for that purpose. APHIS-WS is authorized to remove targeted wildlife species to protect threatened and endangered species; however, these services have not been provided in Butte County, nor does the CSA provide for this activity.

RESOURCES PROTECTED

Agriculture is the largest land use in Butte County. Agricultural lands include field and row crops, orchards, rice, grazing, dry farming and timber. Crops are the most land-intensive use and occupy approximately 425,500 acres, or approximately 40 percent of the County's land area. Leading crop commodities include fruit and nut crops and field crops, totaling a gross production value of over \$589.5 million, or approximately 86 percent of the gross crop production value of \$688.4 million in 2019 (Butte County Department of Agriculture 2020).

In 2019, the total value of resources protected was nearly \$1.2 billion (USDA 2020a). The IWDM program services provided by APHIS-WS in Butte County are primarily associated with the protection of agriculture and property, as shown in Table 2.0-1.

³ See Table B-1 in Appendix B for details.

TABLE 2.0-1
RESOURCES PROTECTED IN BUTTE COUNTY

Resource	Value
Agriculture (includes fruits and nuts, field crops, livestock and poultry, feed, hives, aquaculture)	\$1,124,718,259
Property (includes infrastructure [irrigation ditch/drainage systems, dikes/dams/impoundments, roads/bridges], buildings, and other property)	\$72,308,168
Natural Resources (includes fisheries, wildlife, forestry)	\$550,110

Source: USDA 2020a

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 Butte County for the 2007–2019 reporting period are shown in Table 2.0-2.

During the reporting period, APHIS-WS specialists in Butte County performed over 14,000 technical assistance projects. Activities included individual phone calls, field visits, presentations, and providing informational pamphlets and literature. Approximately 94 percent of all technical assistance projects were associated with mammals. As indicated by these data, raccoon, striped skunk, opossum, coyote, feral swine and beaver were the mammal species resulting in the most requests for technical assistance, with pigeons and blackbirds (total) comprising the greatest number for avian species. The data in Table 2.0-2 only provides information about technical assistance. It does not indicate the number of wildlife species removed by lethal methods. The reader is referred to Section 4.1, Biological Resources, and Tables 4.1-2 and 4.1-3 therein for additional information and analyses regarding species take data and information about these species. Some species, such as Virginia opossum and feral swine, are non-native species.

For the reporting period, APHIS-WS staff spent an average of approximately 2,200 hours annually providing technical assistance (USDA 2020a), with most of the hours associated with direct control activities. The number of hours is relatively consistent between years. The CSA and annual work and financial plans provide for one APHIS-WS wildlife specialist, and no changes are proposed that would increase staffing.

For purposes of the impact analysis in the context of evaluating potential impacts on species populations resulting from the use of lethal methods, the historical technical assistance data (Table 2.0-2) and hours worked by the wildlife specialist combined with mammal and avian species take data presented in Tables 4.1-2 and 4.1-3 in Section 4.1, Biological Resources, respectively, are a reasonable indicator of future activity levels with ongoing implementation of the IWDM program in Butte County.

2.0 PROJECT BACKGROUND

TABLE 2.0-2
APHIS-WS TECHNICAL ASSISTANCE PROJECTS IN BUTTE COUNTY (2007–2019)

Non-Avian	Participants ^a	Avian	Participants ^a
Raccoon	2,707	Pigeon, feral (rock)	476
Skunk, striped	2,029	Starling, European	466
Opossum, Virginia	1,673	Cowbird, brown-headed	465
Coyote	1,369	Blackbird, yellow-headed	266
Feral swine	1,186	Blackbird, Brewer's	200
Beaver	961	Blackbird, red-winged	199
Squirrel, ground/California	437	Blackbird, tri-colored	199
Bear, black	380	Geese, Canada	46
Cat, feral/free-ranging	267	Crow, American	18
Squirrel, western gray	241	Blackbird, mixed species	1
Mountain lion	154	Eagle, golden	1
River otter	109	Heron, night black-crowned	1
Fox, gray	97	Woodpecker, acorn	1
Turkey, wild	73		
Dog, feral/free-ranging and hybrids	64		
Bobcat	42		
Fox, red	42		
Deer, black-tailed	41		
Cattle, feral	28		
Chicken, feral/free-ranging	28		
Horse, feral	28		
Sheep, feral/free-ranging and exotics	28		
Muskrat	24		
Snake, rattlesnake, western diamondback	4		
Ringtail	2		
Fisher	1		
Other ^b	3		
<i>Subtotal Non-Avian</i>	12,018	<i>Subtotal Avian</i>	2,339
		TOTAL	14,357

Source: USDA 2020a

a Total: Number of calls or face-to-face interactions.

b Includes responding to an escaped grizzly bear from a sanctuary, and reported "wolf" sighting, a species not known to be present in natural habitat Butte County, and neither of which resulted in the need for IWDM control methods by APHIS-WS.

LOSS/DAMAGE DATA

Table 2.0-3 summarizes confirmed damages caused by wildlife from 2007 to 2019 by resource category, whether the damage was caused by mammal species or avian species, and the species responsible for most of the damages for comparison. Approximately 95 percent of the damage was caused by mammal species. Supporting data are included in Table B-2 (Mammal Damage) and Table B-3 (Avian Damage) in Appendix B.

As indicated by the information presented in Table 2.0-3, beavers were responsible for approximately 50 percent of the total dollar value of confirmed damages and nearly two-thirds of the property damage.

Not all resource, property, or landowners/managers who experience damage from wildlife report the damage or request assistance. Confirmed losses are verified by APHIS-WS specialists during a site visit. In cases of predation, APHIS-WS wildlife specialists not only confirm that the loss was caused by a predator (in the case of livestock losses) but also which predator species was responsible. Because only a fraction of predator damage or loss is reported to or can be

confirmed by APHIS-WS (similar to statewide loss data), wildlife damage loss due to predation in Butte County is likely underestimated.

The data about damages and causes 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.

TABLE 2.0-3
BUTTE COUNTY CONFIRMED WILDLIFE DAMAGES SUMMARY 2007–2019

	Property	Agriculture	Health and Safety	Natural Resources	Total Confirmed Damage
Confirmed damage	\$935,417	\$205,395	\$123,572	\$900	\$1,265,284
Resource type(s)	Irrigation ditch/drainage: \$221,735 Dikes/dams: \$374,650 Buildings: \$160,939 Roads/bridges: \$16,650 Other property: \$161,443(a)	Livestock: \$135,173 Other: \$70,021(b)		Trees	
Species responsible for damage	97% mammal 3% avian	88% mammal 12% avian	100% mammal	100% mammal	
Loss (\$) associated with primary species causing damage	Beaver: \$611,885 Black bear: \$158,365 Raccoon, skunk, opossum: \$74,102 Other mammal: \$59,166 Avian: \$31,899	<u>Livestock predation</u> Mountain lion: \$55,429 Coyote: \$9,289 Black bear: \$24,643 Other mammal: \$40,998(d) <u>Injury/Damage</u> \$50,069 <u>Other</u> Avian: \$24,965(e)	Black bear: \$122,072(c) Raccoon: \$1,500(c)	Beaver	

Source: USDA 2020a (see Tables B-2 and B-3 in Appendix B)

Notes:

(a) Includes golf courses, landscaping, vehicles, pets and hobby animals, and other

(b) Includes hives and livestock feed

(c) Injury/illness

(d) Includes feral dog, gray fox, raccoon, skunk, bobcat

(e) Livestock feed

INTEGRATED WILDLIFE DAMAGE MANAGEMENT METHODS

Under the existing CSA, 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 the WID has been signed, as noted throughout this document. APHIS-WS's scope of services in Butte County is limited to targeting specific individual animals and only when it has been determined by the APHIS-WS wildlife specialist that it is the animal responsible for damage. The request for APHIS-WS assistance is at the discretion of the

2.0 PROJECT BACKGROUND

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.

Some producers in the County likely use one or more nonlethal methods as common practice (e.g., fencing, guard animals). An APHIS-WS wildlife specialist may recommend additional nonlethal practices as part of the technical assistance services provided to a requestor. Producers in Butte County that use nonlethal methods at their discretion are not funded by the County's CSA 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 methods use or cost/benefit information to the County or APHIS-WS. Section 5.0, Alternatives, presents additional information about nonlethal methods as an alternative to lethal methods and related considerations.

COST/BENEFIT CONSIDERATIONS OF APHIS-WS IWDM METHODS IN BUTTE COUNTY

A common, key issue of concern to the public and various organizations at the local and national levels is whether lethal controls should be used for wildlife damage management and the efficacy of those controls for managing wildlife damage. These are controversial topics subject to much debate and varying opinions, 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 methods.

The cost/benefit of the IWDM program services provided under the CSA does not require analysis, nor is the EIR required to resolve concerns about this topic under CEQA, since it is an economic consideration (CEQA Guidelines Section 15131 [Economic and Social Effects]). However, the following is provided for informational purposes and to help inform the decision-making process.

APHIS-WS has prepared cost/benefit studies for its services in California (Shwiff et al. 2006) and for Butte County specifically (Shwiff n.d.). These studies, which addressed agricultural resources, public health and safety, natural resources, and property, concluded that County investment in the cost-share program with APHIS-WS does provide a financial benefit by helping to reduce damage caused by wildlife.

The removal of beavers, raccoons, and striped skunks in the County, which resulted in the largest numbers of take and a substantial number of requests for technical assistance, is for public safety and is not associated with predation.⁴ However, some predator species, such as coyote and mountain lion, have been identified as causing livestock loss, as illustrated in Table 2.0-3. The County is aware of numerous studies on the potential benefits and/or efficacy of nonlethal methods to help minimize and sometimes reduce predation loss on livestock.⁵ Key topics addressed in some of these studies included how losses are calculated relative to the value of the resource protected, the 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. Some authors are of the opinion 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.

⁴ Includes infrastructure such as dams/levees, drainage, roadways, and buildings as well as human health and safety.

⁵ See Section 5.0, Alternatives, Alternative 3, for a list of studies.

3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

The project evaluated in this EIR is the ongoing implementation of an Integrated Wildlife Damage Management (IWDM) program in Butte County under a Cooperative Service Agreement (CSA) between Butte County and the US Department of Agriculture (USDA) Animal and Plant Health Inspection Service - Wildlife Services (APHIS-WS) for wildlife damage management assistance in the County.

This section describes the location of the proposed project and its environmental setting, background about the proposed project, a statement of objectives, a general description of the proposed project's technical, economic, and environmental characteristics, and intended uses of the EIR.

3.2 ENVIRONMENTAL SETTING

The proposed project is located in Butte County, which is in north-central California at the northern end of the Sacramento Valley, approximately 70 miles north of Sacramento (Figure 3.0-1). The county is bounded on the west by Glenn and Colusa counties, with the Sacramento River and Butte Creek forming portions of the western boundary. To the north and northwest, the county adjoins Tehama County; to the east, Plumas County; and on the south and southeast, Sutter and Yuba counties. There are five incorporated cities: Chico, Oroville, Gridley, Biggs and the Town of Paradise. The county occupies approximately 1,677 square miles, of which approximately 1,636 square miles is land area. Nearly 1,400 square miles of the county consists of lands not under federal or state or other public agency jurisdiction or management (Table 3.0-1 and Figure 3.0-2). Portions of the Plumas and Lassen National Forests (approximately 212 square miles) are in the county and comprise approximately 13 percent of the County's land area.

**TABLE 3.0-1
BUTTE COUNTY LAND OWNERSHIP AND JURISDICTION**

Ownership/Jurisdiction	Square Miles	Percent of County Land Area
Federal		
Bureau of Land Management	25.2	1.5
US Forest Service (portions of Plumas and Tahoe National Forests)	212.8	12.6
US Fish and Wildlife Service	5.6	0.3
State		
Department of Fish and Wildlife	40.5	2.4
Department of Parks and Recreation	2	0.1
State Lands Commission	< .01	< 0.1
CSU Chico	0.2	< 0.1
Nature Conservancy	0.7	< 0.1
Other (not public, conservation, or trust land)	1,390	82.9
TOTAL	1,677	

3.0 PROJECT DESCRIPTION

Agriculture is the largest land use in Butte County. Agricultural lands include field and row crops, orchards, rice, grazing, dry farming and timber. Crops are the most land-intensive use and occupy approximately 425,500 acres, or approximately 40 percent of the County's land area. Leading crop commodities include fruit and nut crops and field crops, totaling a gross production value of over \$589.5 million, or approximately 86 percent of the gross crop production value of \$688.4 million in 2019 (Butte County Department of Agriculture 2020).

There are ten general types of biological communities in the County. The distribution of these biological community types is closely associated with the varying topography and hydrology of the geographic subregions. Much of the Sacramento Valley subregion supports agricultural land, annual grassland, and wetlands, while the higher elevation foothills subregions are primarily grassland, oak woodland, and chaparral communities. The highest elevations in the Cascade Range and Sierra Nevada are conifer forest and chaparral communities. Drainages and open water occur within all subregions. Most stream corridors support riparian woodland communities. Specific habitat types within these communities provide habitat for many common and special-status wildlife species. All of 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

USDA APHIS-WS implements the USDA's IWDM program throughout the United States. In California, 34 counties have an agreement with APHIS-WS for IWDM services. The IWDM program is intended to protect residents, property, livestock, crops, and natural resources from damage caused by predators and other nuisance wildlife.

Section 2.0, Project Background, provides information about 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 Butte County.

AGREEMENT BETWEEN BUTTE COUNTY AND APHIS-WS

Butte County has continuously maintained the IWDM program in its current form with APHIS-WS since at least 1939, with sporadic records for earlier years going back to 1924. It is implemented throughout Butte County, including incorporated cities.

The most recent CSA annual work and financial plan was approved by the County Board of Supervisors for the period July 1, 2020, through June 30, 2021 (USDA 2020b). The CSA provides for a USDA Wildlife Services specialist to assist property owners, ranchers, farmers, businesses, private citizens, and local agencies in resolving wildlife damage problems.

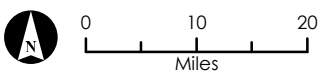
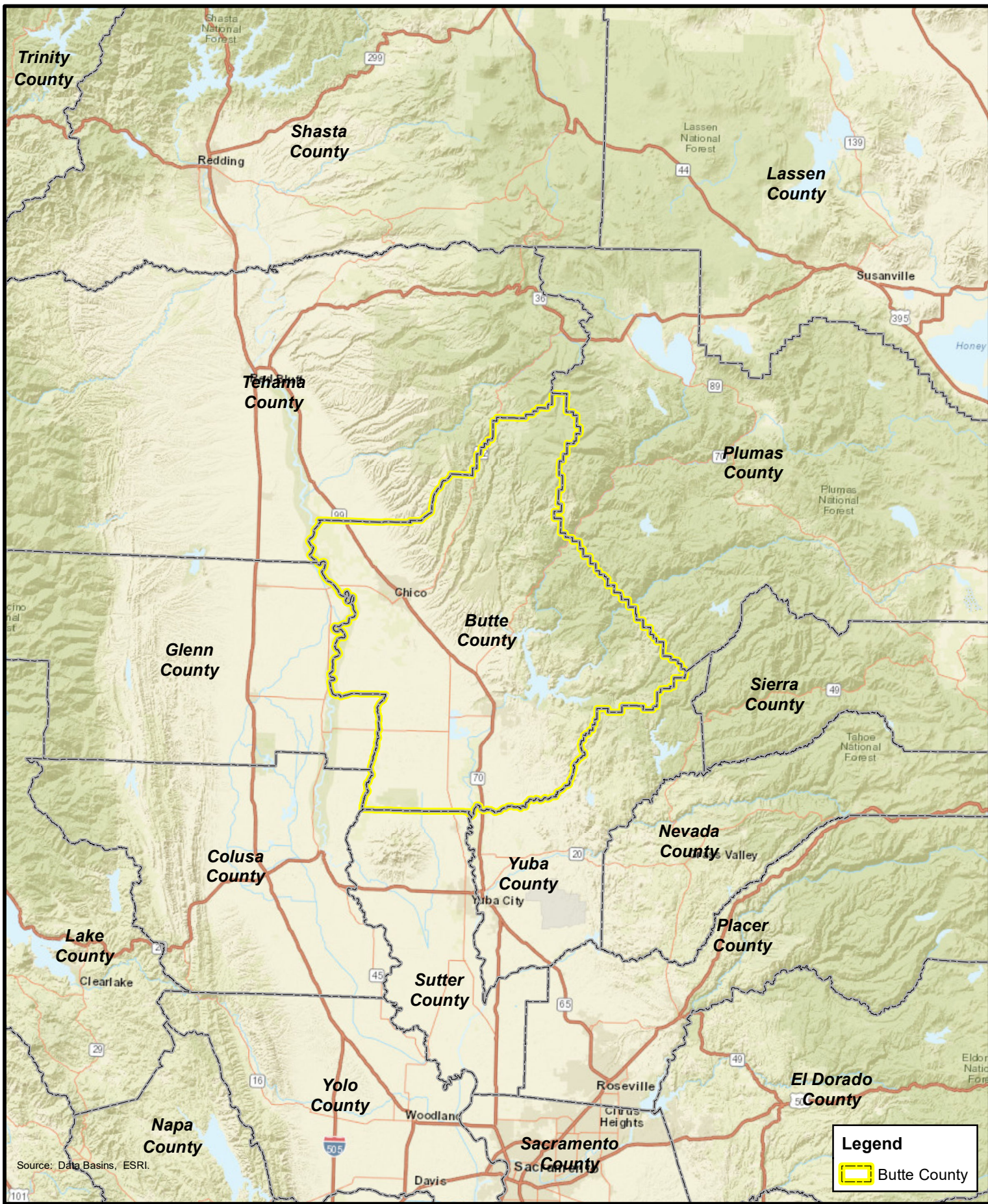


FIGURE 3.0-1
Project Location

3.0 PROJECT DESCRIPTION

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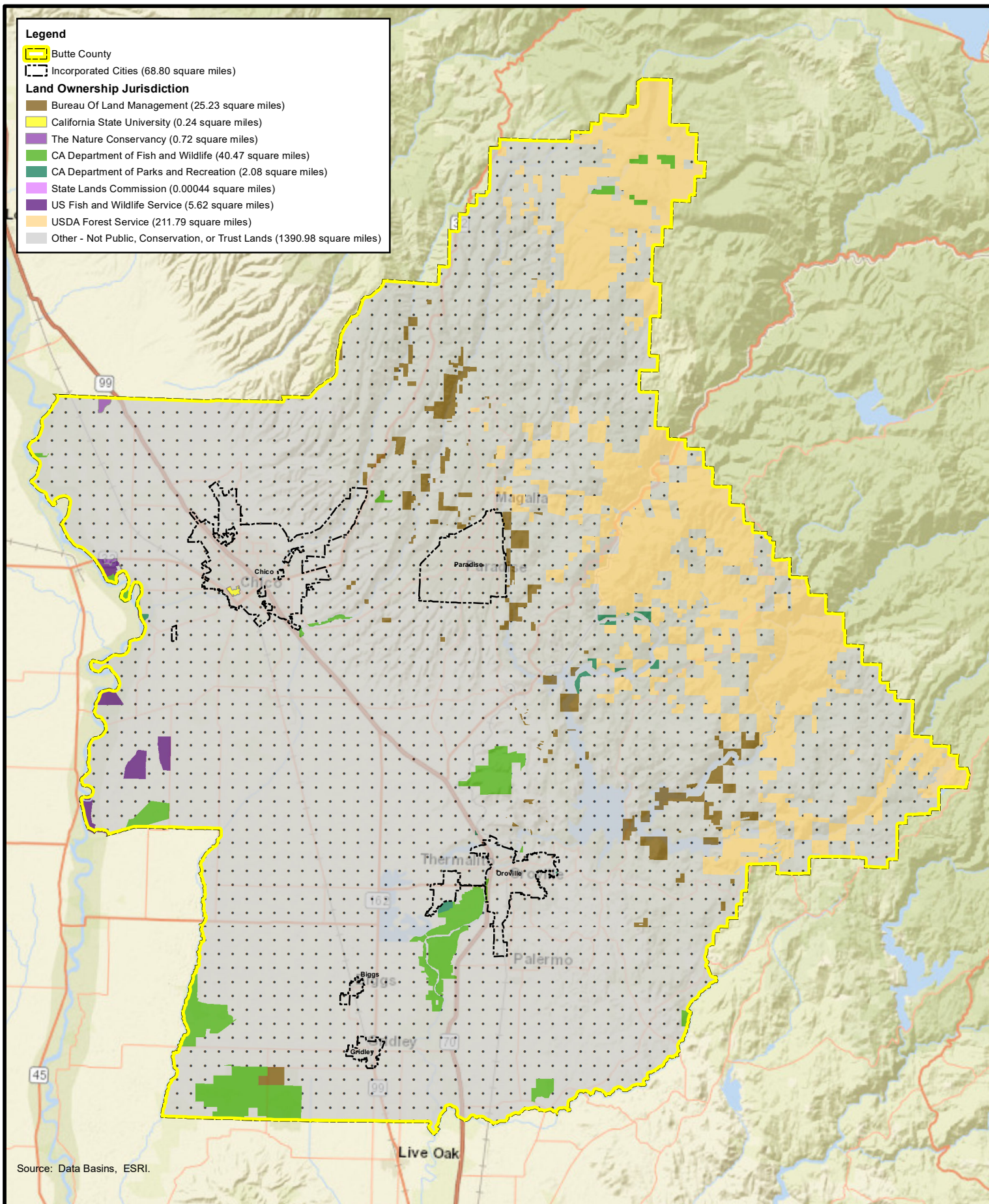


FIGURE 3.0-2
Land Ownership and Jurisdiction

3.0 PROJECT DESCRIPTION

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3.4 PROJECT OBJECTIVES

The overall goal of the proposed project is to ensure that wildlife damage management in Butte 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.

The County has identified the following objectives of the proposed project:

- 1) Provide an administrative mechanism for the private citizens and property owners in Butte County 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 Butte County.
- 3) Implement an integrated approach 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 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) Provide wildlife damage management at similar funding levels and ensure that 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 DESCRIPTION

PROGRAM IMPLEMENTATION

The proposed project is the ongoing implementation of IWDM program activities by APHIS-WS in Butte County. The activities would be implemented under an agreement between Butte County and APHIS-WS. Similar to previous and existing CSAs with APHIS-WS, it would be a cost-share agreement under which the County would fund a portion of the APHIS-WS estimated total cost of services, typically around 70 percent of the total cost. The CSA requires the approval of the Butte

3.0 PROJECT DESCRIPTION

County Board of Supervisors. Activities performed under the IWDM program would be implemented by APHIS-WS wildlife specialists in accordance with the regulations, standards, and guidelines of the IWDM program, including its Wildlife Services (WS) Policy Manual, Directives, and standard operating procedures.¹ The County would not be materially involved in any of the wildlife damage management activities.

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 its Management Information System would also be used to help develop the work plan and budget for subsequent years throughout the remaining term of the CSA.

Neither APHIS-WS nor Butte County is proposing any changes to the APHIS-WS IWDM program in Butte County in conjunction with the continued implementation of the IWDM activities. The reader is referred to Section 2.0, Project Background, for a description of the existing program and historical operational data. Section 4.0, Introduction to the Analysis, provides an overview of 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 ACTIVITIES

Overview

Primary functions provided by APHIS-WS in the County would include offering technical advice/assistance to resource owners on prevention and/or control techniques; informing and educating interested individuals on how to prevent and reduce wildlife damage on their own; investigating wildlife damage situations to determine the responsible species and evaluate the incident for applicability of prevention and/or control methods; and responding to incidents where wildlife species are threatening public health and safety (in coordination with the California Department of Fish and Wildlife [CDFW] and local law enforcement) including, when necessary, the use of out-of-County resources and expertise.

The IWDM program does not seek to eradicate any species, regardless of legal status, or result in take that would substantially reduce species populations. 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 to remove additional animals unless a problem reoccurs, there are historical problems, and/or an additional request for assistance is made.

Under the IWDM program, APHIS-WS may selectively remove specific individual animals that cause damage to property, infrastructure, agricultural or livestock commodities, and/or public health and safety or are nonnative. Removal of animals by lethal methods is only used when other methods of control are not practical or have not been successful.

¹ The entire WS Policy Manual and WS Directives are available at https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_WS_Program_Directives. All directives specifically referenced throughout this Draft EIR are included in USDA 2019a.

Agreement Terms

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

- Assignment of an APHIS-WS wildlife specialist trained in wildlife control methods and state and federal regulations, and certified in the safe handling and use of firearms and other control equipment.
- 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.

The level of APHIS-WS staff effort would be consistent with the CSAs and work and financial plans from previous years (see Section 2.0, Project Background).

Technical Assistance Activities

Technical assistance would be provided only at the request of affected resource owners or managers. Most of the services would be provided on private land and at infrastructure managed by state or local entities, consistent with previous and current work efforts, which are described in Section 2.0, Project Background. Some work could be performed on lands managed by the state. Technical assistance would be provided only at the request of affected resource owners or managers. 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 specifically for threatened and endangered species management. The project would not involve ground disturbance, alteration or removal of built environment structures, or alteration or removal of natural habitat.

Under the CSA, APHIS-WS would continue to provide the following IWDM program services in Butte County:

- Nonlethal recommendations and technical assistance through demonstration and instruction of wildlife damage prevention and/or control techniques. This may be in the form of site visits by USDA wildlife specialists, recommendations for implementing various nonlethal techniques, and/or providing official USDA pamphlets. Techniques commonly recommended by wildlife specialists include exclusion, habitat modification, scare devices, hazing (where safe and legal), and husbandry modifications.
- Direct control activities, which may include but are not limited to:

3.0 PROJECT DESCRIPTION

- Monitoring, trapping, dispersal, and removal of wildlife known to cause damage to property, livestock, or agricultural crops;
 - Wildlife species identification and verification of property, livestock, crop, or natural resource damage;
 - Wildlife removal when property damage is verified and nonlethal methods have failed or are infeasible;
 - Response to wildlife disease concerns that may be transmitted to pets or livestock.
- Public safety response: When identified by local or state authorities, wildlife specialists will assist with trapping or control work targeting wildlife that may endanger public safety. Examples of public safety events where wildlife specialists may provide assistance include:
 - Predatory or territorial attacks on people;
 - Unusually behaving and/or otherwise diseased animals;
 - Invading homes by large wildlife;
 - Wildlife presence on school grounds;
 - Wildlife that have become hazards on roadways or landing strips.
 - Wildlife disease sampling:
 - Wildlife Services conducts wildlife disease sampling surveillance statewide. Opportunistically, Wildlife Services collects disease samples from animals taken during control activities. These samples are tested for diseases that can be transmitted to humans, livestock, and pets.

Wildlife Damage Management

Before wildlife damage management is conducted, a Work Initiation Document (WID) must be signed by APHIS-WS and the landowner or manager. The County would not be involved in this action because it would be an agreement between APHIS-WS and the landowner or manager.

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 and specific individual animal(s) responsible for the damage, and methods available to resolve the problem. In selecting damage management techniques for specific wildlife damage situations, the APHIS-WS wildlife specialist would consider the species and specific individual animal(s) 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 in a particular damage management situation. The County is not 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 Considerations

The integrated wildlife damage management methods that could be used by APHIS-WS under the CSA with the County would be implemented primarily on private lands, and to a lesser extent at state- and local (city/county)- managed land or facilities, consistent with historic and current

practices. APHIS-WS would not perform work funded under the CSA on any national forest lands, where there may be publicly accessible trails and wildlife viewing areas. APHIS-WS work on other federal lands (e.g., private grazing leases), if any, would not be publicly accessible.

If traps are used on publicly accessible state and/or county or city lands, APHIS-WS Directive 2.450 (Traps and Trapping Devices) requires that appropriate warning signs be posted on commonly used public access points to publicly accessible areas where traps or snares are in use. Signs must be routinely checked by APHIS-WS wildlife specialists to ensure they are present, obvious, and readable. Capture devices must be set where they would minimize the public's view of captured animals. In California, pursuant to California Fish and Game Code (FGC) Section 4180, 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. WS Directive 2.515 (Disposal of Wildlife Carcasses) requires that carcasses be transported in manner in which they are placed totally out of sight of the general public and disposed of in a manner consistent with federal, state, County, and local regulations.

Hazardous materials such as chemicals and pesticides, which are described in Appendix B, may be used by the APHIS-WS wildlife specialist. APHIS-WS Directive Section 2.4 (Specialized Methods and Techniques) 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. APHIS-WS Directive Section 2.435 (Explosives Use and Safety) provides protocols for the use of explosives for removing debris created by beaver activities that causes damage to property or other resources. If pyrotechnics or incidental explosives are used for nonlethal controls, such use would be subject to the requirements set forth in WS Directives 2.625 and 2.627. Aircraft operations, if any, must conform to standards set forth in WS Directive 2.620 (Aviation Safety and Operations).

3.6 INTENDED USES OF THE DRAFT EIR

This Draft EIR evaluates the environmental impacts associated with ongoing implementation of the IWDM program for fiscal year 2021-22 under the CSA between Butte County and APHIS-WS.

However, the APHIS-WS IWDM program analyzed in the EIR is not limited by the time frame of the 2021-22 CSA. Potential future renewal of the IWDM program for subsequent CSAs with annual financial and work plans would be considered a later activity of the proposed project and is considered within the scope of analysis in this Draft EIR.

The analysis takes into account historical data, which is a reasonable indicator of future activities because no changes to the IWDM activities or terms of the CSA are proposed.² 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 necessary for the annual work and financial plans under future CSAs, 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.³

² Section 4.0, Introduction to the Analysis, includes additional detail about how baseline conditions were determined for purposes of this Draft EIR.

³ The requirements for subsequent environmental review are set forth in CEQA Guidelines Section 15162.

3.0 PROJECT DESCRIPTION

There would be no direct physical environmental impacts as result of administrative actions that would provide for ongoing implementation of the IWDMM program and thus do not require analysis under CEQA. However, implementation of the APHIS-WS IWDMM program activities in the County by way of the CSA 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 continued implementation of the IWDMM program under the CSA with APHIS-WS would result in any indirect significant environmental impacts.

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 Butte 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 Butte County under the CSA 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 CSA 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 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 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 Integrated Wildlife Damage Management Control Methods by APHIS-WS

As described above and in Section 2.0, Project Background, some activities would be performed by APHIS-WS for wildlife damage control that are expected to involve lethal methods. These methods, which are described in Appendix B (Integrated Wildlife Damage Management Control Methods), would only be used when other methods of control are not practical or have not been successful. The most common methods for mammal wildlife species are the use of 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 per the direction of CDFW. Because Butte 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, it would not direct which lethal methods may or may not be used.

The CSA authorizes APHIS-WS to operate an IWDM program, which includes the use of various direct lethal control methods when deemed appropriate by the wildlife specialist evaluating the conflict situation. Before wildlife damage management is conducted in response to a request for assistance from a property or resource owner, the WID must be signed by APHIS-WS and the landowner or representative. 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.

Depredation Permits

Some species managed by APHIS-WS under the IWDM program require depredation permits issued by CDFW. CDFW's implementing regulations (Title 14 of the California Code of Regulations [CCR]) identify the issuance of a depredation permit as a ministerial action (14 CCR 757(b)(4).) In the County, species historically removed and for which a depredation permit is required include beaver, black bear, bobcat, and mountain lion. As established in FGC Section 4802 et seq., CDFW is required, upon request, to issue 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 lion. The permit is issued to the party experiencing loss or damage rather than to APHIS-WS. Upon request from the permittee, APHIS-WS may act on the permittee's behalf to remove the animal.

Depredation permits are also required for beaver and bobcat, but unlike mountain lion, CDFW has discretion in the issuance of a depredation permit for beaver and bobcat. The depredation permit is issued to the owner of the resource being damaged, which may either be a private party (e.g., a rancher) or a public entity. The permit is not issued to APHIS-WS, but if requested APHIS-WS may act on the permittee's behalf to remove the animal.

FGC Section 4181.1 states that landowners may kill a bear encountered in the act of molesting or injuring livestock. In the case of a problem bear, the law provides for the issuance of a depredation permit to landowners or tenants who experience property damage from bears. The permit allows the permittee or designee to kill the offending bear regardless of the time of year.

Requirements such as method of carcass disposal, use of traps, and specified or prohibited methods or ammunition can be identified in the depredation permit, as well as the time period for which the permit is valid.

Use of Nonlethal Control Methods by APHIS-WS

The existing CSA 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 WID with a resource owner. Potential impacts on species are evaluated in Impact 4.1.2 in Section 4.1, Biological Resources. The agreement does not provide for funding nonlethal controls that are recommended through technical assistance but are implemented by the individual resource owners, 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 (Integrated Wildlife Damage Management Control Methods). Some of these methods could be safely implemented by the resource owner and would be the responsibility of the resource owner.

3.0 PROJECT DESCRIPTION

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 CSA 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 local actions and approvals by Butte County would be required to implement the proposed project:

- Butte County Board of Supervisors certification of the EIR; and
- Approval of a CSA for fiscal year 2021-22.

No state agency approvals are required.

4.0 INTRODUCTION TO THE ANALYSIS

4.0.1 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.

4.0.2 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 project area 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 Butte 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 4, 2021. 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 for decades (see Section 2.0, Project Background), 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 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 4.1-2 and 4.1-3 in Section 4.1, Biological Resources. Therefore, for purposes of this document, the environmental baseline comprises a 20-year period beginning in 2000 and ending in 2019, the latest full 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. Using a 20-year average (or median, where appropriate) 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 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

4.0 INTRODUCTION TO THE ANALYSIS

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, Butte 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, identifies projects that could contribute to cumulative effects and expected environmental effects to be produced by those projects, and analysis of the project's contribution to those effects, as required under CEQA Guidelines Sections 15130(b)(B)(3) through 15130(b)(B)(5).

4.0.3 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]).

4.0.4 ENVIRONMENTAL IMPACTS NOT EVALUATED IN DETAIL IN THE DRAFT EIR

INTRODUCTION

Section 15128 of the CEQA Guidelines provides that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. This section complies with

that requirement. It identifies the effects found to have less than significant or no impact and do not require detailed analysis in the Draft EIR.

ENVIRONMENTAL ANALYSIS

AESTHETICS

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of aesthetics impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of public views of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Project Impacts

The integrated wildlife damage management methods that could be used by APHIS-WS under the CSA with the County would be implemented primarily on private lands, and to a lesser extent at state- and locally-managed land or facilities, consistent with historic and current practices. APHIS-WS would not perform work funded under the CSA on any national forest lands, where there may be publicly accessible trails and wildlife viewing areas. APHIS-WS work on other federal lands (e.g., private grazing leases), if any, would not be publicly accessible.

If traps are used, WS Directive 2.450¹ 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 the APHIS WS wildlife specialist to ensure they are present, obvious, and readable. Capture devices must be set where the public's view of captured animals would be minimized. In California, pursuant to California Code of Regulations (CCR) Title 14, Section 465.5, traps must be checked at least once daily, and each time traps are checked, all trapped animals must be removed. WS Directive 2.515 (Disposal of Wildlife Carcasses) requires that carcasses be transported in a manner in which they are placed totally out of sight of the general public and disposed of in manner consistent with federal, state, County, and local regulations.

As such, it would be highly unlikely for the general public and recreationists to encounter a trapped, dead, or injured animal that could be an unpleasant sight because APHIS-WS would perform little, if any work, on publicly accessible lands in Butte County since no changes to the CSA are proposed that would result in increased activities on public land. Any visual changes

¹ The entire WS Policy Manual and WS Directives are available at https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_WS_Program_Directives. All directives specifically referenced throughout this Draft EIR are included in USDA 2019a.

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resulting from the project would be associated with the temporary capture, take, or relocation methods (installation of traps and snares); no buildings, structures, or other improvements or facilities would be constructed. Traps and snares would be located on the ground level and would involve minimal to no ground disturbance or vegetation removal. Therefore, the project would not include elements that would substantially contrast with the surrounding visual character of any area. Any capture, take, or relocation methods would be removed after use and as such would not permanently change and/or degrade the characteristic of the landscape. Rather, they would represent a temporary and minor interruption of the existing visual condition. Therefore, the project would not have a substantial adverse effect on a scenic vista, substantially damage scenic resources within a state scenic highway, and/or substantially degrade the existing visual character or quality of any area. Impacts would be less than significant.

The project would not include any interior lighting that creates nighttime glare, exterior lighting sources, and/or building surfaces that reflect sunlight. A variety of lights, including strobe, barricade, and revolving units, may be used to frighten birds. Flashing amber barricade lights, like those used at construction sites, and revolving or moving lights may also be used to frighten birds. They could be used in agricultural fields in rural settings where they would not be readily noticeable to people. The use of strobe lights or flashing lights in the vicinity of Beale Air Force Base is regulated by policies in the Beale Air Force Base Land Use Compatibility Plan and Federal Aviation Administration regulations. The use, if any, of these types of methods would be infrequent and of short duration. The project would not create a permanent new source of substantial light or glare that would adversely affect nighttime views in the area. Impacts would be less than significant.

AGRICULTURE AND FORESTRY RESOURCES

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of agriculture and forestry impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act Contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Project Impacts

Most of the County consists of land categorized by the Department of Conservation Farmland Mapping and Monitoring Program as grazing land and other land. The eastern part of the County includes forest lands in the Plumas and Tahoe National Forests. Project activities would

not include any changes to zoning, land use, or other components that would result in the conversion of farmland or forest land to other uses. No impact would occur.

AIR QUALITY

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of air quality impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Project Impacts

Butte County is in the Northern Sacramento Valley Air Basin and is within the jurisdiction of the Feather River Air Quality Management District. The project would not result in increases in population, housing, or other development that were assumed in the most recent Air Quality Attainment Plan for the air basin. Therefore, there would be no impact.

Butte County is in nonattainment for the PM_{2.5} national standard and attainment or unclassified for all other national standards. It is classified nonattainment transitional for the 1-hour and 8-hour state ozone standard and nonattainment for the state PM₁₀ standard. There would be a limited amount of vehicle use by APHIS-WS personnel for various activities. Automobiles, light-duty passenger trucks, and ATVs would generate exhaust emissions, which would consist of ozone precursors, particulate matter (PM), diesel PM, carbon monoxide, and other chemicals. Operation of vehicles and ATVs off-road would also generate fugitive dust emissions. These emissions from ATVs would be minor, localized, and would dissipate quickly. Further, the number of vehicles and ATVs used historically would remain the same because no changes to how the APHIS-WS program operates in the County that would substantially increase vehicle and ATV use are expected under the renewed program. The project would not involve any construction activities that would result in air quality impacts. Therefore, the project would not result in a substantial net increase in emissions that would result in long-term or cumulative air quality impacts. Therefore, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment. Further, the project would not expose sensitive receptors to pollution concentration given the rural nature of the areas where APHIS-WS the wildlife specialist is expected to conduct work.

Animal carcasses, which if not disposed of properly, can decompose and create odors. However, WS Directive 2.515 sets forth requirements for the disposal of wildlife carcasses, requiring that APHIS-WS personnel make a reasonable effort to retrieve and dispose of wildlife carcasses that result from APHIS-WS wildlife damage management activities. The directive further requires that all carcasses be disposed of in a manner consistent with federal, state, County, and local regulations. Furthermore, the majority of project-related services are provided for the protection of livestock and field crops on agricultural lands where other animal- and farming-related odors are already present and where, given the density of land uses, odors would not affect a substantial number of people. Therefore, compliance with mandatory WS

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Directive 2.515 would ensure that the project would not create objectional odors and that impacts would be less than significant.

CULTURAL RESOURCES

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of cultural resources impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside formal cemeteries.

Project Impacts

The proposed project would not result in the construction or alteration of structures or other facilities. It would not include activities that would result in ground-disturbing activities, such as grading or excavation because APHIS-WS activities under the CSA do not provide for habitat modification. Minor ground disturbance would result from installation of traps or snares, but the disturbance would be minimal and limited to surface soils. Therefore, the project would not cause a substantial adverse change in the significance of historical or archaeological resources, or disturbance of human remains. Therefore, the project would have no impact. Potential effects on tribal cultural resources are evaluated in subsection "Tribal Cultural Resources," below.

ENERGY

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of energy impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Project Impacts

The proposed project would result in short-term consumption of petroleum-based energy products to power vehicles used by APHIS-WS personnel to travel to and from areas where wildlife management is required. There would be no changes to how the APHIS-WS program operates in the County that would substantially increase vehicle and ATV use. As a result, the amount of petroleum-based energy products used to power vehicles transporting APHIS-WS personnel would remain small and would be consumed by modern, internal-combustion engines in vehicles and ATVs. Therefore, proposed project implementation would not constitute a waste of fossil-fuel resources, and the impact would be less than significant.

The proposed project would not involve construction of any residential or nonresidential permanent structures. The lack of permanent structures requiring substantial energy resources (e.g., energy to power lighting or air conditioning) means that energy conservation or energy efficiency measures mandated by the California Energy Code or local building codes are not applicable to the proposed project. The project would not conflict with any state or local

energy conservation or energy efficiency programs. Therefore, the proposed project would have no impact.

GEOLOGY, SOILS, AND PALEONTOLOGY

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of geology, soils, and paleontology impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.
 - Strong seismic ground shaking.
 - Seismic-related ground failure, including liquefaction.
 - Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, creating substantial direct or indirect risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- Directly or indirectly destroy a unique paleontological feature of unique geologic feature.

Project Impacts

The proposed project would not generate housing and/or population, nor would it increase nonresidential development or result in construction of any permanent structures. Ground disturbance would be limited to disturbance of surface soils for setting wildlife traps or snares. Therefore, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic hazards such as earthquake fault rupture, strong seismic ground shaking, seismic-related ground failure, or landslides. No impact would occur.

The proposed project would not result in significant ground disturbance, construction, or grading activities that would result in substantial soil erosion or loss of topsoil or place structures on expansive soils or in locations where unstable geologic or soil units are present. As a result, the project would have no impacts.

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The proposed project would not involve any construction activities or installation of a septic tank or alternative wastewater disposal system. There would be no impact.

GREENHOUSE GAS EMISSIONS

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of greenhouse gas (GHG) emissions impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Project Impacts

The proposed project would not result in an increase in the development of residential or nonresidential development, which are sources of GHG emissions through vehicle use and from stationary sources. Exhaust containing GHGs, such as carbon dioxide, would be generated by the use of vehicles and ATVs by APHIS-WS personnel. The number of vehicles and ATVs used would remain the same as previous and current years because no changes to how the APHIS-WS program operates in the County that would substantially increase vehicle and ATV use are proposed. Therefore, the proposed project would not result in a substantial net increase in GHG emissions that would have a significant impact on the environment or conflict with applicable GHG plans or policies. The impact would be less than significant.

HAZARDS AND HAZARDOUS MATERIALS

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of hazards and hazardous materials impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.

- Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Project Impacts

The proposed project would involve the transport, handling/use, and disposal of a limited amount of toxicants (such as euthanasia drugs) approved by the US Environmental Protection Agency (EPA) and US Drug Enforcement Administration (DEA) necessary for APHIS-WS field personnel to perform some of the wildlife management duties described in Section 3.0, Project Description. Pesticides may also be used. All chemicals and certain methods used by APHIS-WS are regulated by the EPA, DEA, and/or the Bureau of Alcohol, Tobacco, Firearms and Explosives, as applicable, as well as by WS Directives, such as WS Directives 2.430 and 2.465. WS Directive 2.430 addresses the uses of controlled chemicals and euthanizing agents, including training standards and certification requirements for APHIS-WS personnel. WS Directive 2.465 provides guidelines related to maintaining accurate hazardous material inventories and records, and establishes accountability and oversight by all field personnel, supervisors, and managers. Pesticide use is subject to procedures in WS Directive 2.401. APHIS-WS Directive Section 2.435 (Explosives Use and Safety) provides protocols for the use of explosives for removing debris created by beaver activities that causes damage to property or other resources. If pyrotechnics or incidental explosives are used for nonlethal controls, such use would be subject to the requirements set forth in WS Directives 2.625 and 2.627.

Per the above-mentioned WS Directives, as well as EPA regulations, any hazardous materials transported, used, or disposed of as a result of the project would be subject to oversight and accountability by trained and certified APHIS-WS personnel. Furthermore, these substances would be used in limited amounts under controlled circumstances, are highly selective to target individuals or populations, and there would be no change in such use as a result of re-establishment of the IWDM program as provided for under the CSA. In addition, APHIS-WS has prepared risk assessments on many of the methods it uses, including those that use chemicals. The risk assessments evaluate the impacts of IWDM methods on people (APHIS-WS employees as well as the public) and the environment. Results of the assessments are also peer-reviewed by non-federal professionals (USDA 2020d). Therefore, hazardous materials would not create a significant hazard to the public or the environment from the transport, use, or disposal or through reasonably foreseeable upset and accident conditions involving their release into the environment, nor would it involve hazardous emissions or hazardous substances in quantities that could cause impacts to an existing or proposed school. As such, the proposed project's impact would be less than significant.

There are numerous locations in the County that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, the proposed project would not involve ground-disturbing activities that could encounter contamination, if any, from the historical or current use of a site where IWDM services could be provided. Therefore, the proposed project would not create a significant hazard to the public or the environment, and the impact would be less than significant.

The project would not include development near aviation facilities, aerial features such as structures, antennas, or development with reflective materials. As such, the proposed project would have no impact on people residing or working in the vicinity of public airports in the County. Because no changes are proposed in the CSA, no change in aircraft operations are

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expected. Aerial operations, if any, would be subject to standards for safe use of aircraft set forth in WS Directive 2.620. There would be no impact.

The proposed project would not involve any construction activities that would erect physical structures or barriers that could impede the use of emergency evacuation routes. It would not result in an increase in vehicle traffic over baseline conditions that could significantly contribute to roadway congestion during an evacuation. As such, the project would not result in changes to any of the major transportation arterials that would be used in the event of an emergency, nor would it impair implementation of an emergency response or fire evacuation plan within the County. Therefore, the project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The proposed project would not result in construction of urbanized development or permanent placement of people in a wildland area and thus would not result in a significant risk of loss, injury, or death involving wildland fires. Additionally, the WS Directives summarized above direct that any wildlife management methods that could result in fire hazards, such as pyrotechnics, would be subject to oversight and accountability by trained and certified APHIS-WS personnel. Therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas, or where residences are intermixed with wildlands. Project impacts would be less than significant.

HYDROLOGY AND WATER QUALITY

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of hydrology and water quality impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:
 - result in substantial erosion or siltation on- or off-site.
 - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
 -
 - create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Project Impacts

There would be no construction, grading, vegetation removal, or other earth-moving activities associated with the proposed project. Activities such as removing debris from irrigation ditches and canals where beaver activity may have caused damage would be limited in extent. These activities must be performed in accordance with best management practices outlined in APHIS-WS-California's Section 7(d) Determination, which addresses aquatic mammal damage management, pending completion of Endangered Species Act Section 7 consultation with the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) consultation (USDA 2019c). Impacts would be less than significant.

The project would not generate stormwater runoff, nor would it involve the use of groundwater supplies. Therefore, the proposed project has no potential for discharges to watercourses, construction erosion and sedimentation of watercourses, the alteration of drainage patterns, the concentration or redirecting of pollutants, the depletion of groundwater supplies, or the violation of existing water quality standards. As such, no impact to water quality would occur.

The proposed project would not involve any construction or placement of permanent structures. As such, the project would not place housing within a 100-year flood hazard area, nor would it place a structure within a 100-year flood hazard area, which would impede or redirect flood flows. Therefore, the project would have no impact.

The proposed project would not generate housing and/or population, nor would it increase nonresidential development. As a result, the project would not result in the exposure of people or structures to flooding or inundation by seiche, tsunami, or mudflow. Therefore, the project would have no impact.

LAND USE AND PLANNING

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of land use and planning impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding an environmental effect.

Project Impacts

The proposed project would not involve construction of housing or other permanent structure, feature, or barrier that could physically divide an established community. As such, no impact would occur.

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The activities performed by APHIS-WS are regulated at the federal level and implemented in accordance with the WS Directives, as explained in Section 2.0, Project Background. The County has not adopted any plans, policies, or regulations that apply to APHIS-WS activities in the County. Policies in the General Plan that pertain to biological resources and habitat protection are related to development projects, which are not a component of the proposed project. See also Impact 4.1-5 in Section 4.1, Biological Resources. Therefore, the project would not conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

MINERAL RESOURCES

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of mineral resources impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Project Impacts

The proposed project would not include any changes to zoning, changes in land use, construction, development of permanent structures, or other project activities that would result in the permanent or temporary loss of availability of a known mineral resource or of a locally important mineral resource recovery site. There would be no impact.

NOISE

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of noise impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Generate of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the Butte County General Plan or noise ordinance.
- Generate of excessive groundborne vibration or groundborne noise levels.
- Expose people residing or working in the project area to excessive noise levels because of the project's location within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.

Project Impacts

Wildlife damage management equipment, tools, and methods may generate temporary, intermittent noise during project implementation. Such temporary, intermittent noise could include noise from firearms, trailing hounds, whistlers/screamers, ATVs, pyrotechnics, and electronic calling devices. These noises would predominantly occur on large agricultural parcels, rather than in dense urban areas, so substantial numbers of people would not be exposed to

these temporary, loud noises and the noises would be widely dispersed. No changes in noise-producing tools or equipment would occur as compared with baseline activities. Therefore, the proposed project's impacts would be less than significant.

The project would not include vibration-producing land uses or the use of vibration-producing construction equipment, such as bulldozers, jackhammers, or pile drivers. Pyrotechnic devices, such as shell crackers or scare cartridges fired from a shotgun, or noise bombs/bangers, may be used for dispersing animals. These methods are primarily used to disperse birds in crop fields. These types of devices are used in the air, not on the ground, and therefore would not be a source of ground vibration. Such use would also be infrequent and intermittent. Impacts would be less than significant.

The proposed project would not generate permanent sources of noise, nor would it place new land uses near sensitive receptors or land uses where sensitive receptors reside. As such, the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. No impact would occur.

As discussed above, the project would generate temporary, intermittent noise associated with the use of wildlife damage management tools and equipment. These types of wildlife management and dispersal tools have been previously used for IWDM activities, and no changes would occur under the proposed project. Therefore, the project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts would be less than significant.

The proposed project would not directly result in construction of new housing, nor would the project indirectly result in an increase in housing or population. Further, the project would not increase nonresidential development. Therefore, the project would not result in exposure of people or structures to excessive noise from public or private airstrips. As a result, no impact would occur.

POPULATION AND HOUSING

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of population and housing impacts. These guidelines have been used as thresholds of significance for this analysis. A project would result in a significant impact if it would:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

Project Impacts

The proposed project is limited to wildlife damage management activities. This would not induce population growth in the County or in surrounding areas, as it would not include the construction of new residential structures or result in the need for new residential structures. 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. Further, a substantial number of new jobs is not anticipated because the number of staff would not increase compared to historical staffing levels provided by the annual

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work plans (one wildlife specialist). Therefore, the project is not expected to induce substantial growth in the area and no impact would occur.

Implementation of the proposed project would not displace existing housing or people and would not change any land use designation or zoning to restrict the development of housing. As such, no impact would occur.

PUBLIC SERVICES AND RECREATION

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of public services and recreation impacts. These guidelines have been used as thresholds of significance for this analysis. A project would result in a significant impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Project Impacts

The proposed project is limited to wildlife damage management activities. This would not generate housing or induce population growth, nor would it increase nonresidential development. Further, the proposed project would not construct any physical structures that would require protection from theft/vandalism or protection from fire dangers. Therefore, the project would not increase the demand for other public services such as schools and parks and would not require new or physically altered governmental facilities, the construction of which could cause significant environmental impacts. The proposed project would have no impact.

The proposed project would not involve construction of new housing, nor would the proposed project induce population growth. As such, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, the proposed project would not result in physical impacts to the environment from construction of new recreational facilities or the degradation of existing residential facilities. The project would have no impact.

TRANSPORTATION

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of transportation impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment),
- Result in inadequate emergency access,

Project Impacts

The project would not involve any construction of residential or nonresidential structures that would affect the circulation system. The proposed project would not interfere with any existing transit routes, nor would it remove or relocate any existing transit stops/stations. Therefore, the project would not conflict with any adopted County policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Therefore, the project would have no impacts as it relates to public transit, bicycle, or pedestrian facilities or networks.

The proposed project would not increase the number of vehicles used by APHIS-WS personnel to conduct wildlife management activities beyond that which has occurred historically because no changes to the CSA are proposed that would increase staffing that would, in turn, increase vehicle use. Because the proposed project would not result in an increase in vehicle use that would increase vehicle miles traveled, there would be no conflict with CEQA Guidelines section 15064.3, subdivision (b) and therefore no impact.

The proposed project would not result in any new development or require the construction or extension of roadways, nor will it change any land use designation or zoning. Therefore, the project would not substantially increase hazards due to a design feature and no impact would occur.

The proposed project would not involve any construction of permanent structures, barriers, or transportation networks. Therefore, the project would not require the provision of emergency access, nor would it impair implementation of emergency response within the County. As such, there would be no impact.

TRIBAL CULTURAL RESOURCES

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of tribal cultural resources impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Section 5020.1(k); or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

4.0 INTRODUCTION TO THE ANALYSIS

Project Impacts

The County sent a written request to the United Auburn Indian Community of the Auburn Rancheria on March 2, 2021, in response to the tribe's request for notification of projects pursuant to AB 52 and applicable sections of the Public Resources Code. The tribe did not respond to the City's request within 30 days of receiving the invitation for consultation from the County.

The project would not result in the construction or alteration of structures or other facilities. The project would not include activities that would result in grading or excavation; any ground disturbance necessary for the installation of traps or snares would be minimal and limited to surface soils. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resource, and there would be no impact.

UTILITIES/SERVICE SYSTEMS

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of utilities/service systems impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years,
- Result in a determination by the wastewater treatment provider which serves or may serve the project that there is not adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals, or not comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Project Impacts

The proposed project would not involve construction of permanent or temporary housing or nonresidential structures, which would induce population growth in the County. As such, the proposed project would not increase the demand for water, wastewater treatment, and storm drainage facilities and would not require new or expanded facilities, the construction of which could cause environmental effects. Therefore, the proposed project would have no impact.

Direct control measures associated with implementation of the proposed project would result in animal carcasses that would require disposal. WS Directive WS 2.515 sets forth requirements for the disposal of wildlife carcasses, requiring that all carcasses be disposed of in a manner consistent with federal, state, County, and local regulations. Because of the low number of species removed and the low frequency with which that occurs, disposal of carcasses would have an inconsequential effect on landfill capacity and would not result in the need for disposal facility expansion that could result in environmental impacts. As such, the proposed project would have no impact.

WILDFIRE

Appendix G of the 2021 CEQA Guidelines contains analysis guidelines related to the assessment of wildfire impacts. These guidelines have been used as thresholds of significance for this analysis. The project would result in a significant impact if it would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes.

Project Impacts

The proposed project would not result in construction of urbanized development or permanent placement of people in a wildland area and thus would not result in a significant risk of loss, injury, or death involving wildland fires. Additionally, the WS Directives summarized above direct that any wildlife management methods that could result in fire hazards, such as pyrotechnics, would be subject to oversight and accountability by trained and certified APHIS-WS personnel. Therefore, the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas, or where residences are intermixed with wildlands. Project impacts would be less than significant.

CUMULATIVE IMPACTS

For the topic areas evaluated above, all project impacts would be less than significant or there would be no impact. As explained therein, the extent of the less than significant impacts on aesthetics, air quality, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, transportation, and wildfire is substantially limited either geographically or by the nature of the activity that may result in an effect. Therefore, the project's contribution to those impacts would be less than cumulatively considerable.

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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 implementation of the County's CSA with APHIS-WS, and project and cumulative impacts.

4.1.1 ENVIRONMENTAL SETTING

LOCATION

Butte County is in north-central California at the northeastern end of the Sacramento Valley, approximately 150 miles northeast of San Francisco and 70 miles north of Sacramento (Figure 3.0-1). From the northeastern end of the Sacramento Valley, Butte County extends into the foothills at the confluence of the southern Cascade and the northern Sierra Nevada mountain ranges. The total land area of Butte County is approximately 1,636 square miles, comprising three general topographical areas: the western 45 percent of the County is a valley area, about 25 percent includes foothills to the east of the valley, and the eastern 30 percent is mountainous.

LAND USE

Agriculture is the largest land use in Butte County. Agricultural lands include field and row crops, orchards, rice, grazing, dry farming, and timber. Crops are the most land-intensive use and occupy approximately 425,500 acres (Butte County Department of Agriculture 2020), or approximately 40 percent of the County's land area. Portions of the Plumas National Forest and Lassen National Forest are in the eastern part of the County. Most of the urbanized areas are located in the western part of the County in the Sacramento Valley near prime agricultural lands and major transportation corridors. There are approximately 211 square miles of land managed by the US Forest Service in Butte County.

BIOLOGICAL COMMUNITIES AND WILDLIFE HABITAT

There are ten general types of biological communities in the County. The distribution of these biological community types is closely associated with the varying topography and hydrology of the geographic subregions. Much of the Sacramento Valley subregion supports agricultural land, annual grassland, and wetlands, while the higher elevation foothills subregions are primarily grassland, oak woodland, and chaparral communities. The highest elevations in the Cascade Range and Sierra Nevada are conifer forest and chaparral communities. Drainages and open water occur within all subregions. Most stream corridors support riparian woodland communities. Specific habitat types within these communities provide habitat for many common and special-status wildlife species (Butte County 2010b).

Potentially suitable habitat for each of the target common wildlife mammal species evaluated in this Draft EIR was determined from the California Department of Fish and Wildlife (CDFW) predicted habitat suitability BIOS GIS dataset, with the exception of American beaver and muskrat, for which stream mile data from the US Geological Survey National Hydrography Dataset was obtained for Butte County. Table C-1 in Appendix C summarizes the suitable habitat results for each species, which are used in the individual species' detailed analyses included in Appendix C, Tables C-3 through C-12.

4.1 BIOLOGICAL RESOURCES

WILDLIFE CORRIDORS

Migratory deer herds migrate from higher elevations in Plumas and Lassen Counties to lower-elevation winter range areas in Butte County. The General Plan includes a winter and critical winter deer herd migration area overlay comprising approximately 326,000 acres (approximately 509 square miles) east of Highway 99, extending almost to the Plumas County line. 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 deer.

Other migratory species in the County include anadromous fish such as Chinook salmon, steelhead, and green sturgeon and other fish species present in Butte County waterways. The Gray Lodge Wildlife Area, located in Butte County, encompasses approximately 9,100 acres and is within the Pacific Flyway. The area contains ponds, grassy fields, and riparian areas that provide food, water, and shelter for more than 300 species of resident and migrant birds and mammals. Gray Lodge supports numerous species of waterfowl including but not limited to grebes, pelicans, cormorants, herons, egrets, many species of ducks, geese (including snow goose), cranes, and other birds that rely on lacustrine, fresh emergent wetlands, marshes, wetland croplands, and/or riverine habitats for food, cover, and reproduction. The Upper Butte Basin Wildlife Area to the north of Gray Lodge, also within the Pacific Flyway, contains an extensive wetland complex that also supports many resident and migratory bird species (CDFW 2020c, n.d.). Big Chico Creek and Butte Creek and numerous smaller waterways in the County also provide habitat or migratory wildlife.

SPECIAL-STATUS SPECIES

There are numerous federally and state-listed endangered and threatened mammal, bird, amphibian, reptile, invertebrate, and fish species and other CEQA-defined special-status species and wildlife species of special concern in the County. These are identified in Table 4.1-1. More than 60 plants in Butte 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 (CNPS 2020). Table C-2 in Appendix C contains a list of these special-status plants.

CRITICAL HABITAT

Some areas in the County are designated as critical habitat by the USFWS and National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA-NMFS) for the following wildlife species: amphibians (California red-legged frog); fish (steelhead, Chinook salmon, and green sturgeon); and invertebrates (vernal pool fairy shrimp). In addition, Essential Fish Habitat (EFH) has been established for Chinook salmon (USFWS 2020; NOAA-NMFS 2016). IWDM program activities may occur in critical habitat or EFH, 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.

**TABLE 4.1-1
BUTTE COUNTY THREATENED AND ENDANGERED SPECIES AND CALIFORNIA SPECIES OF SPECIAL CONCERN**

Scientific Name	Common Name	Federal List	California List	Global Rank	State Rank	Other Status	Habitats
Amphibian							
Ambystoma Californiense	California tiger salamander	Threatened	Threatened	G2G3	S2S3	CDFW_WL-Watch List IUCN_VU-Vulnerable	Cismontane woodland Meadow & seep Riparian woodland Valley & foothill grassland Vernal pool Wetland
Ambystoma macrodactylum sigillatum	southern long-toed salamander	None	None	G5T4	S3	CDFW_SSC-Species of Special Concern	
Rana boylei	foothill yellow-legged frog	None	Threatened	G3	S3	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	Aquatic Chaparral Cismontane woodland Coastal scrub Klamath/North coast flowing waters Lower montane coniferous forest Meadow & seep Riparian forest Riparian woodland Sacramento/San Joaquin flowing waters
Rana cascadae	Cascades frog	None	Candidate	G3G4	S3	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	Montane aquatic habitats such as mountain lakes, small streams, and ponds in meadows; open coniferous forests.
Rana draytonii	California red-legged frog	Threatened	None	G2G3	S2S3	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	Aquatic Artificial flowing waters Artificial standing waters Freshwater marsh Marsh & swamp Riparian forest Riparian scrub Riparian woodland Sacramento/San Joaquin flowing waters Sacramento/San Joaquin standing waters South coast flowing waters South coast standing waters Wetland
Rana sierrae	Sierra Nevada yellow-legged frog	Endangered	Threatened	G1	S1	CDFW_WL-Watch List IUCN_EN-Endangered USFS_S-Sensitive	Aquatic
Spea hammondi	western spadefoot	None	None	G3	S3	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	Cismontane woodland Coastal scrub Valley & foothill grassland Vernal pool Wetland
Bird							
Accipiter gentilis	northern goshawk	None	None	G5	S3	BLM_S-Sensitive CDF_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-	North coast coniferous forest Subalpine coniferous forest Upper montane coniferous forest

4.1 BIOLOGICAL RESOURCES

**TABLE 4.1-1
BUTTE COUNTY THREATENED AND ENDANGERED SPECIES AND CALIFORNIA SPECIES OF SPECIAL CONCERN**

Scientific Name	Common Name	Federal List	California List	Global Rank	State Rank	Other Status	Habitats
						Least Concern USFS_S-Sensitive	
<i>Agelaius tricolor</i>	tricolored blackbird	None	Threatened	G2G3	S1S2	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	Freshwater marsh Marsh & swamp Swamp Wetland
<i>Antigone canadensis</i>	greater sandhill crane	None	Threatened	G5T4	S2	BLM_S-Sensitive CDFW_FP-Fully Protected USFS_S-Sensitive	Marsh & swamp Meadow & seep Wetland
<i>Athene cunicularia</i>	burrowing owl	None	None	G4	S3	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	Coastal prairie Coastal scrub Great Basin grassland Great Basin scrub Mojavean desert scrub Sonoran desert scrub Valley & foothill grassland
<i>Buteo swainsoni</i>	Swainson's hawk	None	Threatened	G5	S3	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	Great Basin grassland Riparian forest Riparian woodland Valley & foothill grassland
<i>Circus hudsonius</i>	northern harrier	None	None	G5	S3	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	Coastal scrub Great Basin grassland Marsh & swamp Riparian scrub Valley & foothill grassland Wetland
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	Riparian forest
<i>Cypseloides niger</i>	black swift	None	None	G4	S2	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_YWL-Yellow Watch List USFWS_BCC-Birds of Conservation Concern	
<i>Empidonax traillii</i>	willow flycatcher	None	Endangered	G5	S1S2	IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	Meadow & seep Riparian scrub Riparian woodland Wetland

**TABLE 4.1-1
BUTTE COUNTY THREATENED AND ENDANGERED SPECIES AND CALIFORNIA SPECIES OF SPECIAL CONCERN**

Scientific Name	Common Name	Federal List	California List	Global Rank	State Rank	Other Status	Habitats
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	Endangered	G5	S3	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	Lower montane coniferous forest Old-growth
<i>Lanius ludovicianus</i>	loggerhead shrike	None	None	G4	S4	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest Desert wash Joshua tree woodland Mojavean desert scrub Pinon & juniper woodlands Riparian woodland Sonoran desert scrub
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threatened	G3G4 T1	S1	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	Brackish marsh Freshwater marsh Marsh & swamp Salt marsh Wetland
<i>Melospiza melodia</i>	song sparrow ("Modesto" population)	None	None	G5	S3?	CDFW_SSC-Species of Special Concern	
<i>Riparia</i>	bank swallow	None	Threatened	G5	S2	BLM_S-Sensitive IUCN_LC-Least Concern	Riparian scrub Riparian woodland
<i>Setophaga pestichia</i>	yellow warbler	None	None	G5	S3S4	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	Riparian forest Riparian scrub Riparian woodland
<i>Vireo bellii pusillus</i>	least Bell's vireo	Endangered	Endangered	G5T2	S2	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	Riparian forest Riparian scrub Riparian woodland
Crustacean							
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	Endangered	None	G2	S2	IUCN_EN-Endangered	Valley & foothill grassland Vernal pool Wetland
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	Threatened	None	G3	S3	IUCN_VU-Vulnerable	Valley & foothill grassland Vernal pool Wetland
<i>Branchinecta mesoallensis</i>	midvalley fairy shrimp	None	None	G2	S2S3		Vernal pool Wetland
<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	Endangered	None	G4	S3S4	IUCN_EN-Endangered	Valley & foothill grassland Vernal pool Wetland

4.1 BIOLOGICAL RESOURCES

**TABLE 4.1-1
BUTTE COUNTY THREATENED AND ENDANGERED SPECIES AND CALIFORNIA SPECIES OF SPECIAL CONCERN**

Scientific Name	Common Name	Federal List	California List	Global Rank	State Rank	Other Status	Habitats
Linderiella occidentalis	California linderiella	None	None	G2G3	S2S3	IUCN_NT-Near Threatened	Vernal pool
Fish							
Acipenser mediorostris	green sturgeon, southern DPS	Threatened	None				Aquatic Sacramento/San Joaquin flowing waters
Mylopharodon conocephalus	hardhead	None	None	G2	S3	CDFW_SSC-Species of Special Concern	Aquatic Sacramento/San Joaquin flowing waters
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	AFS_TH-Threatened	Aquatic Sacramento/San Joaquin flowing waters
Oncorhynchus tshawytscha pop. 6	Chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S1	AFS_TH-Threatened	Aquatic Sacramento/San Joaquin flowing waters
Oncorhynchus tshawytscha	Chinook salmon – Sacramento River winter-run ESU	Endangered	Endangered	G5	S1	AFS_EN-Endangered	Aquatic Sacramento/San Joaquin flowing waters
Insect							
Bombus occidentalis	western bumble bee	None	Candidate endangered	G2G3	S1	USFS_S-Sensitive XERCES_IM-Imperiled	
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Threatened	None	G3T2	S2		Riparian scrub
Mammal							
Antrozous pallidus	pallid bat	None	None	G5	S3	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	Chaparral Coastal scrub Desert wash Great Basin grassland Great Basin scrub Mojavean desert scrub Riparian woodland Sonoran desert scrub Upper montane coniferous forest Valley & foothill grassland
Aplodontia rufa californica	Sierra Nevada mountain beaver	None	None	G5T3 T4	S2S3	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	Riparian forest Riparian scrub Riparian woodland
Corynorhinus townsendii	Townsend's big-eared bat	None	None	G3G4	S2	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	Broadleaved upland forest Chaparral Chenopod scrub Great Basin grassland Great Basin scrub Joshua tree

TABLE 4.1-1
BUTTE COUNTY THREATENED AND ENDANGERED SPECIES AND CALIFORNIA SPECIES OF SPECIAL CONCERN

Scientific Name	Common Name	Federal List	California List	Global Rank	State Rank	Other Status	Habitats
						USFS_S-Sensitive WBWG_H-High Priority	woodland Lower montane coniferous forest Meadow & seep Mojavean desert scrub Riparian forest Riparian woodland Sonoran desert scrub Sonoran thorn woodland Upper montane coniferous forest Valley & foothill grassland
<i>Eumops perotis californicus</i>	western mastiff bat	None	None	G5T4	S3S4	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	Chaparral Cismontane woodland Coastal scrub Valley & foothill grassland
<i>Lasiurus blossevillei</i>	western red bat	None	None	G5	S3	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	Cismontane woodland Lower montane coniferous forest Riparian forest Riparian woodland
<i>Pakania pennanti</i>	fisher	None	None	G5	S2S3	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	North coast coniferous forest Oldgrowth Riparian forest
<i>Taxidea taxus</i>	American badger	None	None	G5	S3	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	
<i>Vulpes necator</i>	Sierra Nevada red fox	Candidate	Threatened	G5T1T2	S1	USFS-S	Alpine Alpine dwarf scrub Broadleaved upland forest Meadow & seep Riparian scrub Subalpine coniferous forest Upper montane coniferous forest Wetland
Reptile							
<i>Emys marmorata</i>	western pond turtle	None	None	G3G4	S3	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	Aquatic Artificial flowing waters Klamath/North coast flowing waters Klamath/North coast standing waters Marsh & swamp Sacramento/San Joaquin flowing waters Sacramento/San Joaquin standing waters South coast flowing waters South coast standing waters Wetland

4.1 BIOLOGICAL RESOURCES

**TABLE 4.1-1
BUTTE COUNTY THREATENED AND ENDANGERED SPECIES AND CALIFORNIA SPECIES OF SPECIAL CONCERN**

Scientific Name	Common Name	Federal List	California List	Global Rank	State Rank	Other Status	Habitats
Phrynosoma blainvillii	coast-horned lizard	None	None	G3G4	S3S4	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	Chaparral Cismontane woodland Coastal bluff scrub Coastal scrub Desert wash Pinon & juniper woodlands Riparian scrub Riparian woodland Valley & foothill grassland
Thamnophis gigas	giant gartersnake	Threatened	Threatened	G2	S2	IUCN_VU-Vulnerable	Marsh & swamp Riparian scrub Wetland

Source: USFWS 2020; CDFW 2020a; NOAA-NMFS 2016

Notes:

Global Rank

G1 = critically imperiled; G2 = imperiled; G3 = vulnerable; G4 = apparently secure; G5 = secure

G#G# = range rank indicating range of uncertainty about exact status;

G#T# = condition of entire species (G) and situation of subspecies or variety (T)

State Rank

S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure

S#S# = range rank indicating range of uncertainty about status of species

Other Status

AFS = American Fisheries Society

BLM = Bureau of Land Management

CDF = California Department of Forestry and Fire Protection

CDFW = California Department of Fish and Wildlife

IUCN = International Union for the Conservation of Nature

NABCI = North American Bird Conservation Initiative

USFS = US Forest Service

USFWS = US Fish and Wildlife Service

WBWG = Western Bat Working Group

HABITAT CONSERVATION AND RESOURCE MANAGEMENT PLANS

The USFWS has approved recovery plans for certain federally listed threatened and endangered species, which describe strategies and actions to protect these species and help plan recovery efforts. There are no recovery plans for protected mammal species that may be present in the County that are managed under the IWDM program.

The Butte Regional Conservation Plan (BRCP) is the result of an effort coordinated by the Butte County Association of Governments (BCAG). It describes a comprehensive program to conserve ecologically important resources in the lowland and foothill region of Butte County (the “plan” area), including endangered, threatened, and other at-risk species and habitats supporting those species. It is intended to provide for mitigation of biological resources impacts and environmental permitting (where applicable) for land use development in the western half of the County and needed infrastructure construction and maintenance. It is still in the planning stage (CDFW 2019c). A final BRCP was submitted to USFWS, NOAA-NMFS, and CDFW in June 2019. However, as of April 2021, the BRCP has not been adopted by the BCAG.

The Lassen National Forest Resource Management Plan and Plumas National Forest Plan provide 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. Butte County does not fund APHIS-WS activities on federal forestland in Butte County. As such, these plans are not applicable to the proposed project.

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

The services that have historically been provided by APHIS-WS in the County under the CSA 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. Between 2007 and 2019, the wildlife damage management services provided under the County’s CSA with APHIS-WS have been performed primarily on private land comprising approximately 75 percent of the total number of acres for which WIDs were established (approximately 116,000 acres).¹ Services were also performed on state lands, including state-managed wildlife areas and the CSU Chico University Farm, totaling approximately 20 percent of the acreage (USDA 2020a). A limited amount of work was performed on county- and/or city-managed land. No work funded by the County was performed on federal lands. 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 Work Initiation Documents 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 existing and prior CSAs with APHIS-WS, specific mammal and avian species have been targeted for wildlife damage control by lethal methods, referred to as “intentional take.” In Butte County, APHIS-WS removes wildlife species for protection of agricultural resources, public health and safety, and property. Intentional take of predators to protect threatened and endangered species is not funded by the County but is conducted separately by APHIS-WS.

¹ See Table B-1 in Appendix B for details.

4.1 BIOLOGICAL RESOURCES

CDFW does not allow the relocation of an individual animal that has been identified as the animal causing damage. Except in limited cases where it 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. In the case of an animal that may have been captured unintentionally and that was not the individual determined by the APHIS-WS wildlife specialist to be the cause of damage, every effort is made to release it unharmed, unless the animal is injured and the APHIS-WS wildlife specialist determines that it would not likely survive if released.

Mammals

Table 4.1-2 lists the total number of target mammal species intentionally removed as part of the County's CSA with APHIS-WS in Butte County for the 20-year period from 2000 through 2019, which is the latest year for which full-year data are available. The historical take data in Table 4.1-2 represents the baseline condition with respect to take of targeted species for purposes of the impact evaluation in this Draft EIR. The effect of historical take on species populations is described under the "Target Mammal Species Characteristics and Population Estimates" subheading, below.

Raccoon, striped skunk, Virginia opossum, coyote, feral swine, and American beaver are the primary mammal species for which the most technical assistance has been provided over the last 10 years (see Table 2.0-2 in Section 2.0, Project Background) and which account for the greatest number of species removed by lethal methods. Two of the targeted animals are not native to California (e.g., Virginia opossum and feral swine, the latter of which is also an invasive species).

As illustrated by the data in Table 4.1-2, the number of target mammal species intentionally taken as a result of APHIS-WS activities for species for which the most technical assistance was provided is generally consistent on an annual basis, but for other species take is infrequent and/or low in number. For some listed in Table 4.1-2, there were few requests for assistance, or the frequency and number of take of these animals was minimal (e.g., river otter, spotted skunk, and red fox). As such, the frequency and number of removals have a negligible effect on those species' populations.

Take data for the 10 species removed in greatest number and/or resulting in the most requests for assistance in the County under the CSA with APHIS-WS and information about species characteristics and populations are provided under the "Target Mammal Species Characteristics, Population Estimates, and Take Data" subheading, below.² The take data is from Tables C-3 through C-12 in Appendix C, which include unintentional take in addition to intentional take. Additional information about unintentional take is provided under the "Unintentional Take and Nontarget Wildlife Species" subheading, below.

² The 10 species evaluated were selected because species populations can be estimated based on available data and/or CDFW has identified harvest thresholds. Regarding feral swine, which resulted in many requests for assistance (Table 2.0-2), this is a non-native, invasive species that is managed by APHIS-WS through federal appropriation in response to the increasing damage and disease threats posed by expanding feral swine populations in the United States. There are no population estimates or harvest thresholds. In the case of squirrel, while there were many requests for assistance (Table 2.0-2), there are no population estimates or harvest thresholds.

TABLE 4.1-2

BUTTE COUNTY APHIS-WS TARGET MAMMAL SPECIES INTENTIONAL TAKE 2000-2019 UNDER CSA

Species	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Beaver, American	45	47	14	35	20	99	65	132	100	54	94	45	49	58	55	91	47	30	51	34	1,165
Black bear	1	0	0	0	0	2	4	3	4	3	3	3	1	2	3	7	7	19	8	3	73
Bobcat	0	0	0	0	0	0	1	4	1	0	0	0	1	0	0	0	1	0	0	0	8
Cat (feral)	0	0	0	0	0	1	0	0	0	11	8	5	0	2	0	0	0	0	8	0	35
Coyote	24	28	25	28	15	68	55	40	45	48	22	10	15	9	4	15	10	4	14	6	485
Deer (black-tailed)	--	--	--	--	--	--	--	0	2	1	0	0	0	0	0	0	0	0	0	2	5
Deer (mule)	0	0	0	0	0	0	1	--	--	--	--	--	--	--	--	--	--	--	--	1	2
Dog (feral)	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4
Fox (gray)	0	0	0	0	0	1	2	0	2	0	1	3	3	1	1	1	1	4	8	0	28
Fox (red)	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	7
Feral swine	0	1	0	0	0	1	0	1	0	0	0	51	52	26	25	27	32	9	11	8	244
Hares, jackrabbits (other)	0	0	0	0	0	0	139	0	5	0	0	0	0	0	0	0	0	0	0	0	144
Mountain lion	4	0	0	2	0	5	0	2	0	3	5	5	4	2	5	3	1	2	7	3	53
Muskrat	--	--	--	--	--	--	--	2	7	0	0	1	0	0	1	2	0	0	0	0	13
Opossum, Virginia	6	10	13	17	14	33	14	23	32	26	50	22	19	17	9	13	9	16	23	11	377
Otter, river	--	--	--	--	--	--	--	14	6	5	3	4	0	0	0	0	0	0	1	1	34
Raccoon	27	37	44	77	75	96	93	81	132	155	119	130	94	72	49	48	44	19	21	11	1,424
Skunk (spotted)	0	1	0	0	0	2	1	--	--	--	--	--	--	--	--	--	--	--	--	--	4
Skunk (striped)	75	73	116	115	183	372	380	226	204	224	181	179	201	291	203	151	152	244	235	207	4,012
Squirrel (Douglas)	--	--	--	--	--	--	--	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Squirrel (ground/Calif)	0	0	0	0	0	0	15	31	43	8	52	16	18	0	101	51	30	0	0	0	365

Source: USDA 2020a, 2019b

Notes:

-- none reported in dataset for this year

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Target Mammal Species Characteristics, Population Estimates, and Take Data

American Beaver

Characteristics

American beaver (*Castor canadensis*) is widely distributed in California, through reestablishment and introductions. High-value habitats include montane riparian, valley foothill riparian, riverine, lacustrine, aspen, and fresh emergent wetland. However, the species requires a perennial, year-round source of water to survive. American beaver is not migratory, nor does it hibernate. It is nocturnal and averages 40 pounds in weight and measures over 3 feet, including the tail. Beavers are entirely herbivorous and able to digest 30 percent of the cellulose they ingest. American beavers prefer to eat grasses, leaves, and aquatic plants, although they often feed on the bark and cambium of trees and shrubs which are stored in their lodge during the fall and winter. American beavers typically live in colonies consisting of one adult pair, the young of the year, and occasionally second-year young, although some colonies may have more than two adults. Females usually give birth in May or June, with each litter averaging three to four young. Most young disperse in the second year (Zeiner et al. 1990a).

American beaver has a profound effect on its habitat. Its construction of dams and lodges can affect the composition of plant and animal species, change the water table, create meadows and ponds, and cause indirect effects on other wildlife species. American beaver has some positive effects on other species and their habitat. Beaver dams assist in increasing surface water storage, replenishing alluvial aquifers, removing contaminants from water flow, adding complexity to habitats (such as variations in temperatures, depths, and velocities of beaver ponds), creating and/or expanding wetlands, and increasing potential habitat for many species. These changes can increase and enhance habitat for salmonids, among other species.

These positive effects are juxtaposed against adverse impacts caused by the same behavior. Agricultural and property damage attributed to beavers include the destruction of nursery stock, orchards, timber, and landscaping, as well as flooding of field and row crops. This type of beaver damage results in significant financial losses for California resource owners. In addition, beavers can threaten infrastructure and human health and safety by damaging levees that protect residential and municipal areas; damaging irrigation dikes, ditches, or impoundments that carry water throughout the state; obstructing culverts under roads/railways, which undermines the roadbed; creating dams that threaten or cause flooding of roads and/or residential areas; creating open water on and adjacent to airports, which attracts ducks, geese, and other birds that increase the hazard of birdstrikes; creating open water adjacent to residential areas, which promotes breeding of the mosquito vector of the West Nile Virus, a potentially fatal infection in humans; and damaging public utilities such as electrical, stormwater, and wastewater treatment facilities. Approximately 96 percent of the beavers lethally removed by APHIS-WS-California in the past five calendar years were removed for the protection of human health and safety and infrastructure. Burrowing animals can present a significant threat to levee integrity; therefore, proactive animal control and damage repair is required. For example, the California Department of Water Resources (DWR) attributed the catastrophic 2004 Jones levee breach in the Delta to beaver burrowing. Damage from this breach was estimated at \$90 million (USDA 2019c).

Population

CDFW (CDFG 2004: Appendix 2 [Beaver Population Model]) estimates there are between approximately 18,000 and 46,000 American beavers in California. Applying the same population dynamics that were used by CDFW to estimate statewide population (adults per stream

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kilometer), the Butte County beaver population is estimated to range from approximately 800 to 10,000 (Table C-3 in Appendix C).

As noted in CDFG (2004: pp. 39, 57), CDFW considers its statewide population estimates very conservative because marshes and wetlands, lake margins, and irrigation ditches also provide habitat. However, CDFW stated there are no data for lakeshore miles and wetland acres where beavers occur, and only stream kilometers in combination with lowest density per stream mile data were used in its evaluation of beaver annual population cycles. Because the estimate of County beaver population also uses only stream kilometers and density data approach, consistent with CDFW's approach, it is reasonable to assume the County low population estimate is also conservative.

Take Data

In Butte County between 2000 and 2019, there were 1,165 beavers removed by APHIS-WS under the CSA, for an average of 58 per year. Most of the removals were related to damage to levees, drainage conveyances, and irrigation systems, which are not preferred beaver habitat. APHIS-WS does not remove beaver dams, lodges, or dens. Statewide, 19,170 beavers were removed by APHIS-WS over the 20-year period, with removals in the County accounting for approximately 6 percent of the total statewide APHIS-WS take but less than 1 percent, annually, of the state low population estimate (Table C-3 in Appendix C). CDFW has established a sustainable cumulative annual statewide harvest level of 30 percent of the statewide population (CDFG 2004: p. 39), and removals in the County on an annual basis are well below this value. This suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on American beaver population to date.

Black Bear

Characteristics

American black bear (*Ursus americanus*) is a widespread, common to uncommon resident species that occurs in mature stands of many forest habitats. It feeds in a variety of habitats including brushy stands of forest, valley foothill riparian, and wet meadow in the North Coast Ranges, Cascades, Sierra Nevada, parts of the southern Coast Ranges, and in the San Gabriel and San Bernardino Mountains (Zeiner et al. 1990b).

The black bear is the most widely distributed species of bears in North America and can have large variations in size, coloring, diet, and sleeping patterns. Despite its name, a black bear can be black, brown, cinnamon, blonde, blue/gray, or white. They can range from 100 to 600 pounds, with males typically being larger than females. They will move seasonally to different habitats and will migrate to different altitudes. Most black bears hibernate during the winter, with those bears living in colder climates hibernating for longer periods and those living in warmer climates sometimes not truly hibernating at all.

Black bears are omnivorous and feed on grasses and forbs, fruits, nuts, insects, carrion, human refuse, meat, fish, and more. The American black bear is able to kill adult hoofed wildlife, like deer and moose, but often only preys on the very young of these species. Black bears are solitary except during mating season and when a female has cubs. While mating season occurs around May and June, the embryos do not start developing until fall, with females giving birth during the winter. Each litter averages between one and six young, which usually disperse in the spring after their second winter with their mother. Females will begin reproducing as early as their third summer,

with all females reproducing by their fifth. The black bear is known to live up to 30 years in the wild, though most will die in or before their early 20s.

The black bear is considered an apex predator in California and is the largest meat-eating species in the state.³ Adults have few predators other than humans. They are seen as a nuisance by humans as they will feed on human refuse, take stored foods (especially from campsites), damage and kill trees (sometimes those in orchards), and damage beehives.

Population

CDFG (2011: p. 7) estimates there are between approximately 17,000 and 23,000 black bears in California. Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model for black bear, the Butte County population is estimated to range from approximately 600 to 1,500 (Table C-4 in Appendix C).

Take Data

In Butte County between 2000 and 2019, there were 75 black bears removed under the APHIS-WS IWDM program. In some years, no bears were taken. Average removals were approximately four individuals per year, or less than 1 percent, annually, of the County's estimated low population (Table C-4 in Appendix C). Statewide, 2,116 black bears were removed by APHIS-WS over the 20-year period, with removals in the County accounting for less than 4 percent of the total. CDFW has established a sustainable cumulative annual harvest of 3,875 (CDFG 2011: p. 25). Black bear take in the County on an annual basis is very low relative to statewide take and is well below harvest levels. This suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on black bear population to date.

Bobcat

Characteristics

Bobcat (*Lynx rufus*) is a permanent resident game species throughout the majority of California and is found in almost all suitable terrestrial habitat types 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.

Bobcats are mostly carnivorous and consume lagomorphs (rabbits and hares), rodents (squirrels, rats, and mice), 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

³ 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 wolf, brown bear, mountain lion, and jaguar. Apex predators in California are generally thought to be mountain lion, bear, and wolf.

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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 (active during twilight) 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 in the case of young bobcats, by large raptors and may compete for resources with coyotes (Zeiner et al. 1990c).

Population

CDFW (CDFG 2004: Appendix 3 [Bobcat Population Model]) estimates there are between approximately 81,700 and 86,100 bobcats in California. Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model for bobcat, the Butte County bobcat population is estimated be approximately 1,300 (Table C-5 in Appendix C).

Take Data

In Butte County between 2000 and 2019, there were nine bobcats removed under the APHIS-WS IWDM program. In some years, no bobcats were taken. Statewide, 1,011 bobcats were taken. The County median/average removal is less than one bobcat per year, less than 1 percent of the total statewide APHIS-WS take and less than 0.01 percent, annually, of the state low population estimate (Table C-5 in Appendix C). CDFW established a sustainable cumulative annual statewide harvest level for bobcats at 20 percent of the adult low population, which CDFW determined would equal approximately 14,400 bobcats per year (CDFG 2004: p. 59).

In October 2019, pursuant to Assembly Bill 1254, the California Fish and Game Code (FGC) was amended to add Section 1456 to the FGC, making it illegal to hunt or otherwise take a bobcat except under specified circumstances. The law became effective January 1, 2020. Trapping had been previously prohibited by the Bobcat Protection Act of 2015 (FGC Section 4155). The sustainable harvest threshold noted above is provided for informational purposes only.

Bobcat take in the County on an annual basis is very low relative to statewide take and is well below the harvest level that was previously applied to this species. This suggests that APHIS-WS activities in the County under baseline conditions have not had a substantial adverse effect on bobcat population to date.

Coyote

Characteristics

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.

Coyotes are opportunists, and their prey typically includes smaller animals such as rodents, lagomorphs, and carrion. They are also known to eat insects, reptiles, amphibians, fruits, and occasionally birds and 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. 1990d). The coyote also 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.

Scientists, ecologists, and conservation biologists agree that the coyote is an important contributor to species biodiversity and ecosystems. As to be expected, however, there are differing scientific opinions whether coyote is a mesopredator or apex predator.⁴ 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).

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 throughout the state, particularly in Southern California (CDFW 2011a, 2015). More recently, there have been additional reports of coyotes attacking people in urban areas in California as well as other states.

Population

CDFW (CDFG 2004: Appendix 4 [Coyote Population Model]) estimates there are between approximately 227,900 and 1,140,000 coyotes in California. There have been no definitive studies that indicate the population is less than 227,900, or that the population dynamics used in the CDFG (2004) study to estimate population are incorrect. Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model, the Butte County coyote population is estimated to range from approximately 4,500 to 22,800 (Table C-6 in Appendix C).

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. CDFW established an allowable harvest level of 70 percent of the population (CDFG 2004: p. 40). USDA APHIS-WS researchers have noted the harvest level can be up to 60 percent of the population for a sustained time because recruitment annually replaces breeders. In a computer simulation, all populations recovered within one year when less than 60 percent of the population was removed. Recovery occurred within five years

⁴ 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.

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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: p. 49). However, for purposes of this Draft EIR, the lower value (60 percent) is used to conservatively estimate impacts.

Take Data

In Butte County between 2000 and 2019, there were 485 coyotes removed by APHIS-WS under the CSA. The County average removal is 24 per year (median is 19). Statewide, 113,636 coyotes were taken over the 20-year period, with removals in the County accounting for less than 1 percent of the total statewide APHIS-WS take and less than 1 percent, annually, of the estimated state low population. Even with the highest annual take in the 20-year period (68 coyotes), this represents less than approximately 2 percent of the County's estimated low population and less than 0.1 percent of the statewide low population estimate (Table C-6 in Appendix C). Because take in the County on an annual basis is very low relative to statewide take and is well below the 60 percent cumulative annual sustainable statewide harvest level, this suggests that APHIS-WS activities in the County under baseline conditions have not had a substantial adverse effect on coyote population to date.

Gray Fox

Characteristics

Gray fox (*Urocyon cinereoargenteus*) is an uncommon to common non-migratory species found throughout most of the state. It is found in shrublands, valley foothill riparian, montane riparian, and brush stages of many deciduous and conifer forest, woodland habitats, meadows, and cropland areas.

It is omnivorous, with rabbits, mice, gophers, woodrats, and squirrels as the principal foods. Fruits, nuts, grains, insects, carrion, and herbage are also part of its diet. Gray fox is primarily crepuscular and nocturnal and occasionally active during the day. Brush, natural cavities, and occasionally human-made structures provide cover. The average litter size is four young and dispersal occurs in the first year. Adult gray foxes have few predators. Family groups (parents with juveniles) are usually separated spatially, indicating territoriality. Large hawks, golden eagles, great horned owls, domestic dogs, and bobcats may prey on pups (Zeiner et al. 1990e).

Population

CDFW (CDFG 2004: Appendix 5 [Gray Fox Population Model]) estimates there are between approximately 157,200 and 477,800 gray foxes in California. Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model, the Butte County gray fox population is estimated to range from approximately 4,300 to 13,000 (Table C-7 in Appendix C).

Take Data

In Butte County between 2000 and 2019, there were 31 gray foxes removed by APHIS-WS under the CSA. The County average removal is 2 per year, or less than 0.1 percent of the County's estimated low population. Statewide 2,824 gray foxes were taken over the 20-year period, with

removals in the County accounting for a little over 1 percent of the total statewide APHIS-WS take and less than 0.01 percent, annually, of the estimated state low population (Table C-7 in Appendix C). CDFW has established a sustainable cumulative annual harvest of 25 percent of the statewide population (CDFG 2004; p. 41). Because take in the County on an annual basis is very low relative to statewide take and is well below the sustainable cumulative annual statewide harvest level, this suggests that APHIS-WS activities in the County under baseline conditions have not had a substantial adverse effect on gray fox population to date.

Mountain Lion

Characteristics

Mountain lion (*Puma concolor*) is a widely distributed and permanent resident species in California. It is a specially protected species under FGC 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 deer populations. This species generally has a fixed range and migrates seasonally in response to prey movements, following migrating herds of deer. The highest population densities can be found in riparian areas and stages of brush.

Mountain lion is considered an apex predator in California. It is carnivorous, with deer making up 60 to 80 percent of its 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. It 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 and nocturnal. Most births are likely to occur in the spring and consist of a litter size between one and six, but usually two to 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. 1990f).

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. The latest attack—as defined by CDFW and as reported on the CDFW website was in June 2020, which did not result in a human fatality (CDFW 2020b).

Population

Mountain lion studies over the last 30 years have estimated population densities for different habitat types around the state. CDFW had 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). More current research suggests that mountain lion densities are fairly stable across a wide variety of habitat types in the western United States with an estimated average density of 1.6 adults per 100 square kilometers (Beausoleil 2013), although highly suitable habitat in California could support 2.2 adults per 100 square kilometers (Dellinger and Torres 2020: Table 3). Systematic assessments of mountain lion populations have not been completed to date. However, as reported by Dellinger and Torres (2020), based on a recent estimate of mountain lion habitat in the state (165,350 to 170,085 square kilometers) and statistical analysis of historic trends, the population is within the 1,500 to 5,000 range. Work by McClanahan (2017) also demonstrates that mountain lions are present and reproducing in the Sacramento Valley.

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Based on predicted habitat suitability model data compiled by CDFW for mountain lion, conservatively assuming the average density of 1.6 adults per 100 square kilometers, and population dynamics, the estimated County population is approximately 40 mountain lions. This should not be considered an absolute number of individuals, however, because there is similar habitat that can support mountain lion in adjoining counties to the north, east, and south, and species movement patterns do not coincide with jurisdictional boundaries such as county lines. For example, CDFW's Mountain Lion Habitat Connectivity Model for the Northern Sierra Nevada Foothills illustrates that the eastern part of the County is centrally located in an extensive portion of the west slope of the Sierra Nevada extending from Shasta County on the north to Madera County on the south (CDFW 2014).

Take Data

In Butte County between 2000 and 2019, there were 53 mountain lions removed under the APHIS-WS IWDM program. In some years, no mountain lions were taken. Average/median take is three per year. Statewide, 2,001 mountain lions were removed by APHIS-WS over the 20-year period (median of 103 year), with removals in the County accounting for 2.6 percent of the total statewide APHIS-WS take and less than 4 percent, annually, of the state lowest population estimated by Dellinger and Torres (2020) (Table C-8 in Appendix C). CDFW manages the species for conservation and as such there are no sustainable harvest levels.

Given that take occurs only with authorization from a trustee agency of the state for the species (CDFW) and APHIS-WS take in Butte County is minor compared to the state population size, the effect on the population under baseline conditions has not resulted in conditions that have adversely affected species population.

Muskrat

Characteristics

Common muskrat (*Ondatra zibethicus*) are common to abundant in valley foothill and montane riparian habitats, aspen, and lacustrine, riverine, and estuarine habitats. Muskrats also occupy human-made habitats such as roadside and irrigation ditches. Common muskrats are not migratory. The muskrat is considered a nuisance due to its habit of burrowing into levees.

Common muskrats are mainly herbivorous. Their diet consists of aquatic plants, like cattail and bulrush, though they will also eat invertebrates like mollusks and crayfish, and vertebrates like turtles and fish, if the opportunity arises. Common muskrats will form conical-shaped houses that are above the water level using dominant emergent plants in the area or will excavate burrows in the banks of waterways. As a result of these burrowing activities, common muskrats can cause extensive damage to water impoundments and agricultural lowlands. Muskrats are diurnal and nocturnal, with rainfall stimulating earlier activity. Both sexes are territorial, but females are more so, often killing intruders. Common muskrats reproduce year-round in southern parts of California, but only reproduce in spring and summer in the northern counties of California. Common muskrats have many predators, such as humans, minks, raccoons, large birds of prey, and mammalian predators. Litter size averages four to eight young. Populations fluctuate markedly and may be cyclic (Zeiner et al. 1990g).

Population

CDFW (CDFG 2004: Appendix 7 [Muskrat Population Model]) estimates there are between approximately 78,400 and 392,000 common muskrats in California. CDFW considers this a

conservative estimate because there are no data on lakeshore miles and wetland acres where muskrats occur, and only stream kilometers in combination with lowest density per stream kilometer data were used in estimating populations (CDFG 2004: p. 42). Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model, the Butte County common muskrat population is estimated to range from approximately 5,000 to 25,000 (Table C-9 in Appendix C). Because the estimate of County muskrat population also uses only stream kilometers and density data, it is reasonable to assume the County low population estimate is also conservative.

Take Data

In Butte County between 2000 and 2019, there were 15 muskrats removed by APHIS-WS under the CSA. In many years, no muskrats were taken. Median/average removal is one per year. Most of the removals were related to damage to levees, drainage conveyances, and irrigation systems. Statewide, 9,722 muskrats were removed by APHIS-WS over the 20-year period, with removals in the County accounting for less than 1 percent of the total statewide APHIS-WS take and less than 0.1 percent, annually, of the state low population estimate (Table C-9 in Appendix C). CDFW has established a sustainable cumulative annual statewide harvest level of 60 percent of the statewide population (CDFG 2004: p. 42), and removals in the County on an annual basis are well below this value. This suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on common muskrat population to date.

Raccoon

Characteristics

Raccoon (*Procyon lotor*) is a widespread, common to uncommon, nonmigratory permanent resident throughout most of the state. It occurs in all habitats with water availability and is most abundant in riparian and wetland areas at low to middle elevations.

Raccoons are omnivorous and highly opportunistic. In spring, they eat primarily animal matter: crayfish, fish, arthropods, amphibians, a few small mammals, birds, and eggs. In summer and fall, they eat large amounts of grains, acorns, other nuts, and fruits. They frequently feed in agricultural and urban areas. They may prey on domestic animals or consume cultivated fruits, vegetables, and other crops. Raccoons use cavities in trees, snags, logs, and rocky areas for dens and other cover. They also use abandoned buildings and dense vegetation for cover. They are nocturnal and remain dormant in winter dens. Litters average three to four and young are weaned at 60 to 90 days and become semi-independent at about 130 days. Raccoons are very adaptable and tolerant of most human activity. Great horned owls, bobcats, and domestic dogs prey on raccoons. Raccoon may carry diseases such as trichinosis, rabies, and leptospirosis, among others (Zeiner et al. 1990h).

Population

CDFW (CDFG 2004: Appendix 8 [Raccoon Population Model]) estimates there are between approximately 36,900 and 107,700 raccoons in California, although CDFW also believes this is likely an underestimate of the true raccoon population (CDFG 2004: p. 67). Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model, the Butte County raccoon population is estimated to range from approximately 860 to 2,500, which for the same reasons is likely conservative (Table C-10 in Appendix C).

4.1 BIOLOGICAL RESOURCES

Take Data

In Butte County between 2000 and 2019, there were 1,459 raccoons removed under the APHIS-WS IWDN program, for a median of 74 per year. Statewide, 41,852 raccoons were removed by APHIS-WS over the 20-year period, with removals in the County accounting for less than 4 percent of the total statewide APHIS-WS take and less than 1 percent, annually, of the state low population estimate (Table C-10 in Appendix C). CDFW reports the sustainable cumulative annual statewide harvest level for raccoon is 49 percent (CDFG 2004: p. 43). Raccoon take in the County on an annual basis is well below the harvest level, which suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on raccoon population to date.

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 1990i).

Population

CDFW (CDFG 2004: Appendix 10 [Striped Skunk Population Model]) estimates there are between approximately 143,200 and 683,000 striped skunks in California. Applying the same population dynamics that were used by CDFW to estimate statewide population and CDFW's potentially suitable habitat model, the Butte County striped skunk population is estimated to range from approximately 6,400 to 30,700 (Table C-11 in Appendix C).

Take Data

In Butte County between 2000 and 2019, there were 4,023 striped skunks removed by APHIS-WS under the CSA, for median of 202 per year. Statewide, 76,652 skunks were removed by APHIS-WS over the 20-year period, with removals in the County accounting for 5 percent of the total statewide APHIS-WS take and 0.1 percent, annually, of the state low population estimate (Table C-11 in Appendix C). CDFW has not established sustainable harvest levels for striped skunk.

Virginia Opossum

Characteristics

Virginia opossum (*Didelphis virginiana*) is a common to abundant, nonmigratory inhabitant of riparian, moist woodlands, brushy habitats, wetlands, and agricultural and residential areas at low elevations. It is a non-native species introduced into California in 1910.

Opossum is highly opportunistic and eats a variety of foods, including carrion and insects, which are the principal foods, but fruits, berries and grains, green vegetation, earthworms, and fungi may also be important. It feeds on the ground or in shrubs and trees. Cover includes hollow snags, logs, rocks, piles of brush, or other animal burrows. Buildings and culverts also may be used. It is nocturnal, with peak activity near midnight. It is solitary, aggressive, and a prolific species. Females have multiple estrous cycles, with litters ranging from 6 to 10 produced in two peak periods, January-March and May-July. Up to 25 young may be born, but many do not survive long enough to nurse. If the first litter is lost, the female will immediately breed again. Populations are composed mostly of young. Predators include owls and dogs. Motor vehicle traffic is a primary source of mortality (Zeiner et al. 1990j).

Population

CDFW (CDFG 2004: Appendix 11 [Virginia Opossum Population Model]) estimates there are between approximately 40,500 and 628,500 opossums in California. Applying the same population dynamics that were used by CDFW to estimate statewide population, the Butte County Virginia opossum population is estimated to range from approximately 11,000 to 171,000 (Table C-12 in Appendix C).

Take Data

In Butte County between 2000 and 2019, there were 409 Virginia opossums removed by APHIS-WS under the CSA, for an average of 20 per year. Statewide, 21,890 opossums were removed by APHIS-WS during the 20-year period, with removals in the County accounting for under 2 percent of the total statewide APHIS-WS take and less than 0.1 percent, annually, of the state low population estimate (Table C-12 in Appendix C). CDFW has not established sustainable harvest levels for Virginia opossum. However, given the low percentage of removals, species high reproductive characteristics, and its non-native status, the removals have not had an adverse effect on the population.

Avian Species

Nine common bird species were target species intentionally taken by APHIS-WS under its CSA with the County (Table 4.1-3). Only blackbirds, cowbirds, and geese are protected under the Migratory Bird Treaty Act (MBTA) (USFWS 2018). Other than pigeon and starling, both the frequency and number of birds removed is small. Most birds were dispersed using nonlethal methods (Table C-13a in Appendix C).

4.1 BIOLOGICAL RESOURCES

APHIS-WS Directive 2.301⁵ 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. APHIS-WS preferentially uses nonlethal methods such as hazing for migratory bird control. 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.

Tricolored blackbird, a state-listed threatened species, may forage in mixed flocks containing red-winged and Brewer's blackbirds, both of which have been removed in the past by APHIS-WS in the County. However, over the 20-year baseline period, less than 300 blackbirds were removed, and no mixed flocks potentially containing tri-colored blackbirds were removed. In 2016 and 2017, a few hundred tri-colored blackbirds were unintentionally caught but were freed (Table C-13b in Appendix C). For additional information about tricolored blackbird population effects, see the "Threatened and Endangered Species" subsection, below.

⁵ The entire WS Policy Manual and WS Directives are available at https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_WS_Program_Directives. All directives specifically referenced throughout this Draft EIR are included in USDA 2019a.

TABLE 4.1-3
BUTTE COUNTY APHIS-WS TARGET AVIAN SPECIES INTENTIONAL TAKE 2007-2019 UNDER CSA

Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Blackbird, Brewer's	0	0	0	0	0	0	0	0	0	0	0	19	19
Blackbird, red-winged	0	0	0	0	221	0	0	0	0	0	0	0	221
Cowbird, brown-headed	0	0	0	0	0	0	0	0	172	695	162	0	1,029
Crow, American	6	0	8	4	0	0	3	0	0	0	0	0	21
Geese, Canada	0	0	0	0	0	0	0	4	5	0	0	0	9
Pigeon, feral rock	0	0	1,286	517	381	397	159	276	394	196	109	275	3,990
Sparrow, house	0	0	0	0	4	0	0	0	0	0	0	0	4
Starling, European			13	792	9	0	0	0	80	1417	3	269	2,583
Turkey, wild	0	0	2	0	0	0	0	0	0	0	0	0	2

Notes:

For the period 2000-2006, only species with reported take was feral pigeon (23)

Source: USDA 2020a; 2019b

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THREATENED AND ENDANGERED SPECIES

APHIS-WS is authorized to remove targeted wildlife species to protect threatened and endangered species; however, these services have not been provided in Butte County, nor does the CSA provide for this activity. During the 20-year baseline period, no threatened or endangered mammal species were inadvertently taken in the County under the CSA (Table C-13b in Appendix C) (USDA 2019b, 2020a).

For the federally and state-listed wildlife 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-15 in Appendix C identifies the results of those consultations. The results of those consultations indicate there would be no adverse effects or the activities would not be likely to adversely affect those species. In addition, as shown in Table C-15 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.

Listed Fish Species

Beaver is an aquatic mammal whose activities can increase and enhance salmonid habitat, and in Butte County there are listed salmonid species as well as critical habitat (Table 4.1-1). As indicated in Table 4.1-2, over the 20-year period, American beaver was removed in the third-highest number relative to other target wildlife species, had the sixth-highest number of requests for technical assistance (Table 2.0-2), and were responsible for most of the confirmed property damage (Table 2.0-3).

When beavers are removed, there is the potential that habitat supporting NMFS-listed fish species (see Table 4.1-1) and associated habitat may be adversely affected because beaver activity that creates habitat may no longer occur in a specific location, which may be an indirect effect. However, it is important to note that the NMFS-listed species cannot access certain water structures or waterways such as human-made drainage structures and irrigation ditches or similar features in locations such as leveed rivers and channels managed for continuous water flow by resource managers/owners. Most of the beaver removals performed by APHIS-WS in the County under the CSA were related to damage to levees, drainage conveyances, and irrigation systems, which are not typically located in preferred beaver or salmonid habitat. Moreover, no listed fish species have been taken in the County or statewide under IWDM program activities.

While APHIS-WS has mammal damage management programs in place in the state, and completed Section 7 ESA consultation, there is no corresponding program for aquatic mammals such as beaver. As part of developing such a program, in 2019, APHIS-WS-California initiated an ESA Section 7 consultation with the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA-NMFS) for aquatic mammal management actions within the state. The state of Washington recently completed this consultation, which resulted in the issuance of a Biological Opinion from NMFS.⁶

⁶ In 2018, APHIS-WS initiated efforts toward an aquatic mammal damage management program in the state of Washington, which included ESA Section 7 consultation with NOAA-NMFS, which issued its Biological Opinion in 2019 (NOAA-NMFS 2019). In its opinion, NMFS concluded that the aquatic mammal damage management program in Washington is not likely to jeopardize the continued existence of ESA-listed salmonids in the state provided reasonable and prudent measures are implemented to minimize incidental take (NOAA-NMFS 2019).

4.1 BIOLOGICAL RESOURCES

Beaver, muskrat, and nutria are the damage-causing species to which this consultation applies in California. Only beaver and muskrat are present and managed in Butte County. The APHIS-WS-California program is currently operating within the limitations of an ESA Section 7(d) Determination prepared by the State Director, California Office APHIS-WS pending completion of the NOAA-NMFS consultation. During the pendency of this consultation, APHIS-WS has ceased several aquatic mammal damage management activities in the state that have potential to affect water abundance or habitat character at fish-rearing sites within ESA-listed salmonid habitat (i.e., designated critical habitat or other habitat occupied by the listed salmonids and sturgeon), and thus would apply to Butte County. A limited number of exceptions may be relevant to Butte County, which could result in the removal of beavers by lethal means or require beaver damage management. For example, beaver control may still be undertaken if there is an imminent public safety incident declared by a regulatory or enforcement agency (e.g., flooding) or in locations such as irrigation canals, culverts, or similar human-made features.

In evaluating the potential effects of APHIS-WS aquatic mammal damage management activities in California while operating under Section 7(d), APHIS-WS-California reviewed the data developed for the Washington Biological Opinion in combination with consideration of the types of lethal and nonlethal methods used in both states, which follow the same WS Directives. APHIS-WS-California has no record of non-target take of the NMFS-listed salmonid species in the County. Based on its analysis, APHIS-WS-California concluded that managing aquatic mammal damage caused by beaver, muskrat, and nutria in accordance with the 7(d) Determination—which has specific limitations—would not “make an irreversible or irretrievable commitment of resources that have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures for the protection of listed salmonids, sturgeon, and eulachon, or their critical habitats” (USDA 2019c).

In Washington, APHIS-WS is considering relocating beavers, where feasible, rather than removing by lethal means. Relocations could provide opportunities for enhanced salmonid habitat, although this was not factored into the analysis supporting the Biological Opinion (NOAA-NMFS 2019: p. 75). However, this approach would not be available in California because CDFW does not issue permits for the relocation of beavers because the activities of beavers can create conflict with wildlife, agriculture, infrastructure, or human safety (USDA 2019c).

Other Listed Species

As shown in Table 4.1-1, there are state- and/or federal-listed amphibian and reptile species with the potential to occur in Butte County. APHIS-WS has completed USFWS consultations for California red-legged frog, giant gartersnake, foothill yellow-legged frog, and Sierra Nevada yellow-legged frog. The results of those consultations are presented in Table C-15 in Appendix C. The USFWS has concurred that the APHIS-WS activities would have no effect on or would not be likely to affect these species. Sierra Nevada red fox, a state-listed threatened species, may be present in Butte County. However, its geographic range is limited to high elevations where APHIS-WS IWDM activities under the CSA have not historically been performed. APHIS-WS activities in Butte County and statewide have not resulted in any inadvertent take of these species (Table C-13b in Appendix C) (USDA 2019b, 2020a).

Tricolored Blackbird

Tricolored blackbird (state threatened) occurs throughout most of the lower-elevation parts of the state.⁷ The species exhibits a breeding behavior that combines colonial, nomadic, and itinerant behaviors, which is thought to be an adaption to unpredictable insect outbreaks and/or high rates of predation and environmental stressors, including drought (USFWS 2019). The species can forage in mixed flocks dominated by red-winged and Brewer's blackbird and can be difficult to discern from red-winged blackbird because they are sister taxa.

Surveys conducted in 2017 by the USFWS as part of its triennial program for monitoring tricolored blackbird populations in California indicated the statewide population was just over approximately 177,000. In the "Sacramento Valley" region of the survey,⁸ there were a little over 19,000 tricolored blackbird reported occurrences during the week when the triennial survey was performed. In Butte County, the population was estimated at 1,300, accounting for approximately 7 percent of the region total. Previous triennial surveys in 2008, 2011, and 2014 indicated a variation in population, with 2,541 in 2008, none in 2011, and 60 in 2014 (USFWS 2019, pp. 34-35).

Data about tricolored blackbird occurrences are also available at the Cornell Lab of Ornithology, which compiles information reported to it by the public (eBird.org). As recorded in the eBird.org database, which is separate and independent of the USFWS triennial surveys, the following are the highest total number of birds counted for a specific week (which varied by year) for each year from 2008 through 2020: 42 in 2008; 30 in 2009; 7,000 in 2010; 200 in 2011; 1,001 in 2012; 2,026 in 2013; 2,000 in 2014; 1,705 in 2015; 6,135 in 2016; 1,710 in 2017; 765 in 2018; 1,000 in 2019; and 570 in 2020, as of October (Cornell Lab of Ornithology 2020). As indicated by the data, there is variation between years, with some years showing highest total counts greater than the triennial surveys and some with fewer counts.

In Butte County, red-winged and Brewer's blackbirds were removed infrequently and in low numbers (Table 4.1-3). Over the 20-year period, fewer than 250 blackbirds were removed. To avoid any take of tricolored blackbirds, APHIS-WS does not use any potentially lethal actions in mixed flocks. No mixed flocks that have the potential to contain tricolored blackbird have been removed or dispersed statewide since 2015 when tricolored blackbird was first considered for potential listing by the California Fish and Game Commission as a protected species in the state. APHIS-WS activities in Butte County have not resulted in take of tricolored blackbird, specifically, and in cases where tricolored blackbirds were identified during management activities, they were freed (see Table C-13b in Appendix C). In the APHIS-WS North District (which includes Butte County) and statewide during the reporting period 2007-2019, tricolored blackbirds were either dispersed or freed (USDA 2020a). Although the species has experienced a substantial decline in recent decades, surveys and research conducted statewide over the period 2014-2017 breeding season suggest that the number of tricolored blackbirds remained relatively stable during that time frame and that the species may be adaptable to changing colony size and changing nesting habitat types (USFWS 2019).

⁷ In August 2019, in its finding on a petition to list tricolored blackbird as an endangered or threatened species under the federal ESA, USFWS determined that listing was not warranted (Federal Register 2019).

⁸ For purposes of the USFWS study and reporting, the Sacramento Valley region consists of Butte, Colusa, Glenn, Sacramento, Sutter, Tehama, Yolo, and Yuba Counties (USFWS 2019).

4.1 BIOLOGICAL RESOURCES

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.⁹ 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 wildlife specialist determines that it would not likely survive if released. Incidents of unintentional target animal deaths are extremely low; most animals are freed. As indicated in the data in Table C-13a in Appendix C, many mammals including bears, coyotes, foxes, along with various bird species were dispersed or freed. This is due to the techniques used by the APHIS-WS wildlife specialists to ensure that the correct location(s) for the target species of concern is identified. For the period 2000-2019, one bobcat, one gray fox, five opossums, eight raccoons, and seven striped skunks were unintentionally killed (Table C-13b in Appendix C).

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. For the period 2000-2019, the following species were unintentionally taken: 2 black bears, 2 gray foxes, 3 muskrats, 20 river otters, 7 raccoons, and 5 striped skunks [Table C-13b in Appendix C]. As noted above, during the 20-year baseline period, no threatened or endangered species were removed in the County under the CSA (USDA 2019b, 2020a).

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 Butte 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 (USC) 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.

⁹ APHIS-WS does not conduct any aerial hunting in Butte County through the IWDM funding mechanism, so there is no potential for unintentional take of a target species as a result of aerial hunting.

Migratory Bird Treaty Act of 1918

Migratory birds are protected under the MBTA (16 USC 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 (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 federal ESA list of threatened and endangered species, USFWS issued new regulations to authorize the limited take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles under this act, 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 46836–46879; 50 CFR 22.26).

Although the bald eagle is no longer protected under the federal 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 finding 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 IWDMM program has not taken a bald or golden eagle (USDA 2015a: p. 71; USDA 2020a).

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 (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 Butte County are identified in Table 4.1-1, 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 Butte County, fully protected species that may potentially occur are listed in Table 4.1-1. 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 that APHIS-WS complies with these regulations, APHIS-WS has consulted with CDFW and USFWS regarding the

4.1 BIOLOGICAL RESOURCES

actions it implements in California and potential effects on protected species. These consultations, which are listed in Table C-15 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 implement the CSA with APHIS-WS.

California Wildlife Protection Act

Under the California Wildlife Protection Act of 1990, mountain lions are a specially protected mammal in California (FGC Section 4800). It is unlawful to possess, transport, import, or sell any mountain lion or part or product thereof (including taxidermy mounts). Hunting and trapping, by any individual or entity, is illegal. Mountain lions may only be taken with a depredation permit. As established in FGC Section 4802 et seq., CDFW is required, upon request by the resource owner, to issue depredation permits to the individual reporting livestock loss or damage caused by mountain lion, if the loss or damage is confirmed by CDFW staff to have been caused by the mountain lion. CDFW manages the species for conservation and has not established a cumulative statewide sustainable harvest threshold.

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. Hunting and trapping laws for common game and nongame furbearers are also set forth in FGC, with specific implementing regulations in Title 14 of the California Code of Regulations, summarized below.

Nine species managed by CDFW require depredation permits to be issued prior to taking an animal to resolve damage. CDFW's implementing regulations (CCR Title 14) identify the issuance of a depredation permit as a ministerial action (14 CCR 757(b)(4).) In the County, species historically removed by the APHIS-WS IWDM program and for which a depredation permit is required include beaver, black bear, bobcat, and mountain lion. FGC Section 4181 provides that any owner or tenant of land or property being damaged or destroyed or in danger of being damaged or destroyed by elk, bear, beaver, wild pig, or gray squirrels, may apply to CDFW for a permit to kill the mammals. Upon evidence of threatened or actual damage or destruction, CDFW "shall" issue a depredation permit. The depredation permit is issued to the party experiencing loss or damage rather than to APHIS-WS. Upon request from the permittee, APHIS-WS may act on the permittee's behalf to remove the animal.

As established in FGC Section 4802 et seq., CDFW is required, upon request, to issue 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 lion. Depredation permits may also be issued for bobcat causing livestock loss, but unlike mountain lion, CDFW has discretion in the issuance of a depredation permit for bobcat. The depredation permit is issued to the owner of the resource being damaged, which may either be a private party (e.g., a rancher) or a public entity. The permit is not issued to APHIS-WS, but if requested, APHIS-WS may act on the permittee's behalf to remove the animal.

FGC Section 4181.1 states that landowners may kill a bear encountered in the act of molesting or injuring livestock. In the case of a problem bear, the law provides for the issuance of a depredation permit to landowners or tenants who experience property damage from bears. The permit allows the permittee or designee to kill the offending bear regardless of the time of year.

Requirements such as method of carcass disposal, use of traps, and specified or prohibited methods or ammunition can be identified in the depredation permit, as well as the time period for which the permit is valid.

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.

California Code of Regulations

CCR Title 14 contains regulations for implementing corresponding laws in the FGC pertaining to wildlife take.

Hunting and Trapping

Hunting and trapping regulations are set forth in 14 CCR Division 1, Subdivision 2 (Game, Furbearers, Nongame, and Depredators). Section 460 et seq. contains specific regulations for beaver, gray fox, muskrat, and raccoon, which are nongame species that may be taken by the public with a valid license. Licenses are not required for striped skunk and Virginia opossum, which may be taken at any time of year and in any number (14 CCR Section 472). As also provided by 14 CCR 472, coyote may be taken year-round and in any number without a license. Bear may be taken with a hunting license in accordance with the provisions of 14 CCR Section 365. Until the end of 2019, bobcats could be hunted with a valid license. However, pursuant to AB 1254, bobcat hunting is no longer permitted in the state. Trapping had been previously prohibited by the Bobcat Protection Act of 2015 (FGC Section 4155).

CDFW has completed environmental documents in accordance with CEQA for evaluating its hunting and trapping regulations. The most recent documents were completed in 2004 and 2001, respectively: *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 these documents that are relevant to Butte County are beaver, bobcat, coyote, gray fox, muskrat, raccoon, striped skunk, and Virginia opossum.

APHIS-WS capture methods include the use of traps and snares. Trapping regulations for California are specified in 14 CCR Section 465.5, and County-funded APHIS-WS activities in the County must adhere to those regulations. The requirement to comply with 14 CCR 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 publicly accessible areas where traps or snares are in use. Signs must be routinely checked by APHIS-WS wildlife specialists to ensure they are present,

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obvious, and readable. Capture devices are to be set where they would minimize the public's visibility of captured animals. Pursuant to 14 CCR Section 465.5, traps must be checked at least once daily, and each time traps are checked, all trapped animals must be removed.

LOCAL

Butte County General Plan

The Conservation and Open Space Element of the 2030 General Plan contains 19 policies addressing protection of biological resources (Butte County 2010a). The policies, which are listed in Table C-14 in Appendix C, identify actions related to development projects in which habitat or species could be disturbed, with references to the anticipated BRCP (which has not been adopted). The proposed project is not a development project that would result in ground disturbance that would affect habitat during construction or have operational impacts that would affect species. There are no policies that are pertinent to those activities implemented under the CSA.

Butte County Animal Control

Butte County Animal Control receives call for service involving sick, injured, dead, rabies-suspected, trapped, or threatening wildlife. While staff handles many of the calls, callers are typically referred to CDFW (e.g., for mountain lions) or the County's APHIS-WS trapper.

4.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Appendix G of the 2020 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 state or federally protected wetlands (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 established annual harvest levels for American beaver, black bear, bobcat, coyote, gray fox, muskrat, and raccoon species populations. The harvest values are levels that would allow for harvesting a particular species without adverse effect on the species population on a statewide, cumulative basis (CDFG 2004, 2011). These values, which are shown in the detailed species take tables in Appendix C, 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. The County, in its discretion, has determined the CDFW values are appropriate for use as thresholds of significance because they are based on substantial evidence and requirements of CEQA Guidelines Section 15067.4 (Thresholds of Significance).¹⁰ Numerical thresholds have not been developed or approved by CDFW for mountain lion because it is managed as a specially protected species, as explained above.

METHODOLOGY

The potential for the proposed project to result in significant impacts on protected and common wildlife target species is based on a review of publicly available data obtained from the USDA APHIS-WS Management Information System (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.¹¹

Species population estimates for Butte County were prepared for the following target wildlife species populations using CDFW population models (CDFG 2004) and CDFW potentially suitable habitat models from its BIOS GIS dataset (CDFW 2016): American beaver, bobcat, coyote, gray fox, muskrat, raccoon, striped skunk, and Virginia opossum. For black bear and mountain lion, specific population data were obtained from CDFG (2011) and Beausoleil (2013), respectively, and combined with CDFW potentially suitable habitat model data from its BIOS GIS dataset. Details of population estimates for each mammal species and sources of information are presented in Appendix C.

Although County population estimates are provided, potential effects on populations are evaluated in a statewide (and cumulative) context. This is because the species are present

¹⁰ 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*.

¹¹ The materials listed in Section 7.0 are available for review upon request. To review these items during normal business hours, please contact Louie B. Mendoza, Agricultural Commissioner, Butte County Department of Agriculture/Weights & Measures, 316 Nelson Avenue, Oroville, CA 95965. Phone: (530) 552-4100. Email: butteag@buttecounty.net.

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throughout the state and harvest levels set by CDFW are statewide; similar habitat supporting the various species is present in adjacent counties (e.g., Sierra Nevada foothill woodland, forest, and riparian habitats to the north, east, and south); and species' movement patterns do not coincide with jurisdictional boundaries such as county lines.

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 2.0-2 in Section 2.0, Project Background), combined with 20-year baseline take data (Tables C-3 through C-12 in Appendix C, which also include unintentional take), are a reasonable indicator of the projected take in the foreseeable future with continued implementation of wildlife damage management activities under the CSA. Both average and median take data for the 20-year period relative to population estimates for both County and cumulative conditions are considered because in some cases the median value may be higher than the average value or vice versa. For purposes of the analysis, the more conservative value is used. As with existing work plans, the CSA provides for one federal wildlife specialist, with no increase in staffing anticipated. As such, it is unlikely that there will be a substantial increase in APHIS-WS staff hours under future activities and the potential for that, in turn, to result in additional technical assistance efforts resulting in lethal take.

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 protection. 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 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS could affect target common wildlife species 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. There would be no direct physical impact on biological resources as a result of the CSA because it is an administrative action. However, ongoing Implementation of the APHIS-WS IWDM activities in the County by way of the CSA has the potential to result in impacts on target common wildlife species. These indirect, or secondary impacts, are evaluated in this section.

Under the CSA, the APHIS-WS wildlife specialist would 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 wildlife specialist may determine that an animal causing damage may need to be removed by lethal methods. Removal of animals by lethal methods is only used when other methods of control are not practical or have not been

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

The number of target species that would be removed by lethal methods as a result of implementing the IWDM 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 with ongoing implementation of activities under the CSA, and there would continue to be some annual variability in the number of removals as shown in Table 4.1-2 (mammals) and Table 4.1-3 (avian species). Moreover, given that no changes are contemplated that would increase staffing (one wildlife specialist) 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 species effects would be expected to result from the project. Historically, the number of nontarget species take has been very small, so it is reasonable to assume ongoing and future implementation of the IWDM 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 wildlife specialist to ensure that the correct location(s) for the target species is identified. No aerial hunting would be performed in Butte 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 27 percent of the County's total land area; it is reasonable to assume this would continue.¹² 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 mammal species that have historically resulted in the highest number of requests for assistance and/or removals by lethal methods: American beaver, black bear, bobcat, coyote, gray fox, mountain lion, muskrat, raccoon, striped skunk, and Virginia opossum. For the remaining mammal species listed in Table 4.1-2, either the number of requests for assistance is low or the number and frequency of removals is low (e.g., squirrel), and some are non-native species (e.g., feral swine, an invasive species). 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.

¹² APHIS-WS does not implement its services on the total number of reported acres. When a Work Initiation Document (WID) 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 WID 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.

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Most of the activities would be performed on private land and infrastructure (e.g., levees, dams, irrigation, roads) operated and maintained by public entities because that has historically resulted in the most requests for technical assistance and where work has been performed. APHIS-WS would not perform work in national forests in the County that would be funded under the CSA, where there may be publicly accessible trails and wildlife viewing areas. Some work could 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 publicly accessible areas where traps/snares are in use. Signs must be routinely checked by APHIS-WS wildlife specialists to ensure they are present, obvious, and readable. 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 Butte County coordinates with CDFW, California Department of Food and Agriculture, and California Department of Public Health, as well as federal agencies such as the USFWS and USFS. 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

American Beaver

In Butte County between 2000 and 2019, there were 1,165 beavers removed by APHIS-WS under the CSA, for an average of 58 per year. Most of the removals were related to damage to levees, drainage conveyances, and irrigation systems, which are not preferred beaver habitat. APHIS-WS does not remove beaver dams, lodges, or dens. Statewide, 19,170 beavers were removed by APHIS-WS over the 20-year period, with removals in the County accounting for approximately 6 percent of the total statewide APHIS-WS take but less than 1 percent, annually, of the state low population estimate (Table C-3 in Appendix C). CDFW has established a sustainable cumulative annual statewide harvest level of 30 percent of the statewide population (CDFG 2004: p. 39), and removals in the County on an annual basis are well below this value. This suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on American beaver population to date.

Under the CSA, APHIS-WS would provide the same services as historically provided. No changes in the CSA are proposed that would allow for increasing American beaver take. The number of beavers removed would be a function of the number of requests for assistance by infrastructure facilities managers. However, even if the number of requests for wildlife damage management resulting in beaver take were to increase to the highest annual take in the 20-year baseline period (132 individuals), this still would not be substantial because it would be less than 2 percent of the state low population estimate and well below the 30 percent cumulative CDFW harvest threshold. Because the proposed project would not reduce the number or restrict the range of American beaver, it would not cause 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.

Black Bear

In Butte County between 2000 and 2019, there were 75 black bears removed under the APHIS-WS IWDMM program. In some years, no bears were taken. Average removals were approximately four individuals per year, or less than 1 percent, annually, of the County's estimated low population (Table C-4 in Appendix C). Statewide, 2,116 black bears were removed by APHIS-WS over the 20-year period, with removals in the County accounting for less than 4 percent of the total. CDFW has established a sustainable cumulative annual harvest of 3,875 (CDFG 2011: p. 25). Black bear take in the County on an annual basis is very low relative to statewide take and is well below harvest levels. This suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on black bear population to date.

Under the CSA, APHIS-WS would provide the same services as provided historically. No changes in the CSA are proposed that would allow for increasing black bear take. The number of black bears 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 black bear take were to increase to the highest annual take in the 20-year baseline period (20 individuals), this still would not be substantial because it would be well under CDFW's sustainable annual statewide harvest threshold. Because the proposed project would not reduce the number or restrict the range of black bear, it would not cause 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.

Bobcat

In Butte County between 2000 and 2019, there were nine bobcats removed under the APHIS-WS IWDMM program. In some years, no bobcats were taken. Statewide, 1,011 bobcats were taken. The County median/average removal is less than one bobcat per year, less than 1 percent of the total statewide APHIS-WS take and less than 0.01 percent, annually, of the state low population estimate (Table C-5 in Appendix C). CDFW established a sustainable cumulative annual statewide harvest level for bobcats at 20 percent of the adult low population, which CDFW determined would equal approximately 14,400 bobcats per year (CDFG 2004: p. 59).

Under the CSA, APHIS-WS would provide the same services as provided historically. 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 annual take in the 20-year baseline period (4 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, it would not cause 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.

Coyote

In Butte County between 2000 and 2019, there were 485 coyotes removed by APHIS-WS under the CSA. The County average removal is 24 per year (median is 19). Statewide, 113,636 coyotes were taken over the 20-year period, with removals in the County accounting for less than 1 percent of the total statewide APHIS-WS take and less than 1 percent, annually, of the estimated state low population. Even with the highest annual take in the 20-year period (68 coyotes), this represents less than approximately 2 percent of the County's estimated low population and less than 0.1 percent of the statewide low population estimate (Table C-6 in Appendix C). Because take in the

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County on an annual basis is very low relative to statewide take and is well below the 60 percent cumulative annual sustainable statewide harvest level, this suggests that APHIS-WS activities in the County under baseline conditions have not had a substantial adverse effect on coyote population to date.

Under the CSA, APHIS-WS would provide the same services as provided historically. No changes in the CSA are proposed that would allow for increasing coyote take. As with the existing CSA, the number of coyotes 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 coyote take were to increase to the highest annual take in the 20-year baseline period (68 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 coyote, it would not cause 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.

Gray Fox

In Butte County between 2000 and 2019, there were 31 gray foxes removed by APHIS-WS under the CSA. The County average removal is 2 per year, or less than 0.1 percent of the County's estimated low population. Statewide 2,824 gray foxes were taken over the 20-year period, with removals in the County accounting for a little over 1 percent of the total statewide APHIS-WS take and less than 0.01 percent, annually, of the estimated state low population (Table C-7 in Appendix C). CDFW has established a sustainable cumulative annual harvest of 25 percent of the statewide population (CDFG 2004: p. 41). Because take in the County on an annual basis is very low relative to statewide take and is well below the sustainable cumulative annual statewide harvest level, this suggests that APHIS-WS activities in the County under baseline conditions have not had a substantial adverse effect on gray fox population to date.

Under the CSA, APHIS-WS would provide the same services as provided historically. No changes in the CSA are proposed that would allow for increasing gray fox take. As with the existing CSA, the number of gray foxes 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 gray fox take were to increase to the highest annual take in the 20-year baseline period (8 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 gray fox, it would not cause 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.

Mountain Lion

In Butte County between 2000 and 2019, there were 53 mountain lions removed under the APHIS-WS IWDM program. In some years, no mountain lions were taken. Average/median take is three per year. Statewide, 2,001 mountain lions were removed by APHIS-WS over the 20-year period (median of 103 year), with removals in the County accounting for 2.6 percent of the total statewide APHIS-WS take and less than 4 percent, annually, of the state lowest population estimated by Dellinger and Torres (2020) (Table C-8 in Appendix C). CDFW manages the species for conservation and as such there are no sustainable harvest levels.

Under the CSA, APHIS-WS would provide the same services as provided historically. 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 annual take in the 20-year baseline period (7 individuals), this still would not be substantial. Given that take occurs only with authorization from CDFW (trustee agency) and take in the County is minor compared to the state population size, 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 conditions. The impact would be less than significant. Cumulative impacts are evaluated in Impact 4.1.7.

Muskrat

In Butte County between 2000 and 2019, there were 15 muskrats removed by APHIS-WS under the CSA. In many years, no muskrats were taken. Median/average removal is one per year. Most of the removals were related to damage to levees, drainage conveyances, and irrigation systems. Statewide, 9,722 muskrats were removed by APHIS-WS over the 20-year period, with removals in the County accounting for less than 1 percent of the total statewide APHIS-WS take and less than 0.1 percent, annually, of the state low population estimate (Table C-9 in Appendix C). CDFW has established a sustainable cumulative annual statewide harvest level of 60 percent of the statewide population (CDFG 2004: p. 42), and removals in the County on an annual basis are well below this value. This suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on common muskrat population to date.

Under the CSA, APHIS-WS would provide the same services as provided historically. No changes in the CSA are proposed that would allow for increasing muskrat take. As with the existing CSA, the number of muskrats 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 muskrat take were to increase to the highest annual take in the 20-year baseline period (8 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 muskrat, it would not cause 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.

Raccoon

In Butte County between 2000 and 2019, there were 1,459 raccoons removed under the APHIS-WS IWDMM program, for a median of 74 per year. Statewide, 41,852 raccoons were removed by APHIS-WS over the 20-year period, with removals in the County accounting for less than 4 percent of the total statewide APHIS-WS take and less than 1 percent, annually, of the state low population estimate (Table C-10 in Appendix C). CDFW reports the sustainable cumulative annual statewide harvest level for raccoon is 49 percent (CDFG 2004: p. 43). Raccoon take in the County on an annual basis is well below the harvest level, which suggests that APHIS-WS activities in Butte County under baseline conditions have not had a substantial adverse effect on raccoon population to date.

Under the CSA, APHIS-WS would provide the same services as provided historically. 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 annual take in the 20-year baseline period (155 individuals), this still would not be substantial because it would be well under CDFW's

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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

In Butte County between 2000 and 2019, there were 4,023 striped skunks removed by APHIS-WS under the CSA, for median of 202 per year. Statewide, 76,652 skunks were removed by APHIS-WS over the 20-year period, with removals in the County accounting for 5 percent of the total statewide APHIS-WS take and 0.1 percent, annually, of the state low population estimate (Table C-11 in Appendix C). CDFW has not established sustainable harvest levels for striped skunk.

Under the CSA, APHIS-WS would provide the same services as provided historically. 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. CDFW has not established sustainable harvest levels for striped skunk. Even with continued removals, activities under the CSA 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.

Virginia Opossum

In Butte County between 2000 and 2019, there were 409 Virginia opossums removed by APHIS-WS under the CSA, for an average of 20 per year. Statewide, 21,890 opossums were removed by APHIS-WS during the 20-year period, with removals in the County accounting for under 2 percent of the total statewide APHIS-WS take and less than 0.1 percent, annually, of the state low population estimate (Table C-12 in Appendix C). CDFW has not established sustainable harvest levels for Virginia opossum. However, given the low percentage of removals, species high reproductive characteristics, and its non-native status, the removals have not had an adverse effect on the population.

Under the CSA, APHIS-WS would provide the same services as provided historically. No changes in the CSA are proposed that would allow for increasing opossum take. As with the existing CSA, the number of opossums removed would be a function of the number of requests for assistance by resource owners. Even with continued removals, activities under the CSA would not reduce the number or restrict the range of opossum, 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 Mammals

Historically, take of other mammals removed under the IWD program (e.g., river otter, spotted skunk, ground squirrel) has been limited and infrequent. Feral swine is an invasive species. As such, the frequency and number of removals has had a negligible effect on those species' populations, and implementation of the CSA would similarly not result in adverse impacts.

Birds

Migratory birds are protected under the MBTA, and many of the birds present in Butte County are protected under the MBTA. Of the nine target common bird species intentionally taken by APHIS-

WS under its CSA with the County (Table 4.1-3), only blackbirds, cowbirds, and geese are protected under the MBTA. Other than pigeon and starling, which are not protected under the MBTA, both the frequency and number of birds protected under the MBTA removed is small. Most birds were dispersed using nonlethal methods (Table C-13a in Appendix C).

It is reasonable to assume avian take would continue to occur, and it would be similar to historical levels. APHIS-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 wildlife specialist to ensure that nests and eggs of special-status avian species and birds protected under the MBTA would not be affected. Impacts on common avian species protected under the MBTA would be less than significant. Potential impacts on the tricolored blackbird, a state-threatened species, are evaluated in Impact 4.1.2.

Ponds, wet meadows, and riverine areas and similar habitats that provide food, water, and shelter for resident and migratory birds would not be affected by the proposed project. APHIS-WS is not allowed to modify sensitive habitats that support protected species, nor does it make that recommendation to resource owners or managers. Therefore, fresh emergent wetlands, lacustrine, riverine, and pond environments that support common migratory bird species would not be affected. Where beavers are removed in Butte County to control damage to levees, drainage conveyances, and irrigation systems, those features are not typically located in preferred beaver habitat where beaver activity may have created aquatic conditions that could attract and support migratory birds. In the rare case that a beaver may need to be removed near a natural waterway, work would be confined to a small area in close proximity to the feature, not the entire length of the waterway. This would have a temporary and negligible, if any, adverse effect on riverine habitat that could support migratory birds. Impacts would be less than significant.

Biodiversity and Ecosystem Effects on Common Wildlife Species

The County acknowledges that some scientists, researchers, and wildlife protection organizations believe that removing predators (e.g., bobcat, bear, coyote, mountain lion, and wolf) would result in mesopredator release and potential trophic cascade effects: smaller mammals would increase in number because they would be less vulnerable to coyote predation.¹³ 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 herbivorous mammals such as rabbits and hares would also increase vegetation removal, which can result in widespread effects. Some researchers suggest that another potential unintended consequence of predator control is a reduction in other species' diversity and native ecosystem changes.¹⁴

Studies frequently cited supporting these concepts, i.e., speculating on potential adverse effects on biodiversity due to predator removals, include Polis and Strong (1996); Gehrt and Clark (2003); Berger and Gese (2007); Elmhagen and Rushton (2007); Beschta and Ripple (2009); Ripple, Rooney, and Beschta (2010); Estes et al. (2011); Beschta and Ripple (2012); Ripple and Beschta (2012); Ripple et al. (2013); Bergstrom et al. (2014); Ripple et al. (2014); Bergstrom (2017); and

¹³ The mesopredator release theory states that removal or severe reduction in the number of larger apex predators will result in an increase in abundance of smaller predators. 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.

¹⁴ 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.

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Winnie and Creel (2017).¹⁵ A limited number of published studies focusing on coyotes, for example, suggest that aggressive efforts to remove large numbers of predators such as coyotes may increase coyote populations through compensatory reproduction by changing population dynamics—i.e., there would be greater numbers of younger coyotes causing damage (CDFG 2004: p. 60). Other studies on coyote suggest that longer-term removals may also have a similar effect on population increases, or that there could be a reduction in other species (e.g., Henke 1995; Henke and Bryant 1999; Jackson 2014). In some cases, there is conflicting information or disagreement among experts.

There is, as yet, no published, definitive research or data specifically applicable to effects of predator removals in Butte County, or widely accepted consensus on this topic, in general. Moreover, the type, numbers, frequency, and methods of species removals in Butte County differ substantially from the conditions reported in the studies, some of which were controlled experiments. The conditions evaluated in published studies to date are not readily transferable to how wildlife damage management is conducted on land in the County.

As shown in Table 4.1-2, the numbers of predators such as bear, coyote, and mountain lion removed in the County over the baseline period is small, and the percentage of removals is also small relative to County and statewide low population estimates. It is reasonable to assume there would be little change in the numbers of predators removed because no changes to the CSA are proposed. Under the IWDM program, APHIS-WS may selectively remove specific individual predatory species that cause damage, but it does not target certain species for reduction. The CSA between the County and APHIS-WS does not provide for large-scale predator removals. For most wildlife damage management, once a damage situation is resolved, APHIS-WS field specialists do not continue to remove additional animals unless a problem reoccurs, there are historical problems, and/or an additional request for assistance is made. As with other cooperative agreements, APHIS-WS targets specific individuals causing damage in response to requests for assistance, and lethal methods are only used when other methods of control are not practical or have not been successful.

After having thoroughly reviewed and considered information in commonly referenced peer-reviewed studies on this topic mentioned above, in conjunction with the low numbers of predators such as bear, coyote, and mountain removed in Butte County as well as the low percentage of take relative to statewide take and population estimates for those species (Table C-4, Table C-6, and Table C-8, respectively), the County finds that a significance conclusion regarding biodiversity and ecosystem systems as a result of predator removals is too speculative for evaluation. No impact determination is made, as provided for under CEQA Guidelines Section 15145.

Mitigation Measures

None required.

¹⁵ These studies focus primarily on reintroduction of wolves, using historical removal data and retrospective evaluation. They do not include any data or interpretation specific or relevant to Butte County.

Special-Status Species and Sensitive Habitat (Standards of Significance 1, 2, and 7)

Impact 4.1.2 Implementation of the IWDM program under the CSA between Butte County and APHIS-WS 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 Butte County that are protected under the ESA and CESA and as California species of special concern. Over the 20-year baseline, no listed species were killed (USDA 2019b, 2020a). 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.

Special efforts are made to avoid jeopardizing threatened and endangered species. APHIS-WS consults with 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.¹⁶

It is reasonable to assume the likelihood of take of a protected species would remain minimal. However, 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 wildlife 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 C-13b in Appendix C, 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 wildlife specialist to ensure that the correct location(s) for the target species is identified. Also, APHIS-WS does not conduct any aerial hunting in Butte County through the IWDM program funding mechanism, and none would occur under the CSA. As such, protected species that may otherwise be impacted by aerial hunting would not be affected.

APHIS-WS is not authorized to modify sensitive habitat(s) that support protected species, nor does it make that recommendation to resource owners or managers. 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. Wildlife 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.

NMFS-Listed Salmonid and Sturgeon

As indicated in Table 4.1-1, there are protected salmonid and sturgeon species in Butte County, and critical habitat has been designated by the USFWS for salmonids. APHIS-WS-California has no record of nontarget take of the NMFS-listed salmonid species in the County (USDA 2019c).

American beaver activity may have a beneficial effect on salmonid habitat and populations by increasing and enhancing wetland habitats. APHIS-WS is not allowed to modify sensitive habitat

¹⁶ APHIS-WS is authorized to remove targeted wildlife species to protect threatened and endangered species; however, these services have not been provided in Butte County, nor does the CSA provide for this activity.

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such as that supporting salmonids, which includes removal of beaver dams that may or may not have a localized effect on salmonids. American beaver is removed in Butte County to help control damage to levees, drainage conveyances, and irrigation systems, but these features are not typically located in preferred beaver or salmonid habitat. Relocation of beavers is not authorized by CDFW because the activities of beavers can create conflict with wildlife, agriculture, infrastructure, or human safety.

Under the CSA, APHIS-WS would continue to remove beavers and muskrats causing damage to infrastructure systems, particularly where damage could affect public safety (e.g., flooding). To implement these actions, APHIS-WS-California has initiated consultation with NOAA-NMFS, and APHIS-WS operates within the limitations of an ESA Section 7(d) Determination that addresses aquatic mammal damage management, which includes beaver and muskrat. During the pendency of its consultation with NOAA-NMFS, APHIS-WS has ceased several aquatic mammal damage management activities in the state that have potential to affect water abundance or habitat character at fish-rearing sites within ESA-listed salmonid habitat (i.e., designated critical habitat or other habitat occupied by the listed salmonids and sturgeon), and thus would apply to Butte County. A limited number of exceptions may be relevant to Butte County, which could result in the removal of beavers by lethal means or require beaver damage management. For example, beaver control may still be undertaken if there is an imminent public safety incident declared by a regulatory or enforcement agency (e.g., flooding) or in locations such as irrigation canals, culverts, or similar human-made features.

Based on its analysis, APHIS-WS-California staff concluded that managing aquatic mammal damage caused by beaver and muskrat in accordance with the federal ESA Section 7(d) Determination would not “make an irreversible or irretrievable commitment of resources that have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures for the protection of listed salmonids, sturgeon, and eulachon, or their critical habitats” (USDA 2019c).

Based on the foregoing, implementation of the CSA would result in less than significant impacts on NMFS-listed salmonids and sturgeon.

Amphibians and Reptiles

As shown in Table 4.1-1, there are amphibian and reptile species with the potential to occur in Butte County. These listed species, which are not target species managed under the CSA, are more likely to occur in aquatic and/or adjacent riparian habitats in their natural state where there is sufficient habitat for reproduction, feeding, and cover. These species are less likely to be present in human-altered environments such as levees and irrigation/drainage systems where APHIS-WS activities for beaver and muskrat damage control are performed.

The efforts to protect salmonid and sturgeon explained above, including the low number of beavers or muskrats that might be removed on an average annual or monthly basis, would be equally protective of a listed amphibian or reptile species.¹⁷ APHIS-WS is not allowed to modify sensitive habitats that support protected species, nor does it make that recommendation to resource owners or managers. In the rare case that a beaver or muskrat may need to be removed

¹⁷ Historically, over the 20-year baseline, fewer than 60 beavers were removed on an average annual basis (Table C-3 in Appendix C), or less than five per month. This level of beaver removal is not likely to have an adverse effect on beaver activity that might provide suitable (natural) habitat for amphibian or reptile species. Over the 20-year baseline, only one muskrat, on average, was removed per year (Table C-9 in Appendix C).

in a location such as a bridge crossing or similar feature over or near a natural waterway where beaver activity damage poses a public safety problem, work would be confined only to a small area in close proximity to the feature, not the entire length of the waterway. As such, the potential for inadvertently taking a listed amphibian or reptile is remote. In addition, APHIS-WS has completed USFWS consultations for California red-legged frog, giant gartersnake, foothill yellow-legged frog, and Sierra Nevada yellow-legged frog. The results of those consultations are presented in Table C-15 in Appendix C. The USFWS has concurred that the APHIS-WS activities would have no effect on or would not be likely to affect these species. For these reasons, implementation of the project would result in less than significant impacts on listed amphibian and reptile species.

Mammals

Sierra Nevada red fox (SNRF) is a state-listed threatened species that may be present in Butte County. It is not a target species managed under the CSA. No SNRF has been inadvertently caught or unintentionally taken in the County or statewide, as noted in the Environmental Setting. It is unlikely that SNRF would be caught in a trap or snare intended for coyote, which is a target species, because the geographic range of SNRF in Butte County is limited to high elevations, where there is neither grazing land nor populated areas where coyotes are managed for coyote-livestock or human-coyote conflicts. Impacts would be less than significant.

Birds

Tricolored blackbird (state threatened) is present in Butte County. In Butte County, red-winged and Brewer's blackbirds are target species that were removed infrequently and in low numbers in the County (Table 4.1-3). APHIS-WS activities in Butte County have not resulted in inadvertent take of tricolored blackbird, which is not a target species. In the APHIS-WS North District (which includes Butte County) and statewide during the reporting period 2007-2019, tricolored blackbirds freed, as shown in Tables C-13a and C-13b in Appendix C. To avoid any inadvertent take of tricolored blackbirds, APHIS-WS does not use any potentially lethal actions in mixed flocks. No mixed flocks that have the potential to contain tricolored blackbird have been removed or dispersed statewide since 2015 when tricolored blackbird was first considered for potential listing by the California Fish and Game Commission as a protected species in the state. Based on historic data, it is reasonable to assume ongoing implementation of the CSA would not be expected to result in take of tricolored blackbird. The impact would be less than significant.

Summary

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, USFWS, or NOAA-NFMS; nor would it reduce the number or restrict the range of an endangered, rare, or threatened 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.

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Wetlands (Standard of Significance 3)

Impact 4.1.3 Implementation of the IWD program under the CSA between Butte County and APHIS-WS 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 does it recommend such activities to resource owners. 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. Most of the locations where beavers have been and would continue to be removed under the CSA are in areas containing levees, drainage conveyances, and irrigation systems. APHIS-WS does not remove beaver dams, lodges, or dens in wetland locations as part of its activities under the CSA. There would be no impact.

Mitigation Measures

None required.

Wildlife/Migratory Corridors (Standard of Significance 4)

Impact 4.1.4 Implementation of the IWD program under the CSA between Butte County and APHIS-WS would have minimal effect on wildlife corridors. **(Less than Significant)**

Land development projects that result in habitat loss or fragmentation have the potential to adversely affect wildlife corridors. The IWD services that would continue to be provided to requestors under the CSA 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 "Integrated Wildlife Damage Methods" in Appendix B, and these devices would be used to target a specific animal in a specific 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.

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 deer. APHIS-WS would only target a mountain lion in response to a request from the depredation permit holder (permittee), and 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 levels of take in the County (see Table 4.1-2). As such, there is no substantial evidence that the IWD activities performed under the County's agreement with APHIS-WS would substantially or adversely affect mountain lion migratory patterns.

American beaver, a target species under the IWD program, is not migratory, but its activities can result in beneficial effects by increasing and enhancing potential aquatic and riverine habitat for many species that are migratory. Although the proposed project would result in beaver removals, this would not have an adverse effect on migratory patterns of aquatic wildlife, as explained below.

Anadromous fish in Butte County waterways exhibit migratory behavior. Chinook salmon, steelhead, and green sturgeon are special-status species in aquatic habitats where American beaver is also present. APHIS-WS does not remove beaver dams, but it may remove beaver in locations where beaver have damaged levees or irrigation or drainage canals. As explained in the Environmental Setting, above, APHIS-WS operates in California under a federal ESA Section 7(d) Determination that substantially limits beaver removals, except in limited cases, pending completion of its consultation with NOAA-NMFS. Beaver relocations are not authorized by CDFW. The locations where beavers are removed are not preferred beaver or aquatic habitat for special-status fish species. Thus, removal of the beavers would not have an adverse effect on fish migration.

Ponds, wet meadows, and riverine areas and similar habitats that provide food, water, and shelter for resident and migratory birds would not be affected by the proposed project. Because APHIS-WS is not allowed to modify sensitive habitats that support protected species, nor does it make that recommendation to resource owners or managers, it would not alter fresh emergent wetlands, lacustrine, riverine, and pond environments that support common migratory bird species. Where beavers are removed in Butte County to control damage to levees, drainage conveyances, and irrigation systems, those features are not typically located in preferred beaver habitat where beaver activity may have created ponds that could attract and support migratory birds. In the rare case that a beaver may need to be removed near a natural waterway, work would be confined to a small area in close proximity to the feature, not the entire length of the waterway. This would have a temporary and negligible, if any, effect on riverine habitat that could support migratory patterns. In addition, the number of beavers historically removed on an annual average basis is low relative to the conservative low estimate of the County's population, as noted in the Environmental Setting. As a result, the potential for beaver removals to alter habitat that supports bird migration is little to nonexistent.

For the reasons stated in Impacts 4.1.1 and 4.1.2, the wildlife damage management activities targeting specific animals under the CSA would not reduce species populations to levels that would reduce biodiversity or not be self-sustaining, 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 Implementation of the IWDW program under the CSA between Butte County and APHIS-WS would not conflict with Butte 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 Butte County 2030 General Plan, which was adopted in 2010 by the Board of Supervisors.

The Conservation and Open Space Element of the 2030 General Plan contains 19 policies addressing protection of wildlife and habitat. The policies identify actions related to development projects in which habitat or species could be disturbed, with references to the BRCP (which has

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not been adopted). The proposed project is not a development project that would result in ground disturbance that would affect habitat during construction or have operational impacts that would affect species. There are no policies that are pertinent to those activities implemented under the CSA. There would be no impact.

Table C-14 in Appendix C lists the policies in the Butte County General Plan that pertain to the protection of biological resources. These policies address species and habitat. The policies concern growth under the General Plan and land development associated with that growth, which are not directly applicable to the CSA. For completeness, however, for each policy listed in Table C-14, there is a corresponding analysis of consistency with that policy. No inconsistencies were identified.

Eastern areas of the County are within the Plumas National Forest and Lassen National Forest, for which management plans have been approved by the US Forest Service. County-funded APHIS-WS services are not performed in the national forest. There would be no conflict with the resource plans. There would be no impact.

Mitigation Measures

None required.

Habitat Conservation Plans (Standard of Significance 6)

Impact 4.1.6 Implementation of the IWDm program under the CSA between Butte County and APHIS-WS would not conflict with any habitat conservation plan or natural community conservation plan. **(No Impact)**

As of April 2021, the BRCP has not been adopted. The proposed project does not involve land development activities for which the mitigation strategies in the BRCP, when adopted, would be required. 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 Policies Protecting Biological Resources), 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 Butte County and the state. Consideration of areas outside the administrative boundary of the County is appropriate because the species evaluated in this Draft EIR are present throughout the state and harvest levels for many of those species are set by CDFW for population management at the statewide level. In addition, similar habitat supporting the various species is present in adjacent counties (e.g., Sierra Nevada foothill woodland, forest, and riparian habitats to the north, east, and south), and species' movement patterns do not coincide with jurisdictional boundaries such as county lines.

For purposes of the cumulative impact analysis, projects with the potential to cause related effects on wildlife species are growth and development under the Butte County General Plan, trapping by licensed trappers, hunting that requires a permit or license from CDFW, take requiring a depredation permit, other APHIS-WS activities in the County that are not funded under the CSA, and APHIS-WS services 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.

Activities such as poaching or killing wildlife without required permits or licenses from CDFW are assumed to contribute to cumulative effects but do not require species-specific, project-level analysis in an EIR because they are illegal and, as such, are not required under CEQA to be evaluated. However, to account for unknown activities, 33 percent is added to account for take by private parties and all other known sources of mortality, consistent with the factor applied by APHIS-WS in assessing impacts (USDA 2005, 2015a) as well as CDFW in its review of hunting and trapping (CDFG 2004).

CUMULATIVE IMPACTS

Impact 4.1.7 Implementation of the IWDN program under the CSA between Butte County and APHIS-WS, 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 species take or effects on habitat that may support species. The following describes the types of projects that could contribute to these impacts.

Butte County General Plan

The Conservation and Open Space Element of the 2030 General Plan contains 19 policies addressing protection of wildlife and habitat. The policies identify actions related to development projects in which habitat or species could be disturbed, with references to the BRCP (which has not been adopted). The proposed project is not a development project that would result in ground disturbance that would affect habitat during construction or have operational impacts that would affect species. There are no policies that are pertinent to those activities implemented under the CSA. There would be no impact.

The Butte County General Plan 2030 EIR (State Clearinghouse No. 2008092062) certified by the Butte County Board of Supervisors in 2010, evaluated how buildout under the General Plan could affect biological resources such as habitat, protected species, wetlands, and wildlife corridors.

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The certified EIR stated that the General Plan 2030 contains extensive goals, policies, and actions that mitigate impacts to undeveloped lands that support sensitive biological resources, including special-status species, sensitive natural communities, federally protected wetlands, and wildlife and fish movement corridors, to a less than significant level and that additionally minimize the effects of development on biological resources, in general. However, the certified EIR concluded that cumulative impacts would be significant and unavoidable (Butte County 2010b, page 2-9).

Hunting and Trapping

The common wildlife species addressed in this analysis, with the exception of bobcat and mountain lion, may be hunted or trapped by the public, and some species require a valid license from CDFW. Those activities represent a source of non-APHIS take that is considered in the cumulative analysis of population effects. Sport hunting and/or commercial trapping has historically resulted in take of beaver, bobcat, black bear, coyote, gray fox, muskrat, raccoon, striped skunk, and Virginia opossum in Butte County during the 20-year baseline period. Under cumulative conditions, it is expected that these activities (with the exception of bobcat for which both trapping and hunting are no longer allowed) would continue and would therefore represent a portion of cumulative take of the target common wildlife species managed by APHIS-WS. Table C-16 in Appendix C presents take data for hunting and trapping for each of these species obtained from licensed fur trappers and dealers reports (CDFW 2019a), bobcat harvest assessment reports¹⁸ (CDFW 2019b), bear harvest reports (CDFW 2018), and hunter survey reports (CDFW 2011b; Responsive Management 2015), with summaries presented below. As illustrated by the data, the number of each species removed in the County is low relative to statewide take. It is illegal to hunt or trap mountain lion and bobcat; they may only be taken with a depredation permit issued by CDFW.

American Beaver

American beaver can be legally hunted by the public with a valid CDFW hunting license from November 1 through March 31.¹⁹ There are no daily bag or possession limit or reporting requirements for recreational hunting of beaver by the public. Historically, when commercial trapping was allowed, 1,523 beavers were taken in the County between 1998 and 2019 for a median of 90 and approximately 3,700 statewide, or an average of approximately 166 per year (Table C-16 in Appendix C). There are no sport hunter data.

Black Bear

Black bear can be legally hunted with a valid CDFW hunting license, and CDFW establishes a seasonal limit each year. According to CDFW bear take reports prepared annually, there were 869 black bears taken in the County between 1998 and 2016, for an annual average of 46 per year.²⁰ Statewide, 31,342 black bears were taken for an annual average of 1,650 (Table C-16 in Appendix C). On average, bear take by hunters in the County represents less than 3 percent of annual statewide harvest.

¹⁸ Historical take data provided for informational purposes as a component of baseline cumulative (past) conditions.

¹⁹ As of September 2019, trapping is no longer allowed (14 CCR Section 463, which supersedes FGC Section 4001).

²⁰ The most recent CDFW annual bear take report with data listed by county was published in 2018 and contains data through 2016.

Bobcat

Historically, commercial trapping accounted for most of the bobcats taken in the state until 2015 when the Bobcat Protection Act of 2015 (FGC Section 4155) banned trapping (CDFW 2019b). After 2015, bobcat could be hunted by the public with a valid CDFW hunting license. However, in 2019, bobcat hunting was prohibited in California by AB 1254, and the law became effective January 1, 2020. According to CDFW historical bobcat harvest assessment reports prepared annually, when hunting was legal, there were 63 bobcats taken in the County between 1998 and 2018, or approximately 5 per year. Statewide, 6,355 bobcats were taken for an annual median of 295 (Table C-16 in Appendix C).

Because hunting and trapping are no longer legal, the only future take would be associated with a CDFW depredation permit. When harvest was legal, CDFW (CDFG 2004: p. 59) established a statewide quota of 14,400 bobcats per year. Based on the low number of bobcats removed historically in the County to resolve wildlife damage issues (nine bobcats between 2000 and 2019), depredation take would be well below this quota. Because there would be no future hunting and trapping take, and APHIS-WS cannot remove a bobcat without a depredation permit from CDFW, cumulative future take with the addition of the proposed project would decrease compared to historic conditions.

Coyote

Coyote 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. However, trapping is allowed with a valid trapping license. Based on CDFW data, 10 coyotes were trapped in the County between 1998 and 2019, and approximately 5,900 statewide, for a statewide average of approximately 268 annually. Although a permit and reporting are not required for recreational hunting of coyote, CDFW does have some limited data about coyote take, which it obtained through hunter surveys. According to surveys for the years 1998 through 2008 and in 2010, approximately 7,400 coyotes were taken by sport hunting in the County and approximately 710,800 statewide, for a County annual average of approximately 615 and statewide average of approximately 56,000 (Table C-16 in Appendix C). By comparison, the number of coyotes taken by APHIS-WS in Butte County over the entire 20-year baseline period was 485 (approximately 93 percent less than sport hunter take in the County).

Gray Fox

Gray fox can be legally trapped by the public with a valid CDFW hunting license. There were 21 gray foxes trapped in the County between 1998 and 2019. Approximately 10,400 were taken statewide, for an average of approximately 470 per year. According to CDFW game take surveys, 140 were taken by sport hunting in the County, and approximately 17,200 statewide (Table C-16 in Appendix C). With trapping and hunting combined, the County annual average is approximately 19 per year compared to the statewide annual average of approximately 2,400.

Mountain Lion

Mountain lion is a specially protected mammal in California (California FGC Section 4800). Hunting and trapping are not allowed. It is unlawful to possess, transport, import, or sell any mountain lion or part or product thereof (including taxidermy mounts). Hunting and trapping, by any individual or entity, is illegal.

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Muskrat

Common muskrat can be legally trapped by the public with a valid CDFW trapping license. There is no bag and possession limit. Between 1998 and 2019, 12,002 muskrats were trapped in the County, for an average of 546. Over 99,000 were trapped statewide, for an average of approximately 4,600 annually (Table C-16 in Appendix C).

Raccoon

Raccoon can be legally trapped by the public with a valid CDFW trapping license. There is no bag and possession limit. There were 297 raccoons trapped in the County between 1998 and 2019, for an average of approximately 14 per year. Approximately 11,800 were taken statewide. According to CDFW game take surveys, approximately 2,600 were taken by sport hunting in the County and approximately 39,400 statewide, for a County annual average of 369 per year and a statewide average of approximately 5,600 per year (Table C-16 in Appendix C). With trapping and hunting combined, the County annual average is approximately 380 per year, compared to the statewide annual average of approximately 6,200.

Striped Skunk

Striped skunk can be legally trapped by the public with a valid CDFW trapping license. They may be taken at any time of year and in any number. Between 1998 and 2019, 24 striped skunks were trapped in the County, or approximately 1 per year, and approximately 11,000 were trapped statewide, for a statewide average of approximately 500 annually (Table C-16 in Appendix C). 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 of annual mortality (CDFG 2004: p. 68).

Virginia Opossum

Virginia opossum, a non-native species, can be legally trapped by the public with a valid CDFW trapping license. They may be taken at any time of year and in any number. Between 1998 and 2019, seven opossums were trapped in the County, less than one per year, and approximately 6,000 were trapped statewide, for a statewide average of approximately 280 annually (Table C-16 in Appendix C).

Statewide Cumulative

As noted in the Environmental Setting, CDFW has completed environmental documents in accordance with CEQA for evaluating its hunting and trapping regulations. 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,²¹ cumulative impacts of hunting and trapping would not be significant (CDFG 2004: pp. 32–35, 47, 95–111).

²¹ 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.

Take by Private Parties Other Than Hunting and Trapping

The number of hunting and trapping licenses issued by CDFW for species requiring such permits and reporting provides some indication of the number of individual animals taken. However, there are no bag and possession limits or reporting for some of the species, as noted above. The other mammal species taken by private parties for damage control is unknown because there is no requirement for reporting. For example, CDFW does not have records for the numbers of coyotes that are killed by private landowners and hunters because permits are not required to recreationally hunt or take coyotes that cause damage, nor is any reporting to CDFW or the County required in those cases. 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: p. A-4). CDFW commissioned an independent survey completed in 2015, which reported on statewide and regional hunter take for select species for 2014-15. There are no data specific to Butte County or the region due to low sample sizes and uncertainty regarding the breakdown between killing for property protection and killing while hunting. However, statewide survey results indicated that 65 percent were killed for property protection, with the remaining 35 percent for sport hunting (Responsive Management 2015: pp. 14, 15, 24). 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: p. 61).

Similar to coyotes, 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 beaver, bobcat, gray fox, muskrat, raccoon, striped skunk, or Virginia opossum populations (CDFG 2004: pp. 55–72).

Take Requiring CDFW Depredation Permits

CDFW data for the period 2001 to 2018 show that approximately 1,700 mountain lions were depredated statewide (an average of approximately 97 per year) (CDFW 2019d). In Butte County, reported take with a depredation permit for the same time period was eight mountain lions, or less than one per year. Butte County accounted for approximately less than 1 percent of the statewide take. It is reasonable to assume there would be future depredation 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 as a trustee agency to ensure species conservation, future cumulative take without the project would be within limits established by CDFW.

CDFW data for the period 2006 to 2018 show that 1,008 black bears were depredated statewide (an average of approximately 77 per year) (CDFW 2019e). In Butte County, 17 black bears were taken with depredation permits. Butte County accounted for approximately less than 2 percent of the statewide take. It is reasonable to assume there would be future depredation take in the County and statewide.

Bobcat now may be taken only with a depredation permit from CDFW, as explained above, and would be expected to occur in the County. There are no depredation permit data for 2020.

4.1 BIOLOGICAL RESOURCES

APHIS-WS Activities in Butte County Not Funded by County

Some mammals in the County have been removed by APHIS-WS and were not funded by the County under a CSA. The removals were associated with some limited work for DWR-managed facilities (see Table B-1 in Appendix B). Between 2007 and 2019, this included 211 beavers, 2 coyotes, 1 muskrat, 11 raccoons, and 6 striped skunks (USDA 2020a). It is reasonable to assume there would be a similar level of take, and this has been accounted for in the cumulative impact analysis.

APHIS-WS is authorized to remove targeted wildlife species to protect threatened and endangered species; however, these services have not been provided in Butte County, nor does the CSA provide for this activity. Therefore, this would not contribute to cumulative impacts.

APHIS-WS Activities in California

To implement its IWDM services in California, and in Butte County, specifically, APHIS-WS has prepared the following environmental reviews for its activities:

- *Pre-decisional Environmental Assessment, Mammal Damage Management for the Protection of Human Health & Safety, Property, Agricultural Resources and Natural Resources in California* (USDA 2005)
- *Pre-decision Environmental Assessment Mammal Damage Management in California APHIS-WS North District* (USDA 2015a)

APHIS-WS completed an environmental assessment (EA) in 2005 for its statewide activities that provided estimates of species take under its existing programs and in combination with other sources of take. This included hunting and trapping, and an additional 33 percent take (referred to as “inflated” take in the EA) to account for counties in which it did not provide assistance and to account for take by private pest control operators (USDA 2005: p. 27). It also evaluated an expanded program that would include work on public lands (BLM and USFS) 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. The 2005 EA addressed numerous species, including the following target species that are evaluated in this Draft EIR—bobcat, coyote, gray fox, muskrat, raccoon, striped skunk, and Virginia opossum—as well as nontarget species, and threatened and endangered species. The EA provided population estimates for the species and take estimates from all sources of take. The EA concluded that APHIS-WS activities would not result in impacts at the project level or cumulatively significant environmental impacts on species populations (USDA 2005: pp. 27-39).

Butte County is in the APHIS-WS North District. APHIS-WS completed an EA in 2015 for the North District that provided estimates of species take using the same methodology as the 2005 statewide EA. The North District EA addressed numerous species, including the following target species that are evaluated in this Draft EIR—bobcat, coyote, gray fox, muskrat, raccoon, striped skunk, and Virginia opossum—as well as nontarget species, and threatened and endangered species. The North District EA provided population estimates for the species and take estimates from all sources of take. The North District EA concluded that APHIS-WS activities in the North District would not result in cumulatively significant environmental impacts (USDA 2015a: pp. 49-65).

To date, no statewide CEQA analysis has been prepared for wildlife damage management carried out by various government partners throughout the state. In 2018, APHIS-WS entered into a Memorandum of Understanding (MOU) with the California Department of Food and Agriculture

(CDFA) to prepare a joint environmental impact report/environmental impact statement (EIR/EIS) pursuant to CEQA and the federal National Environmental Policy Act (NEPA) that will address APHIS-WS, CDFA, and County activities at the statewide level. The CEQA Notice of Preparation (NOP) prepared by CDFA and the NEPA Notice of Intent (NOI) prepared by APHIS-WS were released for public review on September 10, 2020, for a 60-day period ending November 10, 2020 (CDFA 2020a; USDA 2020c). As of April 2021, the EIR/EIS has not been completed. The draft EIR/EIS is expected to be circulated for public and agency review in early 2022 (CDFA 2020b).

Until the statewide document is published, the information in the 2005 and 2015 EAs represents the best available and most current information regarding APHIS-WS's evaluation of cumulative impacts with respect to Butte 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 Butte County.

Although APHIS-WS has prepared cumulative analyses and documented those results in the 2005 and 2015 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 2005 and 2015 EAs with regard to cumulative impacts of implementation of the CSA.

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 Butte County General Plan

The proposed project would not result in a cumulative contribution to the less than significant project or significant and unavoidable cumulative impacts identified in the Butte 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 term of the proposed project is one year, with subsequent renewals, 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 Common Mammal Species

Activities that would contribute to cumulative take impacts on target mammal species include the proposed project, APHIS-WS activities in the County that are not covered by the CSA such as work for the DWR, APHIS-WS activities 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. This approach is consistent with the factor applied by APHIS-WS in assessing impacts (USDA 2005, 2015a) as well as CDFW in its review of hunting and trapping (CDFG 2004). Tables C-3 through C-12 in Appendix C provide a quantified analysis of cumulative impacts for the target mammal species evaluated in this Draft EIR, with results summarized in Table 4.1-4.

Even with additional sources of cumulative take, the effect on species populations relative to harvest thresholds, where applicable, is minimal, and the County's contribution is negligible, as

4.1 BIOLOGICAL RESOURCES

illustrated by the data in Table 4.1-4. For species such as bobcat and mountain lion, future cumulative take would only be allowed with a depredation permit issued by CDFW as a trustee agency. It is reasonably expected that future take of target species under the CSA would be similar to baseline conditions because no changes are proposed to the CSA that would allow for more take than allowed by CDFW and take would only be a function of responding to requests for assistance. For these reasons, the project's contribution would be **less than cumulatively considerable**. The cumulative impact would be less than significant.

Cumulative Impacts on Listed Species

NMFS-Listed Salmonid and Sturgeon

Under the CSA, APHIS-WS would continue to remove American beavers, which had the third-highest number of individual removals in the County relative to other species evaluated. As explained in Impact 4.1-2, APHIS-WS-California staff concluded that managing aquatic mammal damage caused by beaver in accordance with the ESA Section 7(d) Determination would not "make an irreversible or irretrievable commitment of resources that have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures for the protection of listed salmonids, sturgeon, and eulachon, or their critical habitats" (USDA 2019c). The 7(d) Determination applies statewide and therefore assesses cumulative conditions. As shown in Table 4.1-4, cumulative annual take of beaver would be approximately 24 percent of the state low population estimate, and the County's contribution to that would be approximately 14 percent, which would not be cumulatively considerable. Even if take were to approach the highest historical take, the project's contribution would be low, and thus would not be cumulatively considerable. Because the number of beavers taken on a cumulative basis would not be substantial and APHIS-WS activities would limit beaver removals pending completion of the NOAA-NMFS Section 7 consultation, the proposed project would not result in impacts on NMFS-listed fish species that would be cumulatively considerable.

Tricolored Blackbird

APHIS-WS activities in Butte County have not resulted in take of tricolored blackbird. No mixed flocks that have the potential to contain tricolored blackbird have been removed or dispersed statewide since 2015 when tricolored blackbird was first considered for potential listing by the California Fish and Game Commission as a protected species in the state. In the APHIS-WS North District (which includes Butte County) and statewide during the reporting period 2007-2019, tricolored blackbirds were either dispersed or freed (USDA 2020a). Research conducted statewide over the period 2014-2017 breeding season suggest that the number of tricolored blackbirds has remained relatively stable during that time frame and the species may be adaptable to changing colony size and changing nesting habitat types (USFWS 2019). To avoid any take of tricolored blackbirds, APHIS-WS does not use any potentially lethal actions in mixed flocks. It is reasonable to assume tricolored blackbird would not be removed with continued implementation of the CSA. For these reasons, implementation of the CSA in the County would not result in impacts on tricolored blackbird that would be cumulatively considerable.

Mitigation Measures

None required.

TABLE 4.1-4
TARGET MAMMAL SPECIES TAKE CUMULATIVE IMPACT SUMMARY

Species	County APHIS-WS Annual Take (20-Year Historic) ^a	County Cumulative Annual Take (Estimated) ^b	Statewide APHIS-WS Annual Take (20-Year Historic) ^a	Statewide Cumulative Annual Take (Estimated) ^b	Cumulative Take Compared to State Low Population (Percent)	County Contribution to Cumulative Impact (Percent)	CDFW Sustainable Harvest Threshold (if established)	Threshold Exceeded?
American beaver	58	197	959	1,449	24.0%	13.7%	30%	No
Black bear	4	55	106	1,963	9.2%	2.8%	3,875 ^c	No
Bobcat	1	2	55	376 ^d	0.5%	2.7%	—	—
Coyote	24	648	5,904	64,809	28.0%	1.0%	60%	No
Gray fox	2	22	141	2,595	1.7%	0.8%	25%	No
Mountain lion	3	6	103	233	16.0% ^f	3.0%	—	—
Muskrat	1	548	486	6,066	8.0%	9.0%	60%	No
Raccoon	74	482	2,194	7,910	21.4%	6.0%	49%	No
Striped skunk	202	271	3,877	5,674	4.0%	4.8%	—	—
Virginia opossum	20	28	1,180	1,858	4.6%	1.5%	—	—

Source: compiled from Tables C-3 through C-12 in Appendix C.

Notes:

a) Higher value of average or median (individuals)

b) Species take (individuals)

c) Number of individuals

d) As of January 2020, may only be taken with depredation permit. Cumulative take based on historic trapping and hunting.

e) May only be taken with depredation permit

f) Species is managed by CDFW (trustee agency). Cumulative take % conservatively based on low end of state population range (Dellinger and Torres 2020).

— CDFW has not established a harvest threshold, or historic threshold (e.g., bobcat) no longer applicable

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5.0 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 state 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.

It is important to note that it is not the purpose of the Draft EIR to promote or advocate a particular alternative 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, which in this case are impacts on wildlife species.

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, provide substantial evidence that implementation of IWDM program activities under the County's cooperative service agreement (CSA) 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, in addition to a No Project alternative, this Draft EIR does present four alternatives to the proposed project that evaluate whether the proposed project's less than significant biological resources impacts could be further reduced.

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 in Butte 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.

The County has identified the following objectives of the proposed project:

- 1) Provide an administrative mechanism for private citizens and property owners in Butte County 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 Butte County.
- 3) Implement an integrated approach 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 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 Butte County.
- 7) Provide wildlife damage management at similar funding levels and ensure that Butte 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 proponent 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 CSA, feasibility is considered in the context of Butte County's authority and discretion to decide whether the County should have a CSA with APHIS-WS for IWDM services and how County funds should be used within the context of regulatory, environmental, and economic considerations, along with practicality and ease of implementation.

Public Safety Considerations in the Alternatives Analysis

The IWDM program services provided by APHIS-WS in Butte County are primarily for the protection of property (particularly infrastructure) and agricultural resources, as summarized in Table 2.0-1 (Resources Protected in Butte County) and Table 2.0-3 (Butte County Confirmed Wildlife Damages Summary) in Section 2.0, Project Background. 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).

An existing process is in place to protect public safety if a mountain lion or coyote attacks a human. This process would be in place regardless of whether there is a CSA with APHIS-WS or the County were to implement a wildlife damage management program on its own. As with the current CSA, CDFW (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 there were no CSA and 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 a response to the incident could potentially be delayed because APHIS-WS field staff may not be immediately available. 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 alternative, 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 difference in the availability of wildlife damage management services as related to food safety (e.g., crop or food contamination), which is addressed in the alternatives.

5.2 PROJECT ALTERNATIVES

OVERVIEW

The proposed project is the ongoing implementation of IWDM program activities by APHIS-WS in Butte County through a CSA. The services provided under the CSA, which may include direct controls involving lethal or nonlethal methods for wildlife damage management, are described in Section 3.0, Project Description.

APPROACH TO IDENTIFYING ALTERNATIVES

The decision to be made by the County is whether to provide for ongoing implementation of wildlife damage management services by APHIS-WS, which would be accomplished through a CSA and annual work and financial plans. Approval of a CSA and annual work plans is an administrative action and is the proposed project. Therefore, if the County does not approve a CSA with APHIS-WS, this would be the no project alternative. This approach is consistent with CEQA Guidelines Section 15126.6(e).

There are four possible no project scenarios: (1) the County does not enter into a CSA with APHIS-WS and takes no further action to provide wildlife damage management services in the County (Alternative 1, No Project/No CSA); (2) the County does not enter into a CSA with APHIS-WS but provides the entire range of services itself (including lethal methods) (Alternative 2); (3) the County does not enter into a CSA with APHIS-WS and provides the services itself, but would not use lethal methods (Alternative 3); and (4) the County does not enter into a CSA with APHIS-WS, but other options would be available to resource owners to reduce losses and which would not involve lethal methods (Alternative 5). For ease of reference, the names of Alternatives 2, 3, and 5 reflect the scenario type, without reference to "No Project." Alternative 4 is also considered in which the County would enter a CSA with APHIS-WS, but the agreement would stipulate no lethal methods may be used.

Thus, for each no project alternative, 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 have a CSA with APHIS-WS or if the CSA limits APHIS-WS services. 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 the CSA with APHIS-WS for integrated wildlife damage management services. Recognizing public concern about wildlife damage management practices that involve killing common wildlife species, the analysis also considers three alternatives that would not involve lethal methods to remove target wildlife species.

- **Alternative 1 – No Project/No CSA with APHIS-WS**

Under the No Project/No CSA alternative, Butte County would not continue the CSA 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. The County would not provide any wildlife damage management services.

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

In Alternative 2, Butte County would not continue the CSA with APHIS-WS. Instead, the County would provide wildlife damage management services that would have otherwise been provided by APHIS-WS. As with the existing CSA, 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). 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 wildlife specialists.

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

In Alternative 3, the County would not continue the CSA 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. No lethal control methods would be used for wildlife damage management. 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.

- **Alternative 4 – Butte County CSA with APHIS-WS but No Lethal Control Methods Used**

In Alternative 4, the County could stipulate in the CSA that APHIS-WS would be prohibited from removing by lethal means any animal the wildlife specialist 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.

- **Alternative 5 – Loss Indemnity and/or Cost-Share Reimbursement Program**

In Alternative 5, the County would not continue the CSA with APHIS-WS. This alternative would reimburse resource owners/managers for agricultural or property losses instead of funding services by APHIS-WS or the County for technical assistance. 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.

5.3 ALTERNATIVES REJECTED FROM ANALYSIS OF COMPARATIVE BIOLOGICAL RESOURCES IMPACTS

The County considered an additional alternative, which was dismissed from detailed evaluation in the Draft EIR for the individual reasons stated below, as allowed under CEQA Guidelines Section 15126.6(f) (Rule of Reason) and specifically Section 15126.6(f)(1) and Section 15126.6(f)(3), which address feasibility and speculation, respectively.

WILDLIFE DAMAGE MANAGEMENT PERFORMED BY BUTTE COUNTY ANIMAL CONTROL

Butte County Animal Control receives call for service involving sick, injured, dead, rabies-suspected, trapped, or threatening wildlife. While staff handles many of the calls, callers are typically referred to CDFW (e.g., for mountain lions) or the County's APHIS-WS trapper.

For Animal Control 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 and there is no substantial evidence that it would avoid or substantially reduce the project's biological resources impacts because removals of common wildlife target species would still occur to address wildlife damage management issues.

5.0 ALTERNATIVES

5.4 COMPARATIVE ANALYSES OF ALTERNATIVES EVALUATED IN THE EIR

INTRODUCTION

As described in the Environmental Setting in Section 4.1, Biological Resources, APHIS-WS activities in Butte County have resulted in the removal of several common wildlife species by lethal methods, which are listed in Table 4.1-2 and Table 4.1-3. These species were removed because APHIS-WS wildlife specialists determined they were responsible for verified crop damage or were a public health and safety concern. Table 2.0-3 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 Butte 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 and/or resulted in the most requests for assistance (e.g., raccoon, skunk, opossum, coyote, beaver, bear) in the County will continue to occur beyond what would be expected due to natural mortality. For mountain lion, legal take would be limited to depredation permits where damage has occurred.

ALTERNATIVE 1: NO PROJECT/NO CSA WITH APHIS-WS

Overview

Under this alternative, there would not be a CSA with APHIS-WS, nor would the County provide wildlife damage management assistance.

Comparative Analysis of Biological Resources Impacts

In Butte County, beaver is a species removed in third-highest number relative to other species evaluated in this Draft EIR, and the removals are associated with damage to flood protection facilities and irrigation systems. As noted in Section 4.1, Biological Resources, relocation of beavers is not allowed by CDFW. If efforts are undertaken independently by operators of infrastructure systems to remove beavers, it is unknown what the effect would be on the species because there would be no reporting mechanism for how many beavers were removed.

For other species such as coyote, under the No Project/No CSA 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, 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 by other individuals or other entities; 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 substantial evidence that this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

For species such as mountain lion, 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. Historically, under the APHIS-WS program, fewer than two per year were taken over the 20-year baseline period.

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 Butte County—might have on species populations. Such activities could also include illegal take of listed species.

Ability to Achieve Project Objectives

The No Project/No CSA 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 CSA alternative would only partially meet objective 8.

Feasibility

The No Project/No CSA alternative is feasible because the decision whether to have a CSA with APHIS-WS for IWDM services is at the discretion of the County. However, as noted above, it would not achieve any of the project objectives.

One additional consideration for this alternative is that it is reasonable to assume that absent beaver control by lethal methods, damage to flood protection and/or irrigation systems would continue and could increase. This could lead to increased flood risk, which could result in public safety impacts that would not occur with the proposed project.

ALTERNATIVE 2: BUTTE COUNTY PROVIDES WILDLIFE DAMAGE MANAGEMENT SERVICES

Overview

Under this alternative, Butte County would not have a CSA 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, and such activities could result in the removal of target wildlife species by lethal methods.

Comparative Analysis of Biological Resources Impacts

This alternative would result in the removal of target species. Therefore, the less than significant biological resources impacts would generally be the same as those identified in Impacts 4.1.1, 4.1.2, 4.1.4, and 4.1.7, and this alternative would not avoid or substantially reduce any of the proposed project's less than significant impacts.

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

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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 wildlife specialists whose services are guided by the WS Policy Manual and Directives. The Board of Supervisors historically approved a certain level of funding for the cost-share program. The County does not have staff with similar qualifications as APHIS-WS wildlife specialists and their supervisors. 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 its own. This administrative-type function along with others would require staff in addition to wildlife specialists and technical supervisors. While the Department of Agriculture/Weights & Measures collaborates closely with the UC Cooperative Extension to provide general information and resources about integrated pest management, neither has 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 training and supervision. 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 year 2020-21, the County's cost-share portion for APHIS-WS services was \$77,808 (Butte County Department of Development Services 2020). By comparison, the approved 2019-20 budget for a Placer County-operated integrated wildlife damage program that provides technical assistance and direct controls similar to APHIS-WS is \$543,393 (Placer County 2019: 137).¹

¹ 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. The job description for

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: BUTTE COUNTY PROVIDES TECHNICAL ASSISTANCE BUT NO LETHAL CONTROL METHODS USED

Overview

In Alternative 3, there would not be a CSA with APHIS-WS, 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 the 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 "Integrated Wildlife Damage Management Methods" in Appendix B, 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 specific nonlethal method to use (or whether to use a nonlethal method) would be at the discretion of the resource owner.

Comparative Analysis of Biological Resources Impacts

If no lethal methods are used by the County in its own program, then there would be no target wildlife species removed by lethal methods compared to those removed by APHIS-WS under the proposed project. However, agricultural resource and property damage would still occur. Therefore, it is reasonable to assume resource owners would likely seek assistance elsewhere or implement direct controls themselves. This could include lethal removals, potentially without regard to humaneness or potential effects on species other than target species, and it would not require reporting (other than for species requiring depredation permits). 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. 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. Therefore, there is no substantial evidence that this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

wildlife specialist indicates supervision is provided by the Placer County Agricultural Commissioner's Office and functional supervision from the APHIS-WS district supervisor. (Placer County 2017).

Ability to Achieve Project Objectives

IWDM encompasses three basic strategies: manage the resource, manage the wildlife species, or physically separate the two so that the damage is minimized. 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 APHIS-WS. 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, an existing process is 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. 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 CDFW for beaver, bobcat, and mountain lion, but it is unknown what other species, and in what numbers, 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 used by individuals not familiar with or having no expertise in lethal methods. This would not achieve the intent of objective 5.

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 IWDM. 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 be no CSA 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.

Other Considerations

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.

Efficacy of Nonlethal Methods for Wildlife Damage Management of Predators

The removal of skunks, raccoons, opossums, feral swine, and beavers in the County, which has resulted in the largest numbers of take and/or requests for technical assistance, is for public safety and not associated with predation. However, some predator species such as coyote, mountain lion, and bear have been identified as causing livestock loss, as illustrated in Table 2.0-3 (Butte County Confirmed Wildlife Damage Summary), and are removed by lethal methods. In Butte County, the number of coyotes, mountain lions, and bears removed is small relative to the aforementioned species managed for public safety (see Table 4.1-2, Butte County APHIS-WS Target Mammal Species Intentional Take).

An ongoing topic in the scientific community and debated by decision makers and the public is whether lethal methods for predator control should be used at all due to the availability of effective nonlethal techniques. APHIS-WS has prepared cost-benefit studies for its services in California (Shwiff et al. 2006) and for Butte County specifically (Shwiff n.d.). These studies, which focused on livestock damage due to predation in agricultural areas, concluded that county investment in the cost-share program does provide a financial benefit by helping to reduce livestock losses. The County is also aware of many other studies evaluating the usefulness and potential benefits and/or efficacy of nonlethal methods to 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); Eklund et al. (2017); Knowlton, Gese, and Jaeger (1999); Lance et al. (2010); Lennox et al. (2018); Miller et al. (2016); Moreira et al. (2018); Musiani et al. (2003); NRDC (2012); Project Coyote (n.d.); Rashford, Grant, and Strauch (2008); Shivik, Treves, and Callahan (2003); Shwiff et al. (2006); Stone et al. (2017); Treves and Karanth (2003); Wallach, Ramp, and O'Neill (2017); and Warnert (2015).² Methods and results have 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. Studies in support of that opinion include but are not limited to Dranheim (2017); Harper et al. (2008); Moreira et al. (2018); Musiani et al. (2003); Treves, Krofel, and McManus (2016); van Eeden et al. (2018); and Wielgus and Peebles (2014). There is general agreement that additional research is needed on this topic.

Successful use of nonlethal methods in minimizing or reducing livestock 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 County is not aware of any published, peer-reviewed scientific studies specific to Butte 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.

² In its review of these studies, the County noted that these were controlled studies and/or studies that addressed hunting (e.g., Cooley et al. [2009a, 2009b]; Peebles et al. [2013]), which are not germane to the analysis in this Draft EIR. However, the concepts of nonlethal controls are relevant to the analysis and are therefore acknowledged.

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ALTERNATIVE 4: BUTTE COUNTY CSA WITH APHIS-WS BUT NO LETHAL CONTROL METHODS USED

Overview

In Alternative 4, the County could stipulate in the CSA that APHIS-WS would be prohibited from removing by lethal means any animal the wildlife specialist 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.

Comparative Analysis of Biological Resources Impacts

If no lethal methods are used by APHIS-WS, then there would be no target wildlife species removed by lethal methods. However, agricultural resource and property damage would still occur. Therefore, as with Alternative 3, it is reasonable to assume resource owners would likely seek assistance elsewhere or implement direct controls themselves. 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. 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. Therefore, there is no substantial evidence that this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

Ability to Achieve Project Objectives

As explained in Alternative 3, IWDM encompasses three basic strategies: manage the resource, manage the wildlife species, or physically separate the two so that the damage is minimized. This alternative 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 APHIS-WS. Objective 7 could be met because it would involve fewer personnel hours than the proposed project, and minimal equipment, so it would be expected that costs would be less. As described above, an existing process is 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 APHIS-WS wildlife specialist. However, resource owners would not be required to report on the types or effectiveness of nonlethal controls, unless the County establishes a process through the CSA for them to do so. Absent such information, it is unknown what nonlethal measures resource owners might use. 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 CDFW for beaver, bobcat, and mountain lion, but it is unknown what other species, and in what numbers, 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 used by individuals not familiar with or having no expertise in lethal methods. This would not achieve the intent of objective 5.

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 IWDM. As such, objective 3 would only partially be met.

Feasibility

As explained in Section 2.0, Project Background, APHIS-WS is authorized by the federal government to perform wildlife damage management services under CSAs. APHIS-WS activities are a combination of technical assistance and direct controls that are determined on a case-by-case basis by the wildlife specialist(s) using the APHIS-WS decision model. While wildlife specialists may recommend nonlethal controls to resource owners, the current federal program does not allow 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.

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 of 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 would be infeasible. First, as described above, APHIS-WS would not be able to fully perform wildlife damage management in accordance with existing laws and regulations. Second, the current federal program does not allow federal funds to be used to provide materials for nonlethal controls directly to private resource owners. Third, 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 and monitor the effectiveness of nonlethal methods used. Fourth, 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 to humaneness or potential effects on species other than the target species. There would be no reporting mechanism for lethal removals, so the type and number of species removed would be unknown.

ALTERNATIVE 5: LOSS INDEMNITY AND/OR COST-REIMBURSEMENT PROGRAM

Overview

This alternative would reimburse resource owners/managers for agricultural or property losses instead of funding services by APHIS-WS or the County for technical assistance. 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 to remove common wildlife species. The focus of this approach is generally limited to agricultural losses such as livestock.

An example of a loss indemnity 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 Farm Service Agency determines the loss is eligible

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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 (USDA 2019d). Livestock Indemnity Program payments in California for the period 1995-2019 totaled nearly \$35.4 million, with nearly \$26 million of that in one year (2007). Just under \$14,000 in payments under this program were made to producers in Butte County during that period (EWG 2020).

Only one county in California (Marin County) has attempted an indemnity program unrelated to the federal program, and it was used in conjunction with a cost-share program until there was decline in interest in the program and funding was reduced (Larson, McGranahan, and Timm 2019).³ In Marin County, the County determined which producers would be eligible for the program and entered into a cost-share agreement with them. County staff was responsible for assessing the need through field visits; periodic inspections to verify that only methods approved by the County were being used; ensuring that producers were correctly monitoring and reporting the effectiveness of the controls; and enforcement in the event that cost-share terms were not being followed. 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 Butte 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.

There is no similar indemnity program administered by Butte 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.

Comparative Analysis of Biological Resources Impacts

If no lethal methods are used, then there would be no target wildlife species removed by lethal methods compared to those removed by APHIS-WS under the proposed project. 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.

However, agricultural resource and property damage would still occur. Therefore, it is reasonable to assume resource owners would likely seek assistance elsewhere or implement direct controls themselves. This could include lethal removals, potentially without regard to humaneness or potential effects on species other than target species, and it would not require reporting (other than for species requiring depredation permits). 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. The potential effect on species populations absent a process for reporting damage and resultant removals cannot be

³ The program in Marin County was limited to livestock losses due to sheep predation. It did not address crop damage or property loss.

ascertained based on available information and would be speculative at best. Therefore, there is no substantial evidence that this alternative would avoid or substantially reduce the less than significant biological resources impacts of the proposed project.

Ability to Achieve Project Objectives

As explained in Alternative 3, IWDM encompasses three basic strategies: manage the resource, manage the wildlife species, or physically separate the two so that the damage is minimized. Although this alternative would provide a mechanism for reimbursement of losses, this alternative would not achieve objectives 1 through 7 because it would not implement any IWDM strategies. As described above, an existing process is 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 (e.g., crop contamination by birds).

Feasibility

Similar to Alternative 3, the County would likely have to train or hire additional staff to assess wildlife damage situations beyond those typically encountered in integrated pest management. However, there are also several constraints. For this type of program to be developed, it would 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. Reimbursement funding levels would have to 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.

Other Considerations

An indemnification program with or without a cost-share element focuses on livestock losses. It would not address damage by beavers to infrastructure such as levees and irrigation systems operated by government entities, which is the primary issue of concern in the County. It would likely be cost-prohibitive for the County to compensate flood protection and irrigation district operators for damage (and ongoing repair) to flood protection and irrigation systems damaged by beavers.

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 CSA with APHIS-WS alternative would not be environmentally superior because there is no substantial evidence it would avoid or substantially reduce impacts on common wildlife species populations, and it would not achieve any of the project objectives. Because the No Project/No CSA with APHIS-WS is not the environmentally superior alternative, identification of an alternate environmentally superior alternative as directed under CEQA Guidelines Section 15126.6(e)(2) is not required.

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**TABLE 5.0-1
COMPARISON OF ENVIRONMENTAL IMPACTS OF ALTERNATIVES**

Impacts	Comparison					
	Proposed Project (CSA with APHIS-WS)	Alternative 1 (No Project/No CSA)	Alternative 2 (County IWDM Program)	Alternative 3 (County Nonlethal Only)	Alternative 4 (CSA with APHIS-WS Nonlethal Only)	Alternative 5 (Loss Indemnity and/or Cost Reimbursement)
4.1.1 Wildlife Populations	Less than significant	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
4.1.2 Special-Status and Protected Species and Sensitive Habitat	Less than significant	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
4.1.3 Wetlands	No impact	No impact	No impact	No impact	No impact	No impact
4.1.4 Wildlife Corridors	Less than significant	<i>Reduced impact*</i>	Same impact	<i>Reduced impact*</i>	<i>Reduced impact*</i>	<i>Reduced impact*</i>
4.1.5 Policies	No impact	No impact	No impact	No impact	No impact	No impact
4.1.6 Conservation Plans	No impact	No impact	No impact	No impact	No impact	No impact
4.1.7 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	Yes, partially	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 reporting program and/or if only nonlethal controls are used.*

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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).

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 proposed project is limited to wildlife damage management activities. This would not induce population growth in the County or in surrounding areas, because it would not include the construction of new residential or nonresidential development. The project does not include development activities that would 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. Further, a substantial number of new jobs is not anticipated because the number of APHIS-WS personnel would not increase compared to historical staffing levels provided by the annual work plans. Therefore, the project would not induce substantial growth in the County.

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These reference materials are available for review upon request. To request or to review these items during normal business hours, please contact Louie B. Mendoza, Agricultural Commissioner, Butte County Department of Agriculture/Weights & Measures, 316 Nelson Avenue, Oroville, CA 95965. Phone: (530) 552-4100. Email: butteag@buttecounty.net.

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