

**United States Department of Agriculture
Farm Service Agency**

FINDING OF NO SIGNIFICANT IMPACT

**Voluntary Public Access and Habitat Incentive Program
State of Hawai'i**

Introduction

The United States Department of Agriculture Farm Service Agency (FSA) proposes to implement a program authorized by the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill) in the State of Hawai'i. The Voluntary Public Access and Habitat Incentive Program (VPA-HIP) provides grants to State and tribal governments to encourage owners and operators of privately-held farm, ranch, and forest land to voluntarily make that land available for access by the public for wildlife-dependent recreation, including hunting, fishing, and other compatible recreation and to improve fish and wildlife habitat on their land. The VPA-HIP is administered by the State or tribal government that receives the grant funds.

The State of Hawai'i, through the Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife (HDOFAW), proposes to use initial VPA-HIP grant funds "HI Access" program to expand its existing public access programs to provide the public with more opportunities to hunt, fish, watch wildlife and gather traditional cultural plant materials, enjoy other recreation, and to improve wildlife habitat on private lands by addressing and incorporating private landowner needs. The HDOFAW works closely with landowners who voluntarily participate in existing private-land access and wildlife habitat improvement programs, including Cooperative Game Management Areas (GMAs), Hawai'i Conservation Reserve Enhancement Program (CREP), Forest Stewardship Program, the Forest Legacy Program, and the Na Ala Hele Program, among others. These programs provide financial incentives and the opportunity to work with state employed biologists for private landowners to improve forest habitat, and, where applicable, allow public access to their lands. These programs have opened up hundreds of thousands of acres of private land to the public in Hawai'i. Public access can vary depending on the specific program. These successful programs increase public awareness about the importance of private lands to individuals who hunt, fish, gather traditional cultural plant materials and enjoy wildlife-related recreation and motivate landowners to conserve native wildlife species.

Preferred Alternative

The Preferred Alternative is the Proposed Action, which consists of three main components: (1) enter into formal agreements with private landowners to create access corridors across and onto private parcels; (2) provide landowners with incentives, including road improvements and maintenance, construction of fences and gates to protect agricultural and other operations, indemnification from liability and invasive weed control, for their participation in the program; and (3) increase outreach and education to landowners, hunters and other stakeholders on the importance of increasing, maintaining and respecting access.

Reasons for Finding of No Significant Impact

In consideration of the analysis documented in the Programmatic Environmental Assessment (EA) and in accordance with Council on Environmental Quality regulations 1508.27, the preferred alternative would not constitute a major state or Federal action affecting the human and natural environment. Therefore, this Finding of No Significant Impact (FONSI) has been prepared and an Environmental Impact Statement will not be prepared. This determination is based on the following:

1. Long-term beneficial impacts and short-term localized impacts would occur with the preferred alternative. Neither of these impacts would be considered significant.
2. The preferred alternative would not affect public health or safety.
3. Unique characteristics of the geographic area (cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, and ecologically critical areas) would be preserved with implementation of the preferred alternative.
4. The potential impacts on the quality of the human environment are not considered highly controversial.
5. The potential impacts on the human environment as described in the Programmatic EA are not uncertain nor do they involve unique or unknown risks.
6. The preferred alternative would not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration.
7. Cumulative impacts of the preferred alternative in combination with other recent, ongoing, or foreseeable future actions are not expected to be significant.
8. The preferred alternative would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places.
9. The preferred alternative would have long-term beneficial impacts to wildlife and their habitats, including endangered and threatened species under the Endangered Species Act of 1973.
10. The preferred alternative does not threaten a violation of Federal, state, or local law imposed for the protection of the environment.

Determination

On the basis of the analysis and information contained in the Programmatic EA and FONSI, it is my determination that adoption of the preferred alternative does not constitute a major Federal action affecting the quality of the human and natural environment. Barring any new data identified during the public and agency review of the Final Programmatic EA that would dramatically change the analysis presented in the EA or identification of a significant controversial issue, the Programmatic EA and this FONSI are considered Final 30 days after date of approval signature.



August 6, 2012

Signature

Date

**FINAL PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR
VOLUNTARY PUBLIC ACCESS HABITAT INCENTIVE PROGRAM
STATE OF HAWAII**



**United States Department of Agriculture
Farm Service Agency**

August 2012

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Cover Sheet

Proposed Action: The United States Department of Agriculture (USDA) Farm Service Agency (FSA) and the State of Hawai'i have agreed to implement a new Voluntary Public Access – Habitat Incentive Program (VPA-HIP). USDA is provided the statutory authority by the provisions of the Food Security Act of 2008, and the Regulations at 7 Code of Federal Regulations (CFR) 1410. VPA-HIP provides grants to state and tribal governments to encourage owners and operators of privately-held farm, ranch, and forest land to voluntarily make that land available for access by the public for wildlife-dependent recreation, including hunting, fishing, and other compatible recreation and to improve fish and wildlife habitat on their land. The VPA-HIP is administered by the state or tribal government that receives the grant funds.

Type of Document: Programmatic Environmental Assessment

Lead Agency: USDA, FSA

Sponsoring Agency: Hawai'i Department of Land and Natural Resources

Cooperating Agency: None

Comments: This Programmatic Environmental Assessment was prepared in accordance with USDA FSA National Environmental Policy Act (NEPA) implementation procedures found in 7 CFR 799, as well as the NEPA of 1969, Public Law 91-190, 42 United States Code 4321-4347, 1 January 1970, as amended.

A Notice of Availability was released on August 8, 2012 announcing a 30-day comment period. A copy of the document can be found on the USDA FSA website: www.fsa.usda.gov. Comments will be accepted until September 7, 2012. Comments may be submitted via e-mail to: rterry@hawaii.rn.com, Comments may also be sent via mail to the following address: Geometrician Associates, PO Box 396, Hilo Hawai'i 96721.

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EXECUTIVE SUMMARY

The United States Department of Agriculture (USDA), Farm Service Agency (FSA) proposes to implement a program authorized by the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill) in the State of Hawai‘i. The Voluntary Public Access and Habitat Incentive Program (VPA-HIP) provides grants to state and tribal governments to encourage owners and operators of privately-held farm, ranch, and forest land to voluntarily make that land available for access by the public for wildlife-dependent recreation, including hunting, fishing, and other compatible recreation and to improve fish and wildlife habitat on their land. The VPA-HIP is administered by the state or tribal government that receives the grant funds.

The State of Hawai‘i, through the Hawai‘i Department of Land and Natural Resources, Division of Forestry and Wildlife (HDOFAW), proposes to use initial VPA-HIP grant funds through its “HI Access” program to expand its existing public access programs to provide the public with more opportunities to hunt, fish, watch wildlife and gather traditional cultural plant materials, enjoy other recreation, and to improve wildlife habitat on private lands. The HDOFAW works closely with landowners who voluntarily participate in existing private-land access and wildlife habitat improvement programs, including Cooperative Game Management Areas (GMAs), Hawai‘i Conservation Reserve Enhancement Program (CREP), Forest Stewardship Program, the Forest Legacy Program, and the Na Ala Hele Program, among others. These programs provide financial incentives and the opportunity to work with state employed biologists for private landowners to improve forest habitat, and, where applicable, allow public access to their lands. These programs have opened up hundreds of thousands of acres of private land to the public in Hawai‘i. Public access can vary depending on the specific program. These successful programs increase public awareness about the importance of private lands to individuals who hunt, fish, gather traditional cultural plant materials and enjoy wildlife-related recreation and motivate landowners to conserve native wildlife species.

Proposed Action

The Proposed Action consists of three main components: (1) enter into formal agreements with private landowners to create access corridors across and onto private parcels; (2) provide landowners with incentives, including road improvements and maintenance; construction of fences and gates to protect agricultural and other operations, indemnification from liability and invasive weed control, for their participation in the program; and (3) increase outreach and education to landowners, hunters and other stakeholders on the importance of increasing, maintaining and respecting access.

Purpose and Need

The purpose of the Proposed Action is to use VPA-HIP grant funds to increase public access and improve wildlife habitat on private farms, ranches, and forest land in the state of Hawai‘i. Publically accessible land is limited in Hawaii and there is a additional areas for wildlife-dependent recreational opportunities are needed. This action will address this need by securing agreements and/or cooperative use areas for access on and across private lands and to concurrently promote wildlife habitat restoration and improvement.

Environmental Consequences

This Programmatic Environmental Assessment has been prepared to analyze the potential environmental consequences associated with implementing the Proposed Action (Preferred Alternative) or the No Action Alternative. Under the Proposed Action, HDOFAW would utilize VPA-HIP funds to expand the existing public access programs and offer habitat improvement as an incentive for landowners to join these programs. Under the No Action Alternative, the existing public access and habitat improvement programs would continue as they are currently administered.

The potential environmental consequences of implementing the Proposed Action would be beneficial overall to the natural environment and increase wildlife-related recreational opportunities in the state. A summary of environmental consequences is provided in Table ES-1.

Table ES-1 Summary of Environmental Consequences

Resource	Proposed Action (Preferred Alternative)	No Action Alternative
Biological Resources (Vegetation, Terrestrial and Aquatic Wildlife, Protected Species, and Wetlands)	Habitat improvement projects would cause minor short-term impacts to vegetation and nearby wildlife due to direct disturbance of the land (re-seeding, mechanical vegetation removal). Long-term beneficial impacts to biological resources as a result of more stable native vegetation and improved cover and forage habitat for wildlife species. No direct impacts to any protected species or wetlands would occur.	The additional funding for VPA-HIP would not be available for habitat improvement projects. The current public access programs would remain, but the long-term benefits to the environment from increased funding for habitat improvement would not be realized.
Recreation	Some habitat improvement projects may temporarily limit entry until the project is firmly established, although alternate accesses are available. However, long-term beneficial impacts to recreation are expected from improving wildlife habitat and increasing wildlife recreational opportunities.	There would be no use of VPA-HIP funding to expand or improve wildlife-related recreational opportunities in Hawai‘i resulting in negative impacts compared to the Proposed Action. Current public access programs would continue.
Socioeconomics and Environmental Justice	Slight beneficial impacts to the local economy from goods and services purchased for habitat improvement projects and travel by recreationalists. Economic benefits of improved pasture security. No adverse impacts to minority or low income populations and thus no environmental justice concerns. Beneficial impacts for subsistence hunters.	There would be no VPA-HIP grant funding. No direct negative impacts would occur to local economies. Any beneficial impacts from the spending of VPA-HIP funds locally would not be realized. No environmental justice impacts would occur.
Water Resources	Short-term, localized impacts to water quality could occur from habitat improvement projects that disturb soil. However, long-term, beneficial impacts to water quality would be realized from restoring vegetation cover, establishing native riparian vegetation, and stabilizing banks and streambeds.	There would be no increase in funding for habitat improvement projects. No direct impacts to water quality would occur, but increased benefit from VPA-HIP grant funding for improvements to habitats and possible benefits to water quality would not be realized.
Soils	Short-term, localized negative impacts to soils during habitat improvement projects with soil disturbance. Best management practices and adherence to state and Federal regulations would minimize erosion and runoff. Long-term benefits to soils would occur from stabilizing and returning habitats to native vegetative cover.	No direct impacts to soils would occur. However, the increased long term benefits to soils from the utilization of VPA-HIP funding for habitat improvements would not be realized.

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ACRONYMS AND ABBREVIATIONS

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FSA	Farm Service Agency (of USDA)
HAR	Hawai‘i Administrative Rules
HCWCS	Hawai‘i Comprehensive Wildlife Conservation Strategy
HDLNR	Hawai‘i Department of Land and Natural Resources
HDOFAW	Hawai‘i Division of Forestry and Wildlife
HIDOH	Hawai‘i Department of Health
LLCP	Legacy Land Conservation Program
NAAQS	National Ambient Air Quality Standards
NCRS	Natural Resources Conservation Service
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
PEA	Programmatic Environmental Assessment
SSA	Sole Source Aquifers
T&E	Threatened and Endangered [species]
TMA	Three Mountain Alliance
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	Fish and Wildlife Service
VPA-HIP	Voluntary Public Access and Habitat Incentive Program

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CHAPTER 1.0 INTRODUCTION

The United States Department of Agriculture (USDA) Farm Service Agency (FSA) proposes to implement a program authorized by the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill) in the State of Hawai'i. The Voluntary Public Access and Habitat Incentive Program (VPA-HIP) provides grants to state and tribal governments to encourage owners and operators of privately-held farm, ranch, and forest land to voluntarily make that land available for access by the public for wildlife-dependent recreation, including hunting, fishing, and other compatible recreation and to improve fish and wildlife habitat on their land. The VPA-HIP is administered by the state or tribal government that receives the grant funds.

The VPA-HIP is a competitive grants program that is only available for state and tribal governments. The grant funding may be used to expand existing public access programs or create new public access programs, or provide incentives to improve wildlife habitat on enrolled lands. Applicable program objectives in the State of Hawai'i are to:

- Maximize participation by landowners;
- Ensure that land enrolled in the program has appropriate wildlife habitat or provides access to appropriate habitat;
- Supplement funding and services from other Federal, state, or tribal government or private resources; and
- Inform the public about the location of public access land.

The State of Hawai'i, through the Hawai'i Department of Land and Natural Resources, Division of Forestry and Wildlife (HDOFAW), proposes to use VPA-HIP grant funds to expand its existing public access programs to provide the public with more opportunities to hunt, fish, watch wildlife, gather traditional plant materials and enjoy other recreation, and to improve wildlife habitat on private lands.

1.1 BACKGROUND

The HDOFAW works closely with many of landowners who voluntarily participate in various private-land access and habitat improvement programs. These programs provide financial incentives for private landowners and the opportunity to work with state employed biologists and trails specialists as they improve native habitat, soil conditions, develop commercial forests, or engage in other land-related activities, and often involve a public access component. These programs have opened hundreds of thousands of acres of private or State leased land to the public in Hawai'i. Public access can vary depending on the specific program. These successful programs increase public awareness about the importance of private lands to individuals who hunt, fish, gather traditional plant materials and enjoy wildlife-related recreation, as well as motivate landowners to conserve wildlife species. The programs are described in the sections below.

1.1.1 Cooperative Game Management Areas

As stated in Hawai‘i Administrative Rules governing hunting: “‘Cooperative game management area or cooperative hunting area’ means privately-owned or State leased land where the landowner or lessee has entered into an agreement with the State, granting the board authority to engage in activities that are mutually agreed upon for the purposes of game enhancement or public hunting or both, as are stipulated in the agreement” (HAR §13-123-2).

Cooperative Game Management Areas for both bird and mammal hunting are present in various units on the islands of Hawai‘i, Lana‘i and Maui. They form more than 50,000 acres of hunting lands in Hawai‘i. The State of Hawai‘i leases these properties from individual landowners or lessees.

1.1.2 USDA Enhancement Programs

These include Conservation Reserve Enhancement Program (CREP), the Wildlife Habitat Incentives Program (WHIP) and the Environmental Quality Incentive Program (EQIP).

The Conservation Reserve Enhancement Program (CREP) is a federal-state natural resources conservation program that addresses state and nationally significant agricultural related environmental concerns. Through CREP, program participants receive financial incentives from U.S. Department of Agriculture (USDA) and the state to voluntarily enroll in the Conservation Reserve Program in contracts of 15 years. Participants are asked to convert degraded lands to native trees, shrubs, and grasses. The USDA Farm Service Agency (FSA) administers CREP for USDA.

The Hawai‘i CREP is a partnership between USDA and the State of Hawai‘i that was created to address Hawai‘i-specific environmental concerns like water quality and quantity, invasive species, and loss of native habitat for rare species. The program seeks to enroll 15,000 acres of eligible land in 15-year agreements within all counties of the state. The project is restoring riparian forest buffers, wetland buffers, and other reforestation sites by planting native vegetation and controlling invasive species. The primary goals of the project are to enhance wildlife habitat and control invasive species, as well as improve water quality and quantity, increase groundwater recharge, improve near shore coral reef health and diversity by filtering agricultural runoff and increasing water condensation in the uplands.

Interested applicants are asked to voluntary set aside their land from production and dedicate to conservation. Conservation practices available under Hawai‘i CREP are:

- CP3A - Hardwood Tree Planting
- CP22 - Riparian Buffer
- CP23 & 23A - Wetland Restoration
- CP25 - Rare and Declining Habitat, Tropical Dryland Forest
- CP29 - Wildlife Habitat Buffer

- CP30 - Marginal Pastureland Wetland Buffer

Hawai'i CREP participants are eligible for the following types of USDA payments (subject to contract terms and certain limitation):

- Annual per acre Rental Payment: An annual payment according to FSA CRP National Directives and the Hawaii CREP Agreement.
- Cost-Share Payments: A payment to all participants for up to 50 percent of eligible reimbursable costs for establishing conservation practices.
- Signing Incentive Payment (SIP): A one-time payment of \$100 per acre for eligible pastureland practices;
- Practice Incentive Payment (PIP): A one-time additional payment equal to 40 percent of the eligible reimbursable cost for establishing conservation practices.
- Mid-contract Management Payment: A payment is available 3 times during the contract for up to \$450 per acre. Payment includes invasive species control.

The State of Hawai'i provides the following payments to Hawai'i CREP participants:

- An annual Hawai'i CREP Incentive Payment (HCIP) in the amount of \$17 per acre for enrollment into any approved practices.
- Funds may be available for reimbursement of eligible cost-share practice to be determined annually and subject to availability of funding;
- Funds may also be available to landowners in CREP watersheds for the purchase of permanent conservation Easements (CE). The purchase of CE's will be in conjunction with other conservation funding programs or non-profit land trust entities.

The Wildlife Habitat Incentives Program (WHIP) is used to develop or improve fish and wildlife habitat on private land. The Natural Resources Conservation Service administers WHIP to provide both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP cost-share agreements between NRCS and the participant generally last from one year after the last conservation practice is implemented but not more than 10 years from the date the agreement is signed. NRCS has established the following national priorities for WHIP:

- Promote the restoration of declining or important native fish and wildlife habitats.
- Protect, restore, develop or enhance fish and wildlife habitat to benefit at-risk species.
- Reduce the impacts of invasive species on fish and wildlife habitats.
- Protect, restore, develop or enhance declining or important aquatic wildlife species' habitats.
- Protect, restore, develop or enhance important migration and other movement corridors for wildlife.

Environmental Quality Incentive Program (EQIP) is a voluntary conservation program that supports production agriculture and environmental quality as compatible goals. It provides financial and technical assistance to farmers and ranchers who install conservation practices that address natural resource. These contracts provide financial assistance to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plant, animal, air and related resources on

agricultural land and non-industrial private forestland. In addition, a purpose of EQIP is to help producers meet Federal, state, tribal and local environmental regulations. EQIP provides financial assistance payments to eligible producers based on a portion of the average cost associated with practice implementation. Additional payments may be available to help producers develop conservation plans which are required to obtain financial assistance.

NRCS works with the producer to develop an EQIP plan of operations that:

- Identifies the appropriate conservation practice or measures needed to address identified natural resource concerns; and
- Implements conservation practices and activities according to an EQIP plan of operations developed in conjunction with the producer that identifies the appropriate conservation practice or measures needed to address identified natural resource concerns. The practices are subject to NRCS technical standards adapted for local conditions.

1.1.3 Forest Stewardship Program

The HDOFAW-administered Forest Stewardship Program (FSP) provides technical and financial assistance to owners of nonindustrial private forest land that are interested in conservation, restoration, and/or timber production. Since its inception in the 1990s the FLP has funded dozens of projects on the islands of Hawai‘i, Maui, Lana‘i, O‘ahu, Moloka‘i and Kaua‘i involving native species habitat, commercial hardwoods, and agroforestry.

1.1.4 Forest Legacy Program

The Forest Legacy Program (FLP) is a Federal grant program that aids states in identifying important private forest lands that are threatened by development or fragmentation. Through the program, interested landowners are provided with alternatives to selling their land for development in order to cover costs associated with increased taxes, management of the land, among others by selling the land or a conservation easement on the property to a government organization. The Hawai‘i Forest Legacy Program targets forest lands as identified in the Hawai‘i Forest Legacy Program Assessment of Needs (AON) and contribute to overall program goals, including: The HDOFAW-administered Forest Stewardship Program (FSP) provides technical and financial assistance to owners of nonindustrial private forest land that are interested in conservation, restoration, and/or timber production, including.

- Protect Hawai‘i’s unique and fragile environmental resources
- Encourage the protection of rare and/or endangered species
- Promote the preservation of aesthetic beauty in Hawai‘i
- Preserve watershed health and protect the sustainable yield of fresh water
- Protect working forests as economic assets for the state and counties of Hawai‘i
- Protect traditional and cultural forest practices and resources
- Protect recreational forest practices

1.1.5 Legacy Land Conservation Program

The Legacy Land Conservation Program (LLCP) provides funding from the Land Conservation Fund for the acquisition of lands, including easements, for:

- Watershed protection
- Parks
- Coastal areas, beaches, and ocean access
- Natural areas
- Habitat protection
- Agricultural production
- Cultural and historical sites
- Open spaces and scenic resources
- Recreational and public hunting area

Grants from the Land Conservation Fund are available through LLCP to state agencies, counties, and non-profit land conservation organizations seeking funding to acquire property that has value as a resource to Hawai'i. County agency or nonprofit land conservation organization grant recipients must provide matching funds of at least 25% of the total project costs.

An LLCP grant that will increase public access is the pending fee simple purchase of 635 acres in Kalauao Valley on O'ahu to protect a significant Honolulu watershed, a native Hawaiian forest, several endangered species, and public access to a highly used recreational area.

1.1.6 Na Ala Hele Program

Na Ala Hele is the State of Hawai'i Trail and Access Program. Established in 1988 in response to public concern about the loss of public access to certain trails and the threat to historic trails from development pressure. Na Ala Hele has become increasingly engaged in trail management and regulatory issues due to both public and commercial recreational activities and emerging legal issues. Island Trail and Access Advisory Councils, comprised of trail user groups and constituents, provide a venue for public input on implementing the program. Na Ala Hele's administrative directives are to:

- Regulate activity for specific trails and accesses.
- Conduct trail and access inventory and classification.
- Investigate potential and needed trails and accesses.
- Examine legal issues associated with trails and access.
- Act as point of contact for trail and access information and issues.
- Conduct trail and access advisory council meetings.
- Construct, restore and maintain trails, and access roads by staff and partnerships with community volunteers.

1.1.7 Wetlands Reserve Program

The Wetlands Reserve Program is an NRCS program is used for wetland restoration, enhancement, or creation on private land. It is designed to address the restoration of previously farmed wetlands. Easements are purchased for a 10-year, 30-year, or permanent duration.

1.1.8 Watershed Partnership Program

The Watershed Partnership Program provides State of Hawai'i funds to voluntary alliances of public and private landowners committed to protecting large areas of forested watersheds for water recharge and other values. Funds benefit co-operative projects that protect land for watershed conservation. Projects funded include monitoring and management plans, hunting programs, invasive species control, and fencing. More than 750,000 acres of important watershed areas statewide have been placed within these unique public-private partnerships.

1.1.9 Natural Area Partnership Program

The Natural Area Partnership Program provides State of Hawai'i funds for the management of private lands dedicated to conservation. This program supports a full range of management activities to protect, restore or enhance significant native resources or geological features. The program also provides funding for the development of long-range management plans. Lands and waters that might qualify include areas with intact native Hawaiian ecosystems, essential habitat for endangered species, and areas within the protective subzone within the Conservation District. Currently seven preserves encompass approximately 25,000 acres statewide.

1.2 THE PROPOSED ACTION

With VPA-HIP grant funds and other HDOFAW resources, the HDOFAW proposes to (1) enter into formal agreements with private landowners to create access corridors across and onto private parcels; (2) provide landowners with incentives, including road improvements and maintenance, construction of fences and gates to protect agricultural and other operations, indemnification from liability and invasive weed control, for their participation in the program; and (3) increase outreach and education to landowners, hunters and other stakeholders on the importance of increasing, maintaining and respecting access.

1.3 PURPOSE AND NEED FOR PROPOSED ACTION

The Hawaiian Islands support many of the world's most remarkable and stunning habitats and landscapes, including coastal wetlands, a variety of forest types, and subalpine ecosystems from the mountains to the sea. These unique ecosystems offer a wide range of outdoor recreational opportunities for residents and visitors in the form of hunting, fishing, hiking, camping, gathering of native plant materials and wildlife viewing and research. Unfortunately, a significant percent of lands in Hawai'i are not available to the general public because of they are located on private lands or are landlocked by private lands, thus restricting access. The need for the action is to provide greater access to and through private lands.

The purpose of the VPA-HIP HI Access program is to increase the available areas for wildlife-dependent recreational opportunities by securing agreements and/or cooperative use areas for access on and across private lands, and to concurrently promote wildlife habitat restoration and improvement.

1.4 REGULATORY COMPLIANCE

This Programmatic Environmental Assessment (PEA) has been prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) (Public Law 91-190, 42 United States Code 4321 et seq.); implementing regulations adopted by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508); and FSA implementing regulations, Environmental Quality and Related Environmental Concerns – Compliance with NEPA (7 CFR 799). The intent of NEPA is to protect, restore, and enhance the natural and human environment through well-informed Federal decisions. A variety of laws, regulations, and Executive Orders (EOs) apply to actions undertaken by Federal agencies and form the basis of the analysis presented in this PEA.

1.5 ORGANIZATION OF EA

This PEA assesses the potential impacts of the Proposed Action and the No Action Alternative on potentially affected environmental and economic resources.

- Chapter 1.0 provides background information relevant to the Proposed Action, and discusses its purpose and need.
- Chapter 2.0 describes the Proposed Action and alternatives.
- Chapter 3.0 describes the baseline conditions (i.e., the conditions against which potential impacts of the Proposed Action and alternatives are measured) for each of the potentially affected resources and the potential environmental impacts to those resources.
- Chapter 4.0 describes potential cumulative impacts and irreversible and irretrievable resource commitments.
- Chapter 5.0 discusses mitigation measures utilized to reduce or eliminate impacts to protected resources.
- Chapter 6.0 contains a list of the persons and agencies contacted during the preparation of this document.
- Chapter 7.0 lists the preparers of this document.
- Chapter 8.0 contains references.

CHAPTER 2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

Initially, the HDOFAW proposes to use VPA-HIP HI Access grant funds of \$163,968 and other HDOFAW program funds and resources to provide the public with more opportunities to get access to hunt, fish, watch

wildlife, hike, gather traditional cultural plant materials and enjoy other recreation on private lands or public lands that are only easily accessible through access via private lands. The program will also benefit wildlife habitat directly through providing expertise and funding to manage invasive species that are present on access corridors or other areas improved by the program, and indirectly through providing additional support to related habitat improvement programs when they help provide access.

As subsequent VPA-HIP funding becomes available, HDOFAW will continue to expand public access programs on and through private lands and to fund habitat improvement programs to benefit native wildlife.

The Proposed Action consists of three main components: (1) enter into formal agreements with private landowners to create access corridors across and onto private parcels; (2) provide landowners with incentives, including road improvements and maintenance; construction of fences and gates to protect agricultural and other operations, indemnification from liability and invasive weed control, for their participation in the program; and (3) increase outreach and education to landowners, hunters and other stakeholders on the importance of increasing, maintaining and respecting access and improving wildlife habitat.

Initial specific tasks include:

- Negotiate and develop formal access agreements for public access with private landowners.
- Develop and implement a respected access campaign including educational materials for statewide hunter education courses and in the Hawai'i hunting community.
- Produce and install signage, improve roads, fence access corridors, reconfigure gates, survey access roads and key land parcels, and conduct miscellaneous incentives needed to provide increased access.
- Provide education and outreach on access issues to Big Island hunters, community members and landowners, with a focus on the Ka'ū District. Funds will be used to employ an existing outreach staff member of Three Mountain Alliance (TMA) who is from the Ka'ū community, has strong relationships with Ka'ū community, and has been providing outreach for TMA projects. The supervision for these deliverables will be provided by Access/Acquisition Coordinator.
- Conduct capacity-building meetings for development of relationships with landowners, community members, Big Island hunter groups and Big Island Hunter Education courses.

The budget for the initial HI Access phase of the program is presented in Table 2-1, below.

Table 2-1 VPA-HIP HI Access Program Budget

LINE No.	BUDGETED ITEM	Funds Allocated	DESCRIPTION OF DELIVERABLE
1	HI Access Outreach Specialist, 25% FTE	\$10,000	Develop and implement a respected access campaign in statewide hunter education courses and in hunting community.
2	Fringe: HI Access Outreach Specialist, 25% FTE	\$4,000	Develop and implement a respected access campaign in statewide hunter education courses and in hunting community.
3	Supplies: Educational Printing and supplies	\$6,000	Educational printing and miscellaneous supplies for respected access campaign
4	Travel: Meeting with hunter education instructors, hunters and others on neighbor islands	\$1,000	Travel for HI Access Outreach Coordinator for respected access campaign
7	HI Access Landowner Incentive Agreements	\$109,500	Signage, road improvements, fencing of access corridors, gate reconfiguration, surveys of access roads and key land parcels, and miscellaneous incentives needed to provide increased access.
8	Programmatic Environmental Assessment	\$12,500	Completion of Programmatic Environmental Assessment.
9	Ka'ū Outreach and Education Specialist, 25 % FTE	\$7,000	Provide education and outreach on access issues to Big Island hunters, community members and landowners, with focus on Ka'ū. Funds will be used to employ an existing outreach staff member of Three Mountain Alliance (TMA) who is from Ka'ū community, has strong relationships with Ka'ū community, and has been providing outreach for TMA projects. Supervision for these deliverables will be provided by Access/Acquisition Coordinator.
10	Fringe: Ka'ū Outreach and Education Specialist, 25% FTE	\$2,800	Provide education and outreach on access issues to Big Island hunters, community members and landowners, with focus on Ka'ū. Funds will be used to employ an existing outreach staff member of Three Mountain Alliance (TMA) who is from Ka'ū community, has strong relationships with Ka'ū community, and has been providing outreach for TMA projects. Supervision for these deliverables will be provided by Access/Acquisition Coordinator.
11	Supplies: Educational Printing and supplies	\$1,000	Educational printing and miscellaneous supplies needed to implement Outreach/Educational efforts in Big Island hunting community. Focus is on Ka'ū.
12	Travel: Travel for Ka'u Outreach/Educational Specialist for efforts on Big Island, with focus on Ka'ū	\$1,000	Capacity-building meetings and relationship building with landowners, community members, Big Island hunter groups and presence at Big Island Hunter Education courses.
13	Indirect Charges-11% Overhead on Salary/Fringe	\$2,618	
14	Indirect Charges--5% on all other costs	\$6,550	
15	TOTAL BUDGET	\$163,968	

As additional VPA-HIP grant funds become available, the HDOFAW proposes to continue to improve access for recreational users on and across private land, where appropriate, and to increase the quality and quantity of wildlife habitat on privately-held farm, ranch, and forest land.

Under the Proposed Action, HDPFAW biologists would continue to evaluate private land habitat improvement projects and rank them for the use of available funding. All habitat improvement projects would emphasize wildlife values and require a plan, monitoring, and an annual report of progress. VPA-HIP grant funds cannot be used for repairing equipment or buildings. The potential for habitat improvement would be used as an incentive for landowners to participate in public access programs.

Habitat restoration projects conducted by the HDOFAW focus on improving habitat important to state conservation efforts as identified in the Hawai'i Comprehensive Wildlife Conservation Strategy (HCWCS) (Mitchell et al 2005). This historic initiative was completed to continue participation in the State Wildlife Grant program administered by the U.S. Fish and Wildlife Service (USFWS). It comprehensively reviewed the status of the full range of the state's native terrestrial and aquatic species, of which as eight to ten thousand or more are found nowhere else on earth (Ibid; B.P Bishop Museum 1994). Hawai'i's HCWCS presents strategies for long-term conservation of these species and their habitats. The development of the HCWCS built upon Hawai'i's strong history of conservation and involved working with resource managers, biologists, and concerned individuals statewide. As a result, the HCWCS has a broad level of support, increasing the likelihood that the conservation strategies identified will be implemented by multiple partners as well as the HDOFAW.

The Hawaiian Archipelago possesses a wide range of habitats from wet forests to extremely dry coastal grasslands. Due to evolution and extreme isolation, these native habitats were characterized by high levels of plant endemism. With the arrival of humans and consequent introduction of invasive plants and animals and development, many of these habitats have declined. For example, 90 percent of Hawai'i's dryland habitat, 61 percent of the mesic habitat, and 42 percent of the wetland habitat are estimated to be lost, with less than 40 percent of the land surface covered in native vegetation today. Similarly, much of the habitat for freshwater species has declined, with 58 percent of the perennial streams in the State having been altered in some way. HDOFAW habitat restoration efforts focus primarily on areas where there are intact or remnants native ecosystems, which exist in a variety of locations, including rainforests, alpine slopes, shorelines and offshore islands and dry forests and shrublands.

Distribution of terrestrial habitat is classified by elevation, climate, and substrate. Elevation zones include: alpine (over 10,000 feet); subalpine (between 6,500 and 10,000 feet); montane (3,000 to 6,500 feet); lowland (0 to 3,000 feet); and coastal (typically found along the coast at low elevations). Further, three general moisture categories are recognized: dry (less than about 50 inches of average annual rainfall); mesic (between 50 and 100 inches), and wet (over 100 inches). Using the elevation zones and moisture categories as rough guides, the State can be classified roughly into nine terrestrial habitat types: alpine communities, subalpine communities; montane wet communities; montane mesic communities; montane dry communities; lowland wet communities; lowland mesic communities; lowland dry communities; and coastal communities.

Aquatic habitats ecologically link together most of the terrestrial habitats. Over geologic time, the flow of water and wind have carved the topography of the mountains and valleys creating microhabitats in which many plants and animals have evolved and adapted. The flow of water that rains down on the high mountaintops transports nutrients, organic matter (energy), and water down through the various forested and shrubland habitats into estuaries and wetlands at low elevations and then finally into the sea. This organic energy from dead plants and animals fertilizes the growth of other plants and animals in lower elevation habitats, while the streams and groundwater flow play an important role in providing water for plants and animals throughout the ecosystem. Many of Hawai‘i’s native freshwater aquatic animals migrate between the ocean, estuaries, and upper reaches of streams as part of their life cycle.

Restoration or improvement projects can range from passive restoration efforts such as fencing relatively intact areas and removing feral ungulates to large-scale outplanting of natives and removal of invasive species. Habitat improvement and restoration projects are also conducted in accordance with standards and guidelines developed by the U.S. Natural Resources Conservation Service.

Participation in public access programs is voluntary; as such, the specific habitat improvement projects and their locations are in the process of being identified. This PEA is intended to serve as an overall programmatic analysis for individual public access and habitat improvement projects up to 1,500 acres. Those improvement projects larger than 1,500 acres would require separate NEPA analysis beyond the scope of this PEA to ensure protection of the environment. Each individual habitat improvement project 1,500 acres or less would also require site-specific environmental evaluation in the form of a NEPA worksheet (Appendix A). If the potential for major impacts is determined for a specific project during the NEPA worksheet, a separate Environmental Assessment (EA) may be required. The worksheet is a comprehensive assessment of potential impacts to environmental and social resources resulting from the specific habitat improvement project being proposed. Resource areas addressed in the worksheet include: air quality, waters of the U.S., cultural resources, threatened and endangered species, environmental justice, floodplain management, invasive species, migratory birds, natural areas, prime and unique farmlands, riparian areas, scenic beauty, wetlands, and wild and scenic rivers. As part of the site-specific environmental evaluation, HDOFAW would consult with the appropriate resource area agency lead, such as the State Historic Preservation Officer in the case of cultural resource or U.S. Fish and Wildlife Services in the case of protected species, to ensure significant negative impacts would not occur.

Threats to each primary habitat type and the potential restoration needs and efforts that could occur under the Proposed Action are briefly described below. These habitats are described in more detail in Chapter 3; extensive discussion of wildlife habitat conservation efforts in Hawai‘i can be found in the Hawai‘i Comprehensive Wildlife Conservation Strategy (Mitchell et al 2005). For most habitats described below, typical improvements would be to provide access on and across private lands and remove invasive species that affect wildlife habitat.

2.1.1 Restoration Needs by Habitat Type

Alpine. In alpine communities, which are found only on the islands of Hawai‘i (Mauna Kea and Mauna Loa) and Maui (Haleakalā), there has been relatively little invasion by alien plants, but introduced alien insects, including the Argentine ant (*Linepithema humile*), are a growing problem. Feral ungulates may range up from lower elevations to graze on the very few plants in the alpine zone, including the āhinahina or silversword (*Argyroxiphium sandwicense*). Under the Proposed Action, VPA-HIP funds are unlikely to be used in alpine habitats, as public access is provided through public roads and trails and managing entities, including the University of Hawai‘i for Mauna Kea and the National Park Service for Mauna Loa and Haleakalā, are currently intensively managing these alpine habitats for ecosystem improvement.

Subalpine. Subalpine communities composed mainly of shrubby native vegetation are found only on the islands of Hawai‘i and Maui. Introduced ungulates, including mouflon sheep (*Ovis musimon*), pigs (*Sus scrofa*), goats (*Capra hircus*), sheep (*Ovis aries*), and cattle (*Bos taurus*), are the primary threat to these communities, browsing the native vegetation and spreading invasive plant species.

Montane Wet. Montane wet communities occur on the islands of Kaua‘i, O‘ahu, Maui, Moloka‘i, and Hawai‘i and are composed of bogs, densely vegetated shrublands and forests, cliff faces, and steep valley walls, most dominated by natives. Montane bog are particularly vulnerable to rooting pigs, and feral pigs contribute to the spread of habitat-modifying invasive plants such as strawberry guava (*Psidium cattleianum*) and kāhili ginger (*Hedychium gardnerianum*) in montane wet forest. Logging and then conversion to pastureland has also resulted in the loss of montane wet forest.

Montane Mesic. Montane mesic communities dominated by native trees, with a highly diverse understory of trees, shrubs, sedges, and ferns, are present on Kaua‘i, Maui and Hawai‘i. Conversion to pastureland, the spread of introduced grasses, browsing by feral goats, sheep, and pigs, fires, and clearing for commercial tree planting have contributed to the loss and degradation of this habitat.

Montane Dry. Montane dry communities are found on the leeward slopes of volcanoes on the two largest islands. They are dominated by native trees, shrubs and grasses and contain native wildlife. The primary threats to these communities are invasive plants, particularly fountain grass (*Pennisetum setaceum*), and grazing by feral ungulates, including goats, sheep, and mouflon.

Lowland Wet. Lowland wet communities are generally found on the windward side of the largest six islands. Where undisturbed, they are dominated by native trees, shrubs and ferns. Threats include the establishment and spread of invasive plants, especially kahili ginger and strawberry guava and degradation of the understory by feral pigs.

Lowland Mesic. Lowland mesic communities are found on every island except Kaho‘olawe. Limited areas of native vegetation remain, but most areas have been extensively converted to agricultural or ranching use or lost due to logging, and the remaining native communities are threatened by a number of invasive plant species, particularly strawberry guava (*Psidium cattleianum*). Wildfires, feral ungulates and introduced game animals, particularly goats, pigs, and axis deer, also contribute to the degradation of these communities.

Lowland Dry. Lowland dry communities occur on the leeward sides of all eight of the main islands. Where undisturbed they are dominated by native trees, shrubs and grasses, but most of the area formerly in this habitat has been converted to urban and residential use or degraded by fire, grazing, and invasive plants, especially fountain grass, beardgrass, and natal redtop (*Rhynchelytrum repens*). These invasive plants now dominate some lowland dry areas and constitute a major fire threat.

Coastal. Coastal communities are subject to marine influences. They are present in the main Hawaiian islands, offshore islets and the Northwest Hawaiian Islands. Primary threats include conversion to residential development, introduction of invasive plants, e.g., mangrove (*Bruguiera gymnorrhiza* and *Rhizophora mangle*), pickleweed (*Batis maritima*), and ironwood (*Casuarina equisetifolia*); off-road vehicle activity; and arson.

Streams. Hawaiian streams are either perennial or intermittent. Perennial streams flow year round; however, some flow continuously, discharging into the ocean, while others are interrupted, discharging into the ocean only seasonally. Perennial streams are important to most of Hawai'i's freshwater fauna, because these species depend on the ocean for part of their larval life stage and would not survive without this connection to the sea. Perennial streams are habitat to all of Hawai'i's freshwater fauna including five native stream fishes or 'o'opu, invertebrates including mollusks and shrimps, algae, and mosses. Intermittent streams, or sections of streams, flow only seasonally, typically with high rainfalls, when these streams may reach the ocean. These streams may have water in their upper sections year-round, while their lower sections are dry. Intermittent stream fauna primarily consists of oligochaete worms, several crustaceans, and algae. First order streams are in the steepest gradient areas and have the coolest waters with least amounts of nutrients and energy. Many freshwater species cannot inhabit the upper parts of these streams in Hawai'i because of these limiting factors. Some native fishes, however, are highly evolved at climbing waterfalls. Stream sections downstream are in flatter areas with more nutrients and energy, and are bigger and easier to inhabit for stream fishes and invertebrates. These areas also have the highest number of threats from sedimentation caused by grazing animals at higher elevations, nearby development, water diversions and dams, channelizing or concreting of the stream bottom and sides, and introduced gamefish.

Streams in disturbed areas also do not typically have native vegetation along their banks, reducing shade, nutrient inputs from decaying plant matter, and shelter provided by tree roots. In some streams, non-native vegetation adjacent to streams provides excessive shading and nutrient input, leading to declines in native aquatic organisms.

Activities or threats that affect one part of the interconnected land and stream network system will affect some other part or the whole of the system. Thus, to effectively protect watersheds, often the entire ahupua'a (traditional Hawaiian pie-shaped land unit extending from mountain to sea) must receive adequate protection. Under the Proposed Action, few improvement projects in riparian and stream habitats per se are anticipated. However, projects that could occur would be reducing feral animal populations, removing non-native vegetation within access corridors or areas that over-shade native aquatic habitat in streams, and replanting native vegetation, which could reduce pollution loads within streams.

Estuaries. As streams near the ocean, the streambed often becomes dominated by finer grain sediments as salty seawater intrudes with the tides. The area where seawater from the ocean mixes with freshwater is an estuary. Estuaries in Hawai‘i typically have a unique group of species that can tolerate the variable conditions and the large amount of sediments and sand in the water and on the bottom. Too much sediment, however, can be harmful even here. In addition, many marine animals also can inhabit these areas where the salinity is not too low, so the overall diversity of species is higher. Many of the same threats occurring in the middle sections of streams such as sedimentation, development, and invasive species occur in estuaries as well, though coastal zone regulations provide some degree of protection. Since estuaries are often calmer areas of water, boat harbors and other sources of human disturbance are often concentrated in these areas.

No improvement projects in estuarine habitats are proposed under the Proposed Action, but habitat restoration improvements in lands upslope would benefit estuarine areas.

Coastal and Ocean Aquatic. Areas close to estuaries are dominated by various sandy bottomed habitats that are rich in animals that live in the sand, like many worms or shelled animals, and in fishes like rays and flatfishes that feed in soft sediment.

Coral reefs develop in most of the rest of the shallow water fringe around the high islands. This results in the formation of “fringing reefs” that have coral growth near the surface of the water, very close to shore, with limited shallow water lagoons inshore of the reef. Reefs in areas with relatively recent lava flows, such as on the island of Hawai‘i, have poorly developed fringing reefs. Kāne‘ohe Bay on O‘ahu and a small area of Kaua‘i also have “barrier reefs,” where the development of coral occurs further offshore. There is a more extensive shallow water lagoon inshore of the barrier reef that has a higher degree of development of what are called patch reefs, or small sections of coral interspersed in sandy habitat in waters 3 to 65 feet deep. Many of the low islands in the Northwestern Hawaiian Islands are “atoll reefs.” These reefs are the tops of drowned and submerged volcanic peaks that result in a ring of coral that can be many miles in circumference. They may or may not surround a small sandy island or islands somewhere inside a very extensive lagoon that also usually contains numerous patch reefs. Kure Atoll and Pearl and Hermes Reef are classic examples of atoll reefs. Coral reefs are threatened by human impacts, invasive species, disease and climate change.

As with estuaries, no improvement projects in coastal or ocean aquatic habitats are proposed under the Proposed Action, but habitat restoration improvements in lands upslope would benefit coastal and open ocean aquatic areas.

2.2 ALTERNATIVES TO THE PROPOSED ACTION

CEQ regulations (40 CFR §1502.14) require the lead agency to identify all reasonable alternatives for implementing a Proposed Action. The Federal Register notice announcing the rule for VPA-HIP (Vol. 75(130), page 39135) explicitly states the purpose of VPA-HIP is to provide grants to State and tribal governments to encourage owners and operators of privately-held farm, ranch, and forest land to voluntarily make that land available for access by the public for wildlife-dependent recreation and to improve fish and wildlife habitat on their land. Each VPA-HIP application received by USDA FSA underwent a selection screening process to identify those proposals that met the program objectives (listed in Chapter 1).

The HDOFAW considered other alternative strategies for the VPA-HIP HI Access Program in which public access facilitation and habitat improvement projects would not be included in the proposal would not occur. However, these alternatives were eliminated from further analysis since they clearly did not meet the overall purpose and need of the program to improve habitat and increase public access for wildlife-dependent recreation.

Implementing an incentive program for landowners for providing public access and also educating recreational users on respected access would greatly increase the opportunities and motivation for private landowners of smaller farms and ranches to enroll in public access programs. Other programs that involve wildlife habitat improvement, including CREP, FSP and FLP, may improve habitat but do not provide sufficient incentives for public access. However, the potential habitat improvement or restoration projects could represent a new incentive for additional landowners to enroll in the programs. Given these issues and the overall program goals, the only reasonable action alternative is the Proposed Action.

2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, the VPA-HIP HI Access program would not be implemented in the State of Hawai'i. Habitat improvement projects would continue, but on a much reduced scale without the additional grant funds from VPA-HIP. The public access components associated with these programs would be less successful in promoting public access. The No Action Alternative does not meet the purpose and need of the Proposed Action, but is being carried forward in accordance with CEQ regulations to serve as the baseline against which potential impacts of the Proposed Action are measured.

2.4 RESOURCES ELIMINATED FROM ANALYSIS

CEQ regulations (40 CFR §1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief explanation of why they would not have a dramatic effect on the human or natural environment.

As described above, the Proposed Action consists of three main components: (1) enter into formal agreements with private landowners to create access corridors across and onto private parcels; (2) provide landowners with incentives, including road improvements and maintenance; construction of fences and gates to protect agricultural and other operations, indemnification from liability and invasive weed control, for their participation in the program; and (3) increase outreach and education to landowners, hunters and other stakeholders on the importance of increasing, maintaining and respecting access and improving wildlife habitat. Two of these components are primarily administrative, while the public access infrastructure and habitat improvement activities would have the greatest potential for environmental impacts. However, the potential direct and indirect impacts to physical resources would be dependent on specific ground disturbing activities proposed, methods, location, and time of year. Therefore, the HDOFAW will utilize a comprehensive NEPA worksheet to assess each individual habitat improvement project (Appendix A). Prior to any activity taking place, an HDOFAW biologist would utilize the worksheet to make an assessment of potential impacts and would undertake the proper measures to minimize any impacts and/or consult with the responsible agencies or authority to prevent any undesired consequences. Thus, from a programmatic level, the Proposed Action would have little to no impact on the following resource areas:

Noise. The Proposed Action would not create any new permanent sources of noise to the environment. Expanding public access to certain lands may introduce gunfire noise on lands where public hunting may not occur but where private hunting is already legal and practiced, and on which there are other sources of agricultural and ranching noise. This noise would be intermittent and occur during daylight hours during specified hunting seasons. Hawai‘i Administrative Rules (HAR) Title 12, Chapter 123, prohibit discharge of a firearm within safety zones as designated by each County, which generally include zones fifty yards from any paved road or building when hunting. The requisite size of land needed for safe hunting would reduce the potential for gunfire noise to be heard outside the property. Habitat improvement, road-grading and fence building activities could require the use of heavy equipment. These activities would be localized, temporary in nature, only occur during typical working daylight hours, and are not likely to exceed typical noise levels experienced on active agricultural land.

Air Quality. As VPA-HIP HI Access Program activities would have no discernible effect on Hawai‘i’s air quality, the topic was eliminated from further consideration as part of this PEA. Minor benefits to air quality might result as removal of invasives and planting with more erosion-resistant native species. This benefit is expected to be greater on the leeward sides of all the islands. On a broader level it is reasonable to assume that the proposed action would not result in impacts on the attainment, non-attainment, or maintenance status of any of Hawai‘i’s airsheds. Consideration of any potential impacts to air quality would take place in the site-specific environmental evaluation that would be conducted prior to each VPA-HIP HI Access action

being completed. Actions would be taken to avoid any potential negative impacts but marginal localized improvements would be allowed.

Human Health and Safety. No components of the Proposed Action would directly impact human health or safety. The goal of the Proposed Action is to increase public access to privately-held land that supports an abundance of wildlife, thereby allowing hunting, fishing, hiking, bird viewing, gathering of traditional cultural plant material and other outdoor recreation. While any outdoor recreational activity poses at least a slight safety risk, these activities are undertaken voluntarily by individuals usually accustomed to the risks and safety procedures. Hawai'i hunting regulations (HAR Title 12, Chapter 123) require hunters to receive the appropriate education and meet minimum age requirements before a permit can be issued. All habitat improvement requiring the use of heavy machinery would be done in accordance with existing safety guidelines.

Land Use. The Proposed Action would not result in any changes to land use designations. The Proposed Action would occur on private lands on a voluntary basis and would not require the alteration of land use.

Transportation. No aspect of the Proposed Action entails any alteration of the current transportation system in the State of Hawai'i. Better access could increase by a very slight number the vehicles on individual roadways, but it is assumed that most users would seek recreational opportunities elsewhere if access to any given property were not provided, and this would be considered a redistribution of vehicular traffic rather than an increase that would cause an impact to the transportation system.

Cultural Resources. The Proposed Action would not directly or indirectly impact any cultural resources, either architectural or archaeological. The HDOFAW works closely with its fellow agency within HDLNR, the State Historic Preservation Division, to identify and prevent impacts to cultural resources. No aspect of the Proposed Action would allow for purposeful destruction of any cultural resources. As part of the site-specific NEPA worksheet, consultation with the State Historic Preservation Officer would occur to ensure protection of any nearby cultural resources. As a matter of practical policy, the HDOFAW avoids causing impacts to all "eligible" historic properties, choosing instead to redesign or modify specific features of proposed access improvements or habitat restoration efforts, following survey or consultation with the State Historic Preservation Officer. Therefore, no impacts to cultural resources would occur.

Coastal Zones. The entire State of Hawai'i is within the coastal zone. The purpose of the federal Coastal Zone Management Act (CZMA) of 1972 (U.S.C. 1451-1464) is to preserve, protect, develop and where possible enhance the resources of the coastal zone. Projects with federal involvement significantly affecting areas under jurisdiction of the state CZM Agency must undergo review for consistency with the state's approved coastal program. The objectives of the Hawai'i Coastal Zone Management Program are to: 1) provide coastal recreational opportunities accessible to the public; 2) protect, preserve, and where desirable, restore significant historic and prehistoric resources; 3) protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources; 4) protect scenic and open space resources; 5) protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems; 6) provide public or private facilities and improvements important to the State's economy in suitable locations; 7) reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion,

and subsidence; 8) improve the development review process, communication, and public participation in the management of coastal resources and hazards; 9) stimulate public awareness, education, and participation in coastal management; 10) protect beaches for public use and recreation; and 11) implement the state's ocean resources management plan. The actions proposed under the VPA-HIP HI Access Program would in general involve very minor land disturbance and minimal structures, improve access and habitat, and avoid all natural and cultural resources, and would be highly consistent with and would fulfill the State of Hawaii's CZM program and would not require individual consistency reviews.

Other Formally Classified Lands. The Proposed Action can only be implemented on privately owned lands. The only formal classification applicable on private land would be Prime and Unique Farmland or Farmland of Statewide Importance. The Proposed Action would not include removing these lands from agricultural production. Therefore, there would be no impacts to any other formally classified lands. The National Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) was enacted to establish a National Wild and Scenic Rivers System. Rivers are selected based upon outstanding scenic, recreational, geological, fish and wildlife, historic, cultural, or similar values. The Act mandates designated rivers to be preserved in free-flowing condition and their adjacent borders to be protected for future generations. Rivers are designated as wild, scenic, or recreational according to the classifications outlined by the Act. Federal agencies involved in the use and development of water and related land resources are required to protect national wild, scenic, and recreational river areas. The Hawaiian Islands do not have any river designated for protection under this Act.

CHAPTER 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter provides a description of the existing environmental conditions that have the potential to be affected from implementation of the Proposed Action and the potential environmental impacts that may occur to those resources. Resource areas potentially impacted by the Proposed Action and covered in this PEA include:

- Biological Resources (Vegetation, Terrestrial and Aquatic Wildlife, Protected Species, and Wetlands)
- Recreation
- Socioeconomics and Environmental Justice
- Water Resources
- Soils

As described in Chapter 2, this PEA describes the potential impacts on a programmatic level associated with utilizing VPA-HIP funds in the State of Hawai‘i. Site-specific analysis for all proposed habitat improvement projects (no more than 1,500 acres each) would be done using the NEPA worksheet provided in Appendix A. The site-specific analysis in combination with the programmatic level analysis provided in this PEA serves as the full NEPA documentation. Projects larger than 1,500 acres or any project determined to have potential significant impacts would require a separate EA and are outside of the scope of this analysis.

Environmental consequences to each resource area are described for the Proposed Action (Preferred Alternative) and the No Action Alternative:

- Proposed Action (Preferred Alternative): utilize VPA-HIP HI Access Program funds to expand and enhance existing public access programs and improve wildlife habitat.
- No Action Alternative: continue existing public access programs as they are currently administered. No expansion or additional financial incentives for enrollment would occur.

3.1 BIOLOGICAL RESOURCES

In this PEA, biological resources include vegetation, habitat for terrestrial and aquatic wildlife, protected species, and wetlands. Biological resources are included in this PEA because habitat improvement projects have the potential to temporarily disturb the natural environment during implementation but would also result in long-term positive improvements to the natural environment. Also, expanding the public access programs and widened hunting, fishing and other recreational opportunities may increase the potential for impacting wildlife.

3.1.1 Affected Environment

The Proposed Action covers the entire State of Hawai‘i; however, the biological resources discussed in this PEA focus on intact or semi-intact ecological areas at which or adjacent to which there is the potential to implement a habitat improvement project as discussed in Chapter 2. A very brief overview of the vegetation

and wildlife habitat within those areas is presented in Section 3.1.1.1, protected species are described in Section 3.1.1.2, and wetlands are described in Section 3.1.1.3.

3.1.1.1 Vegetation and Wildlife Habitat

Habitat types can be generally characterized by the dominant tree, shrub, and plant species. For this PEA, vegetation is briefly described for the major nine habitats in which projects may occur, as discussed in Chapter 2.1.1. Important wildlife species are also listed.

Alpine communities are found only on the islands of Hawai‘i (Mauna Kea and Mauna Loa) and Maui (Haleakalā). Conditions are dry, vegetation is sparse, and the soil is predominantly cinder or barren gravel. Only a limited number of native plants are present, most notably the ‘āhinahina or silversword (*Argyroxiphium sandwicense*). Native fauna include terrestrial invertebrates, including the rare wekiu bug (*Nysius wekiuicola*), as well as various spiders.

Subalpine communities are found only on the islands of Hawai‘i and Maui. Mainly located just above the atmospheric inversion layer that often prevents cloud build-up at high elevations, these communities are predominantly dry habitats, but subalpine mesic and wet habitats are found on East Maui and a subalpine mesic habitat is found on Mauna Loa, Hawai‘i. Dominant plants include māmane (*Sophora chrysophylla*), naio (*Myoporum sandwicense*), and ‘ōhi‘a (*Metrosideros polymorpha*) trees, ‘ōhelo (*Vaccinium* spp.) and pūkiawe (*Styphelia tameiameia*) shrubs, and *Deschampsia nubigena* grass. Notable native animal species present in the *subalpine communities* include the Palila (*Loxioides bailleui*), other endemic forest birds, ‘ua‘u (*Pterodroma sandwichensis* [Hawaiian Petrel]), ‘akē‘akē (*Oceanodroma castro* [Band-rumped Storm Petrel]), nēnē (*Branta sandvicensis* [Hawaiian Goose]), and terrestrial invertebrates.

Montane wet communities occur on the islands of Kaua‘i, O‘ahu, Maui, Moloka‘i, and Hawai‘i. A diverse variety of montane wet communities exist, including bogs, densely vegetated shrublands and forests, cliff faces, and steep valley walls. These communities typically exhibit a richer understory development than montane dry or mesic systems. Important native plants include the ferns hāpu‘u (*Cibotium* spp.) and ‘ama‘u (*Sadleria* spp.), sedges (*Carex* spp.), *Oreobolus furcatus* (found in many bogs), and the ‘ōhi‘a tree. Notable native wildlife species include critically endangered forest birds such as the puaiohi (*Myadestes palmeri*) and po‘ouli (*Melamprosops phaeosoma*), Hawai‘i’s only land mammal, the ‘ōpe‘ape‘a (*Lasiurus cinereus semotus* [Hawaiian hoary bat]), pueo (*Asio flammeus sandwichensis* [Hawaiian Short-eared Owl]), ‘io (*Buteo solitarius* [Hawaiian Hawk]), and terrestrial invertebrates including *Megalagrion* spp. damselflies.

Montane mesic communities occur on the islands of Kaua‘i, Maui and Hawai‘i. ‘Ōhi‘a, koa, olopua (*Nestegis sandwicensis*), and a‘e (*Sapindus saponaria*) are dominant trees, and the understory is composed of diverse trees, shrubs, sedges, and ferns. Notable native wildlife includes forest birds, ‘ōpe‘ape‘a, pueo, ‘io, and terrestrial invertebrates.

Montane dry communities are found on the leeward slopes of East Maui and of Hualālai, Mauna Loa, and Mauna Kea on Hawai‘i. Substrates are typically cinder or ash or weathered lava flows. Dominant plants include ‘ōhi‘a, ‘a‘ali‘i (*Dodonaea viscosa*), lovegrass (*Eragrostis atropioides*) and pili grass (*Panicum tenuifolium*). Native wildlife includes terrestrial invertebrates, pueo, the ‘ōpe‘ape‘a, and forest birds.

Lowland wet communities are generally found on the windward side of every island except Ni‘ihau and Kaho‘olawe. Dominant plants include ‘ōhi‘a and koa trees, mamaki (*Pipturus albidus*) shrubs, and uluhe (*Dicranopteris linearis*), and hapu‘u ferns are an important component of the native understory. Notable native wildlife includes terrestrial invertebrates, waterbirds, migratory shorebirds and waterfowl, pueo, ‘io, and the ‘ope‘ape‘a.

Lowland mesic communities are found on every island except Kaho‘olawe. Most lowland mesic communities have been converted to agricultural or ranching use or lost due to logging, and the remaining native communities are threatened by a number of invasive plant species, including guava (*Psidium guajava*), strawberry guava, molasses grass (*Melinis minutiflora*), firetree (*Morella faya*), Christmas berry (*Schinus terebinthifolius*), silk oak (*Grevillea robusta*), eucalyptus species, and beardgrasses (*Andropogon virginicus* and *Schizachyrium condensatum*). In the remaining lowland mesic communities, dominant plants include kāwelu (*Eragrostis variabilis*), pūkiawe, ‘a‘ali‘i, and ‘ūlei (*Osteomeles anthyllidifolia*) shrubs, and koa, ‘ōhi‘a, and lama (*Diospyros sandwicensis*) trees. Native wildlife species include waterbirds, migratory shorebirds and waterfowl, ‘ōpe‘ape‘a, and terrestrial invertebrates.

Lowland dry communities occur on the leeward sides of all eight of the Main Hawaiian Islands (MHI), as well as the windward side of Hawai‘i in the Puna and Ka‘ū districts. Dominant vegetation includes ‘ōhi‘a, lama, olopuā, and wiliwili (*Erythrina sandwicensis*) trees, ‘a‘ali‘i shrubs, and pili grass. Notable native wildlife includes terrestrial invertebrates, waterbirds, migratory shorebirds and waterfowl, and some forest bird species that have developed immunity to avian malaria and pox.

Coastal communities are adjacent to the shoreline and include dry, mesic and wet communities. In addition, this habitat includes anchialine ponds, which are areas where fresh and saltwater mix through underground connections. These communities are found on coral atolls and island remnants in the NWHI, along coastlines of the major islands in the MHI, and on the many offshore islands in the MHI. Naupaka kahakai (*Scaevola sericea*) is an important native shrub throughout the coastal system. Notable native wildlife includes seabirds, terrestrial invertebrates, migratory shorebirds and marine animals that use the coastal area for basking and nesting, such as the Hawaiian monk seal (*Monachus schauinslandi*) and honu (*Chelonia mydas agassizi* [green sea turtle]).

3.1.1.2 Protected Species

Hawai‘i has a rich and diverse plant and wildlife population. Habitat degradation from population growth, invasive exotic species, and pollution continue to threaten current species populations. Of particular concern and discussed below are the potential impacts to threatened and endangered (T&E) species and wildlife habitat.

The Endangered Species Act (ESA) was enacted to protect T&E species and to provide a means to conserve their habitats. All Federal agencies are required to implement ESA by ensuring that Federal actions do not jeopardize the continued existence of listed species. The ESA defines an endangered species as one that is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future. The U.S. Fish and Wildlife Service (USFWS) and

National Marine Fisheries Service (NMFS) are mandated the responsibility of ensuring that other agencies plan or modify Federal projects so that they will have minimal impact on listed species and their habitats. The ESA also requires the delineation of the “critical habitat” of sensitive species. Critical habitat is defined by the ESA as areas that are “essential” to the conservation of listed species. Private, local government, and state lands are generally not affected by critical habitat until the property owner needs a Federal permit or requests Federal funding. Because the Hawai‘i VPA-HIP HI Access Program will be partially funded by Federal dollars, consultation with USFWS would be required when critical habitat is encountered. Section 7 of the ESA requires that project areas must be checked against USFWS and State listings of critical habitat and T&E species. FSA ensures that all VPA-HIP grants meet this requirement by including T&E species in its considerations.

USFWS has agreements available that help remove disincentives from private landowners who wish to manage their property for the benefit of listed species (64 FR 32706-32716). These entail development of Safe Harbor Agreements and Candidate Conservation Agreements with Assurances. These agreements would ensure agricultural landowners that traditional agricultural uses could continue alongside habitat improvements. They would also address the issue of “incidental take” with regard to activities such as habitat restoration.

Hawai‘i has the highest number of listed T&E species in the nation and approximately one-fourth of all Federally listed species are found in Hawai‘i. Of the total 1,277 Federally listed T&E species in the U.S., 380 are in the State of Hawai‘i. (USFWS 2012). T&E species by major taxa in Hawai‘i are summarized in Table 3-1 and a complete list of Federally listed T&E species in Hawai‘i can be found in Appendix B.

Threats to Protected Species

Threats to T&E species including competition from introduced plant species; habitat destruction by feral and domestic animals; agricultural, military, and residential development; and predation by cattle, insects, and rats have all contributed to bring these species close to extinction (Mitchell et al 2005)

Table 3-1. Summary of Federally Listed T&E Species in Hawai‘i.

Species Group	Number of Species
Total Animals	61
Mammals	3
Birds	34
Reptiles	4
Snails	2
Insects	16
Arachnids	1
Crustaceans	1
Total Plants	319
Flowering Plants	307
Ferns and Allies	12
Total Distinct Species	380

Source: USFWS 2012.

Invasive and Exotic Species

One of the major threats to Hawai‘i’s protected species is the rampant spread of a large number of invasive alien plant species. The Hawai‘i Department of Agriculture estimates that at least 14 new species arrive and become established in the State every year (HEAR 2004). Once established, the most serious invasive species are extremely difficult to control. These plants displace Hawai‘i’s distinctive native flora, resulting in the loss of diverse native forests that support a large array of native animals. Of the approximately 13,000 alien species of plants that have been introduced to Hawai‘i, about 1 percent (130 species) have become invasive so far. Biological evidence suggests another 200-300 species already present in the State may become problems in the future (HEAR 2004).

These habitat-modifying invasive species spread without human aid and significantly disrupt native ecosystem processes – displacing, consuming, or otherwise changing the structure and composition of native vegetation or preying upon, displacing, or out-competing native fauna. For example, *Miconia calvescens*, an invasive tree species that was brought to Hawai‘i as a garden plant, has now spread extensively on the islands of Hawai‘i and Maui with scattered infestations on O‘ahu. The State of Hawai‘i and partners are spending over \$600,000/year trying to control and eradicate this species because of the known risk it poses in tropical systems, such as in Tahiti where it has taken over nearly 70 percent of all forests, causing enormous and frequent landslides because of its shallow root system. The State of Hawai‘i is currently spending an estimated \$2 million per year to control invasive species in natural habitats and prevent new introductions.

Habitat Loss

Habitat loss from forest removal and development in the Hawaiian Islands started when large tracts of mostly lower elevation land were cleared for agriculture by the first Hawaiian colonists. After European and American settlers arrived, starting in the late 18th century, habitat loss increased dramatically as agriculture and ranching expanded. In 1990, no more than 40 percent of the land surface of Hawai‘i was covered with native-dominated vegetation. Some of the most significant loss of habitat has occurred below the 2,000-foot elevation, where less than 10 percent of the native vegetation remains (USGS 1999). Many lowland areas no longer support native plants. In addition to direct clearing, all remaining native plant communities are further degraded by disturbance and competition from introduced plants and animals. Feral cattle, pigs, goats, deer and sheep continue to destroy remaining native habitat, with the feral pig causing the greatest destruction of habitat. Feral animals disturb forest understory, providing opportunities for further spread of invasive species (USGS 1999).

3.1.1.3 Wetlands

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) as areas that are inundated and saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987). Many wetlands are legally classified as “waters of the U.S.” subject to protection under the Clean Water Act. Wetlands provide valuable habitat for a variety of wildlife.

Threats to Wetlands

Hawai'i's wetlands include coastal marshes and swamps, riparian and estuarine wetlands, and wet montane forest bogs, among other types. The main threats to wetlands from agriculture include diminishing water supply from irrigation diversions, agricultural development, increased sedimentation, nutrient loading, and grazing (HICZMP 1996). Approximately 30 percent of Hawai'i's wetlands have been lost, primarily when they were filled in and used for sugar cane planting. Although 70 percent of wetlands remain, many of these are highly degraded and no longer provide significant water filtration and retention services. Many remaining wetlands are farmed to support flooded crops like taro. Erosion from agricultural lands can result in wetlands becoming inundated with sediment and can result in a subsequent decrease in the filtering capacity of wetlands.

Other impacts to wetlands include decreasing water supplies from drinking water well withdrawals, urban development, and channelization of rivers and streams. Over-withdrawal from wells can lead to the drying-up of wetlands and ponds that are hydrologically connected to the underlying aquifer. Upland development and upstream channel modifications can erode wetlands, upset sediment and nutrient balances, and kills existing vegetation. Wetlands are further impacted by the invasion of non-native species. Grazing, trampling, and rooting by feral pigs and other animals disturb soil, destroy native plant species, and create bare patches of ground. These conditions are particularly suited for invasion of non-native plant species. The invasion of nonnative plant species inhibits the re-establishment of indigenous species in wetlands. Erosion from degraded wetlands contributes to sediment loads of nearby streams and water bodies. Furthermore, the loss of lowland wetlands results in an increased volume of freshwater delivered to near-shore waters.

3.1.2 Environmental Consequences

Impacts to biological resources would be considered significant if activities resulted in reducing the wildlife or fisheries populations to a level of concern, removing land with unique vegetation characteristics, take of a protected species or its habitat, or filling of wetland areas without appropriate permits and mitigation measures.

3.1.2.1 Proposed Action (Preferred Alternative)

Under the Proposed Action, additional public access and habitat improvement projects similar to those currently done by the HDOWFAW would occur on privately-held farms, ranches, and forest land throughout Hawai'i under the VPA-HIP HI Access Program. These projects would be consistent with overall strategies to conserve habitat and wildlife important to the State of Hawai'i as described in the Comprehensive Wildlife Conservation Strategy (Mitchell et al 2005). Disturbances to wetlands would be avoided by any habitat improvement projects and the HDOWFAW would aim to avoid crossing wetlands in its access corridors to the greatest extent feasible. However, the activities associated with installing these projects would result in minor, short-term impacts, which include some disturbance to local vegetation and wildlife. The goal of these projects is long-term habitat improvement and sustainability of wildlife. The specific impacts of each individual project, with respect to biological resources, would be addressed by the regional biologist through NEPA worksheet that will be utilized by the HDOWFAW (see Appendix A for a sample worksheet). This

process would ensure minimal impacts to wildlife and their habitat, and no impact to a protected species or wetlands. Programmatic-level impacts to vegetation, terrestrial and aquatic wildlife, protected species, and wetlands are described below.

Vegetation, Terrestrial Habitat and Wildlife

In Hawai‘i, in contrast to all other states in the U.S., terrestrial game species are all non-native, and game mammals are considered deleterious to the conservation of many habitats. Although hunting is an important recreational and sustenance activity that is supported and regulated by the HDOFAW, habitats with high native species conservation value are not actively managed to promote game at the expense of native species. That said, in areas where no other animal control mechanisms are in place, removal of game by hunters can be a strategy that benefits native ecosystems. Although hunting access would be among the recreational activities facilitated, the VPA-HIP HI Access Programs would seek to improve habitat for native wildlife and only manage for sustainable populations of game species in areas where this activity would not compromise the integrity of native areas.

Under the Proposed Action, it is expected that implementation of the habitat improvement projects would increase habitat value by controlling less favorable vegetation species in preference for native species that provide greater habitat value for wildlife such as native birds, invertebrates and the Hawaiian hoary bat. Many habitat improvement projects would be focused on the conservation of critical wildlife species such as forest birds. In general, habitat improvement would remove invasive or nuisance species to allow for preferred native species to dominate the habitat. Removal of nuisance species can be done by hand, mechanically or through use of herbicides in conformance with accepted practice in conservation lands in Hawai‘i, depending on the habitat type, size of project area, and local conditions.

In some cases, preferred vegetation species may be seeded or outplanted to increase the habitat value, while in other cases the habitat would be allowed to naturally regenerate after removal of invasive species. Installation of the restoration activity could result in short-term, minor impacts to vegetation and disturbance to local terrestrial wildlife. However, these impacts would be more than offset by the long-term improvement in habitat value and subsequent conservation of important wildlife.

With improved access, HDOFAW managers would be better able to monitor access corridors for the presence of any new high-priority invasive species and initiate rapid management response for any new high-priority invasive species that are detected. HDOFAW managers would also be able to use new access routes for other purposes including fence inspection, fire suppression, and forest inventories.

Aquatic Wildlife

Under the Proposed Action, it is expected that implementation of the habitat improvement projects would improve riparian habitats and result in long-term decreases in erosion. Improvements to riparian habitat could include herbaceous seeding, shrub planting, and limiting grazing during certain times of the year; all of which would improve the quality of the surface water associated with the riparian area. Improving the water quality would have subsequent beneficial impacts to aquatic wildlife. Non-native trees that overshadow

reaches of streams with an abundance of native gobioid fishes may also be removed. The habitat improvement measures could cause a minor, localized, short-term impact by increasing sediment loads in runoff; however, the long-term benefit of the habitat improvement more than offsets the short-term impact. In addition, approved erosion and sediment control measures would be utilized during installation of the habitat improvement project. As with terrestrial ecosystems, native freshwater fishes are not game species, although limited gathering of both native and non-native crustaceans and mollusks occurs, sometimes as part of Hawaiian cultural practices. To the extent that riparian habitat is improved, native species that are traditionally gathered would benefit.

Protected Species

Under the Proposed Action, it is expected that implementation of individual habitat improvement projects would increase habitat value by controlling less favorable plant species in preference for native species, some of them protected, that provide greater habitat value for native wildlife, including protected species. Some habitat improvement elements may target protected species (e.g., native understory plants that would provide food and shelter for the Hawaiian Crows), and would result in long-term positive impacts to the habitat and associated wildlife. Over time, habitat improvement measures are expected to result in an increase in the populations of targeted Federally listed species of rare plants and animals. The HDOFAW NEPA worksheet process would identify the potential presence of a protected species or its habitat and ensure no impact would occur during installation of a project. Informal consultation with the USFWS would occur as necessary for individual projects.

Wetlands

The Proposed Action would not directly impact wetland areas; however, it is expected that implementation of the habitat improvement projects in adjacent habitats would increase wetland habitat value. Improvements to adjacent riparian habitat may include herbaceous seeding, shrub planting, buffers and limiting grazing during certain times of the year. These measures would stabilize the banks and streambeds. The exclusion of grazing mammals would limit damage to the restored wetlands and buffers and would allow the restored wetlands and riparian buffers to perform the important functions of nutrient cycling, sediment retention, and flood controls. Implementation of this alternative would result in indirect benefits to existing wetlands as well. Other potential measures, including establishment of permanent native grasses, native tree/shrub planting, riparian buffers, restoration of rare and declining habitat, and wildlife habitat buffers, are all intended to reduce soil erosion and improve surface water quality. Reduced sediment loads in surface water could result in less sedimentation of wetlands, which would help maintain wetland functions. Installation of the habitat improvement measure could cause a minor, short-term impact by increasing sediment loads in runoff; however, the long-term benefit of the habitat improvements more than offsets the short-term impact. In addition, erosion and sediment control measures would be utilized during project implementation. The NEPA worksheet process would identify the presence of a wetland area and ensure its protection. Consultation with USACE and the appropriate permit would be obtained for individual projects as required.

3.1.2.2 No Action Alternative

Under the No Action Alternative, no habitat improvement projects would be undertaken on private lands utilizing the VPA-HIP HI Access Program funding. The current public access and habitat improvement programs would continue to be available. While habitat improvement projects and restoration activities would still occur, the benefit from additional improvement projects throughout Hawai‘i utilizing the VPA-HIP funding would not be realized.

Many of the benefits to protected species that would have resulted from the implementation of habitat-improvement projects associated with VPA-HIP HI Access Program would not occur. Total wetland acres would likely be stable or only slightly reduced under the No Action Alternative because current Federal laws, such as Section 404 of the CWA, are very restrictive in allowing physical destruction of wetlands through draining or conversion of existing wetlands for other uses. Wetland values (including vegetation, water quality, and habitat) would also fail to benefit from another potential source of funding for protection.

3.2 RECREATION

Recreation includes those outdoor activities that take place away from the residence of the participant. The State of Hawai‘i offers a wide variety of recreational opportunities to its residents and visitors. While most famous for ocean-based activities such as sunbathing, fishing, surfing, snorkeling, scuba diving, sailing, etc., Hawai‘i also has important land-based activities. These include camping, golfing, field sports, biking, and using off-road vehicles. For this PEA, recreation focuses on wildlife-related recreational activities including hunting, shorefishing, birding and hiking available to the public in the State of Hawai‘i. In addition to its role in the health and well-being of Hawai‘i’s people and visitors, recreation is a critical component of the economy of the State of Hawai‘i, which is covered in Section 3.3, below.

3.2.1 Affected Environment

Hunting in the State of Hawai‘i is regulated by the HDOWFAW. Hunting in the state requires a hunting license whether hunting on public or private land. In order to purchase a Hawai‘i Hunting License, a hunter must possess a Hawai‘i Hunter Education Wallet Card indicating passing of a State-run course, or a Letter of Exemption, which is issued free to those who have an out-of-state hunter education card or a Hawai‘i Hunting License issued prior to July 1, 1990. A hunting license is valid for all game in the State of Hawai‘i, including mammals (pigs, goats, sheep, mouflon and black-tailed deer and axis deer, on some islands) and gamebirds. A 2006 survey of recreationalists in Hawai‘i found that 18,000 residents hunted in the last year (USFWS-USCB 2006). Although there are local and statewide regulations that govern fishing practices, no marine fishing license is required in the State of Hawai‘i. Freshwater Game Fishing Licenses are required to recreationally take any introduced fresh water game fish, which are available in a few limited areas of the state. The 2006 recreational survey estimate that roughly 92,000 residents and 65,000 visitors fished in Hawai‘i (Ibid).

Other key wildlife-related recreational activities in the State of Hawai‘i include wildlife viewing and hiking. Among public hiking opportunities in Hawai‘i are six National Parks, 28 State Parks and portions of 53

forest reserves. Trails such as the Na Pali Coast on Kaua‘i, Haleakala Crater in Maui, and the Halape coastal trail and Waimanu Valley on the Big Island are world-renowned. Some County parks and many private lands also are open for hiking. Areas with the best wildlife viewing are located on the shoreline or with views of the shoreline, and in the native forests, shrublands and grasslands. Hawai‘i has 34 endangered bird species that are among the objects of “life lists” for birders from around the world. The 2006 recreational survey estimated that 155,000 Hawai‘i residents and 107,000 visitors engaged in wildlife viewing (USFWS and USCB 2006). Many forest reserves have poor access and there private lands that could offer access to these areas with the proper incentives.

3.2.2 Environmental Consequences

Impacts to recreation would be considered significant if they drastically reduced, increased, or removed available public lands designated for recreation or significantly degraded the quality of the recreation. Impacts to environmental conditions such as air, water, or biological resources within or near public recreational land in such a way to affect its use would also be considered significant.

3.2.2.1 Proposed Action (Preferred Alternative)

The Proposed Action has the potential to provide long-term, beneficial impacts to recreational resources in the State of Hawai‘i. Expanding public access would create more opportunities for residents and visitors to access and enjoy healthy outdoor recreational activities. Expansion of the program would allow more opportunities and venues for hunting, fishing, and wildlife viewing on private property. During habitat improvement projects there could be short-term, negative impacts to recreational resources because the land may not be accessible and improvement activities could disturb wildlife and game species. However, the increased funding for habitat improvement would also lead to long-term, higher quality hunting, fishing, and wildlife viewing opportunities. Therefore, the Proposed Action would have long-term, beneficial impacts to recreational resources in Hawai‘i.

3.2.2.2 No Action Alternative

Under the No Action Alternative, public access would not be facilitated and no habitat improvement projects would be undertaken on private lands utilizing the VPA-HIP HI Access Program funding. There would be no use of VPA-HIP funds for expansion of recreational opportunities in Hawai‘i; therefore, under the No Action Alternative there would be no beneficial or adverse impacts to recreational resources. The current public access programs would continue as they are currently administered.

3.3 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Socioeconomics for this PEA includes an investigation of population and demographic statistics as well as a discussion on the potential general increase in income from increased recreational opportunities.

3.3.1 Affected Environment

3.3.1.1 Population and Demographics

All Federal programs, including those administered by FSA, must comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The EO, issued February 11, 1994, requires each Federal agency to make environmental justice a part of its mission. Agencies are to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The EO prescribes that all people, regardless of race, color, national origin, or income, receive the following treatment:

- Are provided with fair treatment and meaningful involvement with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.
- Have the opportunity to express comments or concerns before decisions are rendered on the Federal programs, policies, procedures, or activities affecting them.
- Share in the benefits of, are not excluded from, and are not adversely or disproportionately affected by Federal programs, procedures, policies, or activities.

The President issued a Memorandum to the heads of all departments and agencies to underscore that certain provisions of the existing civil rights and environmental laws (Title VI of the Civil Rights Act, of 1964, the National Environmental Policy Act of 1969, the Clean Air Act and the Freedom of Information Act), the Government in the Sunshine Act, and the Emergency Planning and Community Right-to-Know Act help ensure that all persons in the community live in a safe and healthy environment.

Environmental justice considerations ensure that all populations are provided the opportunity to comment on issues before decisions are rendered. Environmental justice allows all people to share in the benefits of, and not be excluded from or affected in a disproportionately high and adverse manner by, government programs and activities affecting human health or the environment. Departmental Regulation 5600-2, issued December 15, 1997, provides direction to agencies for integrating environmental justice considerations into USDA programs and activities in compliance with Executive Order 12898.

Hawai'i is a racially diverse state. In 2010, the minority population was 76.3 percent of Hawai'i's total population of 1,360,301 (DBEDT 2012). The composition of the populations is as follows:

- White, 336,599 people (24.7 percent)
- Black/African American, 21,424 people (1.6 percent)
- American Indian/Alaskan Native 4,164 people (0.3 percent)
- Asian, 525,078 people (38.6 percent)
- Native Hawaiian/Pac. Islander, 135,422 people (10.0 percent)
- Two or More Races, 320,629 people (23.6 percent)
- Some Other Race, 16,985 people (1.2 percent)
- Hispanic or Latino, 120,842 people (8.9 percent)

- All Minority Groups (does not include Hispanic or Latino), 459,800 people (76.3 percent)

According to the USCB, Hawai‘i’s population grew at an annual rate of about 0.7 percent from 2000 to 2010, a slowdown from the 0.9 percent rate from 1990 to 2000 and substantially less than in earlier decades (DBEDT 2012). Much of this increase is attributed to in-migration as opposed to natural population growth.

In 2009, Hawai‘i had a relatively high poverty rate of 9.3 percent. Rural counties have far higher poverty rates, with the worst on the Big Island, at 14.5 percent (DBEDT 2012). Many hunters in rural areas of the State depend upon game, particularly pigs, to feed their families and reduce their household expenditures.

3.3.1.2 Economics

In 2009, the contribution of tourism to the economy was about \$9.7 billion, almost 20 percent of Hawai‘i’s Gross State Product (GSP). The export of visitor services is the largest single contributor to Hawai‘i’s annual GSP (DBEDT 2012). In 2010, Hawai‘i received approximately 695 million visitors, more than a quarter of them international (Ibid.). According to the *State of Hawai‘i Data Book*, 89.6.2 percent of visitors from the U.S. participated in some type of recreational activity in 2009. Some of the most popular recreational activities for U.S. visitors included sunbathing and swimming (84.5 percent), snorkeling and SCUBA diving (55.0 percent), backpacking, hiking and camping (22.0 percent), and golf (17.4 percent). The majority of U.S. visitors also participated in some form of sightseeing (92.2 percent) (DBET 2004). As discussed above, many visitors also engage in fishing and wildlife viewing (USFWS-USCB 2006). All of these activities have the potential to be enhanced by additional access and improved wildlife habitat. Encouraged by the lack of a requirement for a fishing license for ocean fishing, many visitors try deep sea and shorefishing as well. Access to shorefishing areas can contribute to the local economy. In 2001, state residents and nonresidents spent \$261 million on wildlife recreation in Hawai‘i. Of that total, trip-related expenditures were \$144 million and equipment purchases totaled \$106 million. The remaining \$12 million was spent on licenses, contributions, land ownership and leasing, and other items and services (USDA-FSA 2006).

3.3.2 Environmental Consequences

Significance of a socioeconomic impact varies depending on the setting of the Proposed Action, but 40 CFR 1508.8 states that effects may include those that induce changes in the pattern of land use, population density, or growth rate. Environmental justice is achieved when everyone, regardless of race, culture, or income, enjoys the same degree of protection from environmental and health hazards and has equal access to the decision-making process. Significant environmental justice impacts would result if access to decision-making documents was denied or if any adverse environmental effects occurred that would disproportionately affect minority or low-income populations.

An impact to the economy would be considered significant if it substantially reduced the amount of revenue to the state, or reduced income to economic sectors or geographic areas.

3.3.2.1 Proposed Action (Preferred Alternative)

Under the Proposed Action, there would be no disproportionate impact to minorities or low income populations in Hawai‘i. All of the public access programs are voluntary and would only target landowners with eligible lands. The VPA-HIP HI Access Program in combination with HDOFAW’s other public access and wildlife habitat improvement programs could provide additional opportunities to lower income hunters by opening up areas near residents’ communities that did not involve fees or long-distance travel (and hence fuel costs).

All residents, including low-income and minority populations, would benefit from the improvement of wildlife habitat and the attendant environmental benefits to water quality and other factors. Native Hawaiians/Pacific Islanders and other minorities would also not be excluded from the beneficial monetary impacts of the VPA-HIP HI Access Program, as minority farmers/ranchers would be able to apply for VPA-HIP funds when their lands offered needed access or opportunities for wildlife habitat improvement.

Application for use of the VPA-HIP HI Access Program funds would require the completion of an environmental evaluation (see Appendix A) by FSA and NRCS. Environmental justice issues would be addressed through this process. If the proposed action is found to cause any adverse human health or environmental effects to minority or low-income communities, a discussion of the negative impacts must be attached.

The Proposed Action has the potential to directly benefit Hawai‘i’s privately-held farms, ranches, and forest land. The USDA National Agricultural Statistics Service, *Hawai‘i Annual Statistics Bulletin* estimated that in 2009 there were 7,500 farms and ranches in Hawai‘i, comprising 1,110,000 acres within the state, which yields an average farm/ranch size of 148 acres (DBEDT 2012). Under the initial phase of the Proposed Action, \$110,000 in VPA-HIP HI Access Program funds (along with supplemental funding and support from HDOFAW) would be used directly for signage, road improvements, fencing of access corridors, gate reconfiguration, replacement of barbed wired with hogwire fences to keep feral animals and cattle in, surveys of access roads and key land parcels, other miscellaneous incentives needed to provide increased access on privately-held farms, ranches, and forest land (see Table 2-1). The VPA-HIP HI Access Program funds would also be used for an outreach specialist to assist landowners in understanding and enrolling in the program.

Subsequent funding would be used for additional public access and habitat improvement projects that fit within the goals of the VPA-HIP HI Access Program. Ultimately, some of the increased money paid out to private landowners and outreach full-time personnel would have a slight beneficial impact on local economies. Any habitat improvement projects undertaken may require purchase of goods (seeds, seedlings, shrubs, fencing materials) and services (fence building, rental of heavy equipment) depending on the nature of the improvement project. Increasing hunting and other recreational opportunities or allowing access to previously inaccessible hunting lands could also bring indirect economic benefits through traveling recreationalists needing lodging, meals, and other goods. Though beneficial, the long-term statewide economic effects from VPA-HIP implementation would be minimal. There is a potential for minor changes in some health, social and economic factors, but this would occur only on a very limited and disparate basis.

Ranchers, farmers, trail programs advocates and others consulted for the EA stressed that a well-managed public access program for hunting, hiking, wildlife viewing and gathering of plant materials was often an important issue for lands they manage. Most supported increasing respectful public access and making funds available for habitat improvement to increase the recreational value of lands and mitigate potential damage from existing and expanded access. They also shared a number of concerns. HDOFAW has compiled questions and will be seeking in an iterative way to develop strategies to respond to them as it implements the VPA-HIP program. An example can be found below. As these concerns are mostly centered on socioeconomic impacts related to lands use, the concerns and draft responses are addressed in this section, grouped together for the convenience of landowners, managers and potential users reviewing or consulting the PEA.

Will access be required to be open to the public 24/7? If not, how will they be managed?

Access agreements will be worked out individually, and the terms for each easement will depend on the needs and wants of the affected landowners, lessees, and communities. While some agreements will be 24/7 with no permit required, others may limit the number of daily use and involve a permit process.

What measures could realistically be employed to address the potential increased exposure to agricultural theft and poaching?

The HDOFAW plans to tailor strategies to individual situations. The HDOFAW may fence some access corridors. It will conduct outreach to stress the importance of respecting public access; work with the Hunter Education program to stress the need to respect access; work with the HDLNR Division of Conservation and Resource Enforcement to increase presence/vigilance in the access project areas; consider installing game cameras to monitor some access corridors; implement a permit system and/or require signing out of a key or combination to the locked gates along the corridor; and, if necessary, shut down access routes where theft or vandalism occur.

How will the public be informed of their responsibilities if private landowners decide to open up more accesses?

The initial phase of VPA-HIP funds would be used to employ an existing outreach staff member of Three Mountain Alliance with implementing a respected access campaign in one of the proposed project areas as well as an outreach coordinator who will work on statewide education efforts via the statewide hunter education courses and other forums.

What will be the environmental impacts of off-road vehicles utilizing FR properties?

In Forest Reserves use of off road vehicles to access trails and remote forest areas is permissible on roads only. If off-road vehicles are used in other areas, especially ATV's and quads, these vehicles will not be permitted and the newly created access routes may be closed.

Can this cover liability coverage for the private landowner?

The program may provide funds to cover liability issues. There is also the potential to use the State of Hawai'i's Na Ala Hele Statute for access agreements. The statute indemnifies landowners who provide access to the public.

How will landowners be compensated for the considerable effort to provide access to the public, including maintaining locked gates, changing combinations, informing and coordinating with users, etc.?

This is a voluntary program and each access agreement will be negotiated to meet the needs of each particular landowner. In some cases compensation will come in the form of new gates, new pasture fences, invasive species control, or road improvements. In other cases the landowner benefits because, presently there may be liability exposure for the illegal access that has occurred on his/her land for years, and by participating in this program, he is now protected and indemnified.

Will there be a possibility of providing gravel on a continuing basis for road upkeep? Otherwise the accesses will degrade and the public may complain.

Continuing maintenance may be provided, depending upon the circumstances.

3.3.2.2 No Action Alternative

Under the No Action Alternative, HDOFAW would not receive funding under the VPA-HIP HI Access Program. HDOFAW would not be able to hire personnel to support this program or perform additional public access and habitat improvement projects. The No Action Alternative would not allow for any of the positive economic impacts from the introduction of the VPA-HIP funding into the economy, nor would it allow for the expansion of hunting and other wildlife-based recreational opportunities on private lands, which also brings economic benefit via lodging and purchase of goods and supplies.

3.4 WATER RESOURCES

For this analysis, water resources include surface water quality. The Clean Water Act, the Safe Drinking Water Act, and the Water Quality Act are the primary Federal laws that protect the nation's waters including lakes, rivers, aquifers, and wetlands. Wetlands are addressed in Biological Resources, Section 3.1.1.3, above.

3.4.1 Affected Environment

The Hawaiian Archipelago is located in the central Pacific Ocean, approximately 2,500 miles from the continental U.S. The State of Hawai'i consists of the 8 major and 124 minor islands in the 1,523-mile long archipelago. The water resources that occur within the state's 6,423 square miles are (HIDOH, 1998):

- 249 miles of perennial rivers and streams
- 376 perennial rivers and streams
- Approximately 1,500 intermittent streams
- 12 lakes, rivers, and ponds
- 2168 acres of lakes, rivers, and ponds
- 55 square miles of estuaries, harbors and bays
- 1,052 miles of ocean coast (includes all the shorelines of the Hawaiian Chain and 964 shoreline miles of the main islands)

The unique characteristics of Hawai'i's topography, climate and geology result in a highly variable and complex surface hydrology. Most streams originate in the mountains of Hawai'i and terminate in the ocean. In general, Hawai'i's islands can be divided into two regions, windward and leeward, which are related to the northeasterly trade winds and mountains. On the windward side, orographic rainfall results in high mean

annual rainfall sometimes 15 times greater than the mean for Hawai‘i (25-30 inches). Consequently, the majority of Hawai‘i’s perennial streams are located on the windward side of islands. Mean annual rainfall on the leeward side can be in the single digits and intermittent streams that are dry during most of the year are more commonly located in leeward watersheds. Variations in ocean tides, rainfall, soil type, and geology can result in streams having both gaining and losing reaches.

Streams in Hawai‘i also experience extreme flashy events characterized by high flows of short duration (stream levels can increase by several feet in less than an hour). These temporal variations in stream flow are due to frequent storms of intense rainfall, small watersheds, steep topography, and limited channel storage. These flashy events can cause massive erosion and deliver tons of sediments to receiving water bodies.

Surface water in Hawai‘i is used for irrigation, hydroelectricity, traditional taro cultivation, and in some areas as a main source of drinking water. Many of the perennial streams have been diverted for agricultural or other uses. Streams provide important riparian and instream habitats for many unique native species, and possess valued aesthetic qualities. Streams affect the physical, chemical, and aesthetic quality of receiving waters, such as estuaries, bays, and near-shore waters, which are critical to the tourism-based economy of the islands.

Floodplains are defined as lowlands or relatively flat areas adjoining inland or coastal waters, including at a minimum areas subject to a one percent or greater chance of flooding in any given year. Floodplains serve a variety of functions and values including:

- Dissipating the energy of floods, reducing flood damage downstream.
- Floodwater storage, which slowly releases water into adjacent streams, maintaining base flows.

Development and activities in floodplains may affect these functions, potentially increasing the impact of floods on human health and safety. All Federal actions must meet the requirements of EO 11988, Floodplain Management. The purpose of the EO is to avoid incompatible development. It states, in part, that:

“Each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.”

The Hawai‘i Department of Health (HIDOH) monitors over 150 water bodies that are known to be water quality impaired in watersheds across the state. HIDOH also compiles information from other agencies and organizations on their water quality monitoring efforts and provides reports on the status of state surface waters.

The HIDOH is responsible for administering Federal and State laws pertaining to water quality. The Clean Water Act of 1972 requires the HIDOH to create two reports about the water quality of the state’s

waterbodies. Under Section 303(d) of the CWA, the HDOH is required to biennially develop a Water Quality Limited Segments List (commonly called a 303(d) List). This is a list of waterbodies that are not meeting state water quality standards. The HDOH is required to develop the 303(d) list using all appropriate readily available data, including physical/chemical, sediment, habitat and biological data.

Section 303(d) requires a total maximum daily load (TMDL) for waters that do not meet state water quality standards. A TMDL is a “pollution budget” for a specific river, lake, or stream, and is an established wasteload allocation for point and non-point sources. HDOH following the USEPA’s guidelines developed the 2004 303(d) list titled the *Final 2004 List of Impaired Waters in Hawai‘i Prepared Under Clean Water Act §303(d)* (HDOH, 2004). Under Section 305(b) of the CWA, the HDOH is required to biennially report to the USEPA on the water quality of Hawai‘i’s waterbodies. These reports provide overviews of water quality, identify problems, and quantify the ability of Hawai‘i’s waterbodies to support designated uses and attain water quality standard (HDOH, 1998).

3.4.2 Environmental Consequences

Impacts to water resources would be considered significant if implementation of the Proposed Action resulted in violating laws or regulations established to protect water resources, or actions resulted in major deterioration of water quality.

3.4.2.1 Proposed Action (Preferred Alternative)

Under the Proposed Action, it is expected that implementation of the public access and habitat improvement projects would increase habitat value by controlling less favorable species in preference for species that provide greater vegetation and wildlife value, as well as long term decreases in erosion which can lead to impacts on water quality. Improvements to riparian habitat may include herbaceous seeding, shrub planting, removal of non-native trees that overshadow and produce excessive litter on certain streams, and limiting grazing during certain times of the year. Surface water quality would be improved by stabilizing the banks, plantings, and limiting grazing during certain times of the year. The habitat improvement measure could cause a minor short term impact by increasing sediment loads in runoff; however, the long term benefit of the habitat improvements more than offset the short term impact. In addition, sound erosion and sediment control measures would be utilized during the habitat improvement. The NEPA worksheet (see Appendix A) would identify all nearby surface water bodies and establish the appropriate management practices to protect those resources from increased sedimentation, such as installing silt fencing around the project site and establishing vegetative cover on exposed soils. The potential impact to aquatic wildlife species is addressed in Section 3.1.

In accordance with the EO 11988, Floodplain Management, and prior to any action, Federal Emergency Management Agency (FEMA) Floodplain Insurance Rate Maps (FIRM) would be reviewed to determine if the proposed action is located in or would affect a 100-year floodplain. Soil survey maps, aerial photography, and topographical maps would be used when no FEMA maps are readily available. The HDOFAW will expend efforts on surveys in areas where no flood hazard or flood elevation data are available commensurate with the amount of Federal investment in the proposed action and the risk that the action could create a

significant adverse effect on the floodplain. Actions that involve construction activities or substantial earth movement in or near floodplains will need to be reviewed and appropriate public notice provided. In all appropriate instances, applicable development permits must be obtained from local authorities prior to any construction activities within a floodplain. Marginal improvements to the beneficial values of floodplains would come from habitat improvement activities within floodplains, which could improve conditions for wildlife, increase water storage capacity and reduce erosion. These activities would both slow and filter stormwater runoff resulting in less severe flooding events and a more natural floodplain. A natural floodplain would help to decrease any adverse impacts associated with unrelated channelization and flood control projects upstream. These practices would all help control flood events by providing more water storage in floodplain areas (and wetlands and other natural storage structures) and by maintaining or improving floodplain values.

3.4.2.2 No Action Alternative

Under the No Action Alternative, the VPA-HIP HI Access funding would not be available for public access expansion and habitat improvement projects on private lands, which can contribute to improved water quality. The current public access programs would continue to be available. Water quality would not improve or degrade. Floodplain areas would not change, and stream profiles (a major factor in the determination of floodplain areas) would not change based on Federal actions. Therefore, effects on floodplain conditions would be negligible under the No Action Alternative.

3.5 SOILS

Soils are included in this PEA because of the potential impacts from 1) soil disturbance and erosion during habitat improvement construction and 2) long-term habitat improvement.

3.5.1 Affected Environment

A variety of soils occur throughout the State of Hawai‘i. The differences in geology, topography, and particularly climatic conditions within the state have led to the development of many different soils with unique characteristics and distributions. There are also large areas in the state, particularly on the Big Island, that are covered in lava flows, with minimal soil development.

Hawai‘i has abundant arable soils that have been generated by the weathering of basaltic lava and volcanic ash. Important soils are the oxisols of O‘ahu and Kaua‘i, both of which are red from iron oxidation include the andisols and mollisols derived from lava flows on Maui and Hawai‘i, which can be agriculturally productive when irrigated. Inceptisols are present on relatively young landscapes in steep, unstable areas. Large parts of the Big Island are covered with histosols, organic soils that derive from forest litter on lava lands (UHH Geog. 1998).

3.5.2 Environmental Consequences

Impacts to soils would be considered significant if activities resulted in increased erosion and sedimentation to a level that could not be avoided or minimized with appropriate management practices or mitigation measures.

3.5.2.1 Proposed Action (Preferred Alternative)

The Proposed Action has the potential to negatively impact soils resources during habitat improvement projects associated with the individual VPA-HIP projects. Specific impacts would depend on the types of soil in the project area and the erosion potential of each individual soil, and the size and depth of the proposed disturbance. These site-specific impacts would be fully addressed during the NEPA worksheet process. Programmatic-level impacts would include temporary disturbance during habitat improvement from activities such as grading or the removal of invasive vegetation. The use of NRCS-approved proper best management practices such as silt fencing during soil disturbing activities would reduce the amount of soil erosion and sedimentation in project areas. Completion of habitat improvement projects would have long-term benefits on area soils, because an increase in vegetation cover would help reduce future soil erosion in improved areas. Under the Proposed Action, there would be short-term, negative impacts to soil resources during habitat improvement projects; however, once the projects are completed there would be long-term, beneficial impacts to soil resources in the State of Hawai‘i.

3.5.2.2 No Action Alternative

Under the No Action Alternative, public access would not be expanded and no habitat improvement projects would be undertaken on private lands utilizing the VPA-HIP funding. HDOFAW would continue with the current public access and habitat improvement programs of the State of Hawai‘i. Therefore, the long-term, positive impacts associated with the implementation of the Proposed Action would not be realized. There would be no impacts to soils under the No Action Alternative.

CHAPTER 4.0 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.1 CUMULATIVE IMPACTS

CEQ regulations stipulate that the cumulative impacts analysis within an EA should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). Recent CEQ guidance in considering cumulative impacts involves defining the scope of the other actions and their interrelationship with the Proposed Action. The scope must consider geographical and temporal overlaps among the Proposed Action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative impacts are most likely to arise when a relationship or synergism exists between the Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated.

In this PEA, the affected environment for cumulative impacts includes all of the State of Hawai‘i since the public access programs are available statewide; therefore, the proposed habitat improvement projects could occur anywhere in the state on private land enrolled in one of various public access and habitat improvement programs.

Actions overlapping with, or in proximity to, the proposed action are most likely to have the potential to result in cumulative effects. In particular, conservation programs that provide financial or technical assistance to private landowners and are designed to mitigate impacts to natural resources may interact with the VPA-HIP HI Access Program and require analysis for cumulative effects. These programs, which were described above in Chapter 1, involve Federal programs including the Conservation Reserve Enhancement Program, Wildlife Habitat Incentives Program, Environmental Quality Incentives Program, and the Wetlands Reserve Program. State programs or Federal programs that involve grants to states or local agencies include Cooperative Game Management Areas, the Forest Stewardship Program, the Forest Legacy Program, the Legacy Land Conservation Program, Watershed Partnerships, Natural Area Reserve Partnerships, and the Na Ala Hele Program.

Other reasonably foreseeable actions include ongoing and new farming, ranching and forestry actions that occur throughout the State of Hawai‘i.

The potential long-term impacts from habitat improvement projects under the VPA-HIP HI Access Program in combination with other wildlife habitat conservation strategies and farming, ranching and forestry would have overall long-term, synergistic beneficial impacts to the wildlife populations and habitat in the State of Hawai‘i. Combining programs for individual ranchers and farmers that offer incentives to habitat preservation will leverage benefits of individual programs. Increasing landowner awareness of the presence

of important wildlife and game species and minor activities that landowners can do to improve habitat on their land would create an environment to support a sustained wildlife population. Involving the public through respected access and hunter education campaigns can not only make public access programs better for landowners, it can increase public involvement and acceptance of the wildlife habitat improvement programs associated with access improvements. Each of the programs listed above involve individual environmental analysis, including baseline analyses, environmental mitigation, and monitoring, often incorporating management plans. Therefore, cumulative impacts are expected to be mainly beneficial to the natural environment.

4.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretreivable commitments are related to the use of nonrenewable resources and the effect that the use of these resources has on future generations. Irreversible effects primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretreivable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. Under the Proposed Action, long-term beneficial impacts are expected to wildlife populations and their habitats and recreational users. There would be no irreversible or irretreivable commitment of resources.

CHAPTER 5.0 MITIGATION MEASURES

The purpose of mitigation is to avoid, minimize, or eliminate significant negative impacts on affected resources. CEQ regulations (40 CFR 1508.20) state that mitigation includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

CEQ regulations state that all relevant reasonable mitigation measures that could avoid or minimize significant impacts should be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies. This serves to alert agencies or officials who can implement these extra measures, and will encourage them to do so. The lead agency for this Proposed Action is FSA. The state partner agency is HDOFAW.

There are no expected long-term, significant negative impacts associated with implementation of the VPA-HIP in Hawai'i. State employed biologists or representatives must complete site specific environmental evaluations (NEPA worksheet, Appendix A) prior to all habitat improvement projects which would determine whether there are any protected resources on the property. In those site specific instances where a wetland, threatened or endangered species, or a cultural resource may be present, consultation with the appropriate lead agency would identify specific mitigation measures required to eliminate or reduce the negative impacts to an acceptable level.

CHAPTER 6.0 PERSONS AND AGENCIES CONTACTED

Audubon Society
Ducks Unlimited
E Mau Na Ala Hele
Hawaii Cattlemens' Council
Hawaii County Planning Department Public Access Specialist
Hawai'i Leeward Planning Conference
Hawaiian Island Land Trust
Hunters (various)
Kahuā Ranch
Leeward Haleakala Watershed Restoration Partnership
Office of Hawaiian Affairs, Honolulu
Office of Hawaiian Affairs, Wao Kele O Puna Forest Reserve
Palani Ranch
Parker Ranch
Sierra Club
Trust for Public Land
U.S. Forest Service, Pacific Southwest Research Station
Ulupalakua Ranch

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CHAPTER 8.0 LIST OF PREPARERS

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APPENDIX A
NEPA WORKSHEET

U.S. Department of Agriculture Natural Resources Conservation Service		NRCS-CPA-52 6/2010		A. Client Name:			
ENVIRONMENTAL EVALUATION WORKSHEET				B. Conservation Plan ID # (as applicable): Program Authority (optional):			
				D. Client's Objective(s) (purpose):			
E. Need for Action:		G. Alternatives					
		No Action √ if RMS <input type="checkbox"/>		Alternative 1 √ if RMS <input type="checkbox"/>		Alternative 2 √ if RMS <input type="checkbox"/>	
		[Empty]		[Empty]		[Empty]	
Resource Concerns							
In Section "F" below, analyze, record, and address concerns identified through the Resources Inventory process. (See FOTG Section III - Resource Quality Criteria for guidance).							
F. Resource Concerns and Existing / Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)		H. Effects of Alternatives					
		No Action		Alternative 1		Alternative 2	
		Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC
SOIL			NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
			NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
			NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
WATER			NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
			NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
			NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC

F. Resource Concerns and Existing / Benchmark Conditions (Analyze and record the existing/benchmark conditions for each identified concern)	H. (continued)					
	No Action		Alternative 1		Alternative 2	
	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC	Amount, Status, Description (short and long term)	√ if does NOT meet QC
AIR		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
PLANTS		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
ANIMALS		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC		NOT meet <input type="checkbox"/> QC
HUMAN - Economic and Social Considerations						

Special Environmental Concerns: Environmental Laws, Executive Orders, policies, etc.						
In Section "I" complete and attach applicable Environmental Procedures Guide Sheets for documentation. Items with a "•" may require a federal permit or consultation/coordination between the lead agency and another government agency. In these cases, effects may need to be determined in consultation with another agency. Planning and practice implementation may proceed for practices not involved in consultation.						
I. Special Environmental Concerns (Document compliance with Environmental Laws, Executive Orders, policies, etc.)	J. Impacts to Special Environmental Concerns					
	No Action		Alternative 1		Alternative 2	
	Status and progress of compliance. (Complete and attach Guide Sheets as applicable)	√ if needs further action	Status and progress of compliance. (Complete and attach Guide Sheets as applicable)	√ if needs further action	Status and progress of compliance. (Complete and attach Guide Sheets as applicable)	√ if needs further action
•Clean Air Act		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Clean Water Act / Waters of the U.S.		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Coastal Zone Management		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Coral Reefs		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Cultural Resources / Historic Properties		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Endangered and Threatened Species		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Environmental Justice		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Essential Fish Habitat		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Floodplain Management		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Invasive Species		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Migratory Birds/Bald and Golden Eagle Protection Act		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Prime and Unique Farmlands		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Riparian Area		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Wetlands		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
•Wild and Scenic Rivers		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
K. Other Agencies and Broad Public Concerns	No Action		Alternative 1		Alternative 2	
Easements, Permissions, Public Review, or Permits Required and Agencies Consulted.						

K. (continued) Other Agencies and Broad Public Concerns		<i>No Action</i>	<i>Alternative 1</i>	<i>Alternative 2</i>																											
Cumulative Effects Narrative (Describe the cumulative impacts considered, including past, present and known future actions regardless of who performed the actions)																															
L. Mitigation																															
M. Preferred Alternative	√ preferred alternative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																											
	Supporting reason																														
N. Context (Record context of alternatives analysis)																															
The significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality.																															
O. Determination of Significance or Extraordinary Circumstances																															
<p>Intensity: Refers to the severity of impact. Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.</p> <p>If you answer ANY of the below questions "yes" then contact the State Environmental Liaison as there may be extraordinary circumstances and significance issues to consider and a site specific NEPA analysis may be required.</p>																															
<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Yes</th> <th style="width: 10%;">No</th> <th></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Is the preferred alternative expected to cause significant effects on public health or safety?</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Is the preferred alternative expected to significantly effect unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Are the effects of the preferred alternative on the quality of the human environment likely to be highly controversial?</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Does the preferred alternative have highly uncertain effects or involve unique or unknown risks on the human environment?</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Does the preferred alternative establish a precedent for future actions with significant impacts or represent a decision in principle about a future consideration?</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Is the preferred alternative known or reasonably expected to have potentially significant environment impacts to the quality of the human environment either individually or cumulatively over time?</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Will the preferred alternative likely have a significant adverse effect on ANY of the special environmental concerns? Use the Evaluation Procedure Guide Sheets to assist in this determination. This includes, but is not limited to, concerns such as cultural or historical resources, endangered and threatened species, environmental justice, wetlands, floodplains, coastal zones, coral reefs, essential fish habitat, wild and scenic rivers, clean air, riparian areas, natural areas, and invasive species.</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>• Will the preferred alternative threaten a violation of Federal, State, or local law or requirements for the protection of the environment?</td> </tr> </tbody> </table>					Yes	No		<input type="checkbox"/>	<input type="checkbox"/>	• Is the preferred alternative expected to cause significant effects on public health or safety?	<input type="checkbox"/>	<input type="checkbox"/>	• Is the preferred alternative expected to significantly effect unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?	<input type="checkbox"/>	<input type="checkbox"/>	• Are the effects of the preferred alternative on the quality of the human environment likely to be highly controversial?	<input type="checkbox"/>	<input type="checkbox"/>	• Does the preferred alternative have highly uncertain effects or involve unique or unknown risks on the human environment?	<input type="checkbox"/>	<input type="checkbox"/>	• Does the preferred alternative establish a precedent for future actions with significant impacts or represent a decision in principle about a future consideration?	<input type="checkbox"/>	<input type="checkbox"/>	• Is the preferred alternative known or reasonably expected to have potentially significant environment impacts to the quality of the human environment either individually or cumulatively over time?	<input type="checkbox"/>	<input type="checkbox"/>	• Will the preferred alternative likely have a significant adverse effect on ANY of the special environmental concerns? Use the Evaluation Procedure Guide Sheets to assist in this determination. This includes, but is not limited to, concerns such as cultural or historical resources, endangered and threatened species, environmental justice, wetlands, floodplains, coastal zones, coral reefs, essential fish habitat, wild and scenic rivers, clean air, riparian areas, natural areas, and invasive species.	<input type="checkbox"/>	<input type="checkbox"/>	• Will the preferred alternative threaten a violation of Federal, State, or local law or requirements for the protection of the environment?
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P. The information recorded above is based on the best available information:																															
In the case where a non-NRCS person (i.e. a TSP) assists with planning they are to sign the first signature block and then NRCS is to sign the second block as the responsible federal agency for the planning action.																															
Signature (TSP if applicable)		Title		Date																											
Signature (NRCS)		Title		Date																											

The following sections are to be completed by the Responsible Federal Official (RFO)

Q. NEPA Compliance Finding (check one)		
The preferred alternative:		Action required
<input type="checkbox"/>	1) is not a federal action where the agency has control or responsibility.	Document in "R.1" below. No additional analysis is required
<input type="checkbox"/>	2) is a federal action that is categorically excluded from further environmental analysis and there are no <u>extraordinary circumstances</u> .	Document in "R.2" below. No additional analysis is required
<input type="checkbox"/>	3) is a federal action that has been sufficiently analyzed in an existing Agency state, regional, or national NEPA document and there are no predicted <u>significant adverse environmental effects</u> or <u>extraordinary circumstances</u> .	Document in "R.1" below. No additional analysis is required.
<input type="checkbox"/>	4) is a federal action that has been sufficiently analyzed in another Federal agency's NEPA document (EA or EIS) that addresses the proposed NRCS action and its' effects and has been formally adopted by NRCS . NRCS is required to prepare and publish the agency's own Finding of No Significant Impact for an EA or Record of Decision for an EIS when adopting another agency's EA or EIS document. Note: This box is not applicable to FSA.	Contact the State Environmental Liaison for list of NEPA documents formally adopted and available for tiering. Document in "R.1" below. No additional analysis is required
<input type="checkbox"/>	5) is a federal action that has NOT been sufficiently analyzed or may involve predicted significant adverse environmental effects or extraordinary circumstances and may require an EA or EIS.	Contact the State Environmental Liaison. Further NEPA analysis required.

R. Rationale Supporting the Finding

R.1 Findings Documentation	
R.2 Applicable Categorical Exclusion(s) (more than one may apply)	

I have considered the effects of the alternatives on the Resource Concerns, Economic and Social Considerations, Special Environmental Concerns, and Extraordinary Circumstances as defined by Agency regulation and policy.

S. Signature of Responsible Federal Official:

Signature	Title	Date

Additional notes