

APPENDIX A: AGENCY CONSULTATION



United States Department of the Interior

Hawai'i Volcanoes National Park
P. O. Box 52
Hawaii National Park, HI 96718-0052
808/985-6000
808/967-8186 (FAX)

In Reply Refer to:

H4217 (HAVO)
xL7617

March 20, 2008

Mr. Patrick Leonard, Field Supervisor
US Fish and Wildlife Service
Pacific Islands Ecoregion
300 Ala Moana Blvd, Rm 3-122
PO Box 50088
Honolulu HI 96850

Dear Patrick:

Subject: Request for Informal Section 7 Consultation, Protecting & Restoring Native Ecosystems by Managing Non-Native Ungulates Plan/EIS

The National Park Service (NPS) is initiating informal Section 7 consultation for a proposed undertaking at Hawai'i Volcanoes National Park. The NPS has begun preparation of a draft environmental impact statement (EIS) to address the long-term management of non-native ungulates within Hawai'i Volcanoes National Park. The purpose of the plan is to refine strategies for managing non-native ungulates that support long-term ecosystem protection; support recovery and restoration of native vegetation and other natural resources; and protect and preserve cultural resources. The NPS will comply with the National Environmental Policy Act of 1969 (NEPA) in the preparation of the EIS.

We request your input on any issues related to the project. In addition, we seek information about the presence of listed rare, threatened, or endangered species in the vicinity of the park. Your participation will help ensure that potential environmental impacts are adequately considered. A scoping newsletter is enclosed with this letter. It provides a brief background on the issue of ungulates in the park and the purpose and need for action. We appreciate your careful consideration of this material.

The week of April 29, 2008, Hawai'i Volcanoes National Park will be holding scoping meetings at three locations on the Island of Hawai'i. They are as follows:

Tuesday, April 29, 5:30 pm-8:30 pm, Hilo:
University of Hawai'i at Hilo
University Classroom Building (UCB), first floor, Room 100
200 W. Kawili St.
Hilo, Hawai'i

Mr. Patrick Leonard, Field Supervisor
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March 20, 2008

Wednesday, April 30, 5:00 pm-8:00 pm, Na'alehu:
Na'alehu Community Center
95-5635 Mamalahoa Highway
Na'alehu, Hawai'i

Thursday, May 1, 5:00 pm-8:00 pm: Kailua-Kona
Kona Outdoor Circle Educational Center and Botanical Gardens
76-6280 Kuakini Highway
Kailua-Kona, Hawai'i

In addition to attending the public meetings, comments may be provided in two other ways:

Mail:

Cindy Orlando
Superintendent, Hawai'i Volcanoes National Park
RE: Protecting & Restoring Native Ecosystems by Managing Non-Native
Ungulates Plan/EIS
P.O. Box 52
Hawaii National Park, HI 96718-0052

Electronically:

Through the NPS Planning, Environment and Public Comment project Web site at
<http://parkplanning.nps.gov/HAVO>.

We appreciate your participation in the EIS process and look forward to receiving your comments. If you have any questions please contact Dr. Rhonda Loh, Chief of Natural Resources Management, at 808-985-6098.

Sincerely,



Cynthia L. Orlando
Superintendent

Enclosure



United States Department of the Interior

Hawai'i Volcanoes National Park
P. O. Box 52
Hawaii National Park, HI 96718-0052
808/985-6000
808/967-8186 (FAX)

In Reply Refer to:

H4217 (HAVO)
xL7617

March 20, 2008

Laura Thielen
State Historic Preservation Officer
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, HI 96707

Dear Laura:

Subject: Protecting & Restoring Native Ecosystems by Managing Non-Native Ungulates
Plan/EIS

In accordance with the Advisory Council on Historic Preservation regulations, 36 CFR Part 800 Protection of Historic Properties, the National Park Service (NPS) is initiating Section 106 consultation for a proposed undertaking at Hawai'i Volcanoes National Park. The NPS has begun preparation of a draft environmental impact statement (EIS) to address the long-term management of non-native ungulates within Hawai'i Volcanoes National Park. The purpose of the plan is to refine strategies for managing non-native ungulates that support long-term ecosystem protection; support recovery and restoration of native vegetation and other natural resources; and protect and preserve cultural resources. The NPS will comply with the National Environmental Policy Act of 1969 (NEPA) in the preparation of the EIS.

Your participation in the Section 106 and NEPA processes will help ensure that potential environmental impacts are adequately considered. A scoping newsletter is enclosed with this letter. It provides a brief background on the issue of ungulates in the park and the purpose and need for action. We appreciate your careful consideration of this material.

The week of April 29, 2008, Hawai'i Volcanoes National Park will be holding scoping meetings at three locations on the Island of Hawai'i. They are as follows:

Tuesday, April 29, 5:30pm-8:30pm, Hilo:
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Laura Thielen
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March 20, 2008

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95-5635 Mamalahoa Highway
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Kona Outdoor Circle Educational Center and Botanical Gardens
76-6280 Kuakini Highway
Kailua-Kona, Hawai'i

In addition to attending the public meetings, comments may be provided in two other ways:

Mail:

Cindy Orlando
Superintendent, Hawai'i Volcanoes National Park
RE: Protecting & Restoring Native Ecosystems by Managing Non-Native
Ungulates Plan/EIS
P.O. Box 52
Hawaii National Park, HI 96718-0052

Electronically:

Through the NPS Planning, Environment and Public Comment project Web site at
<http://parkplanning.nps.gov/HAVO>.

We invite your organization to participate in the Section 106 and NEPA consultation for this undertaking and look forward to receiving your comments. If you have any questions please contact Dr. Rhonda Loh, Chief of Natural Resources Management, at 808-985-6098 or Laura C. Schuster, Chief of Cultural Resources, at 808-985-6130.

Sincerely,



Cynthia L. Orlando
Superintendent

Enclosure

Laura Thielen
Page 3
March 20, 2008

cc:
Nance McMahan
Department of Land and Natural Resources
P O Box 261
Honolulu HI 96809

Department of Land and Natural Resources
Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei HI 96707

Department of Land and Natural Resources
Historic Sites Division
601 Kamokila Boulevard, Room 555
Kapolei HI 96707

Hawai'i Island Burial Council
c/o State Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei HI 96707

La'akea Suganuma
835 Ahuwale Street
Honolulu HI 96821

Kalauonaone o Puna Association
c/o Mr. Leroy Dikito, President
P O Box 1582
Pāhoa HI 96778

Darryl Yagodich
Department of Hawaiian Home Lands
P O Box 1879
Honolulu HI 96805

Lukela Ruddle
Office of Hawaiian Affairs, Hilo CRC
162-A Baker Avenue
Hilo HI 96720

Laura Thielen
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March 20, 2008

Cindy Orlando
Kupuna Consultation Group
P O Box 52
Hawaii National Park HI 96718

Clyde Namu'o
Office of Hawaiian Affairs
711 Kapi'olani Boulevard, Suite 500
Honolulu HI 96813

Director
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, Suite 803
Washington D.C. 20004

Samuel M. Gon III
The Nature Conservancy of Hawai'i
923 Nu'uanu Avenue
Honolulu HI 96817

Robert Keli'icho'omalu
The Kalapana Community Ohana
RR1, Box 4972
Pāhoa HI 96778

Pi'ilani Ka'awaloa
Kalapana Community Organization
P O Box 688
Pāhoa HI 96778

Marion Kelly
4117 Black Point Road
Honolulu HI 96816

Kiersten Faulkner
Historic Hawai'i Foundation
680 Iwilei Road, Suite 690
Honolulu HI 96817

Laura Thielen
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March 20, 2008

Edward Ayau
Executive Director
Hui Malama I Na Kupuna 'O Hawai'i Nei
622 Wainaku Avenue
Hilo HI 96720

Lani Ma'a Lapilio
Ho'akea Public Relations LLC
1001 Bishop Street
Pauahi Tower, 27th Floor
Honolulu HI 96813

Kamana'o Mills
Department of Hawaiian Home Lands
P O Box 1879
Honolulu HI 96805



United States Department of the Interior

Hawai'i Volcanoes National Park
P. O. Box 52
Hawaii National Park, HI 96718-0052
808/985-6000
808/967-8186 (FAX)

In Reply Refer to:

L7617 (HAVO)

March 20, 2008

The Honorable Neil Abercrombie
U. S. Congress
1502 Longworth HOB
Washington D. C. 20515

Dear Congressman Abercrombie:

Subject: Protecting & Restoring Native Ecosystems by Managing Non-Native Ungulates Plan/EIS

The National Park Service (NPS) has initiated preparation of a draft environmental impact statement (EIS) to address the long-term management of non-native ungulates within Hawai'i Volcanoes National Park. The purpose of the plan is to refine strategies for managing non-native ungulates that support long-term ecosystem protection; support recovery and restoration of native vegetation and other natural resources; and protect and preserve cultural resources. The NPS will comply with the National Environmental Policy Act of 1969 (NEPA) in the preparation of the EIS.

We invite you to participate in the EIS scoping process. Your participation will help ensure that potential environmental impacts are adequately considered during the preparation of the EIS. A scoping newsletter is enclosed with this letter. It provides a brief background on the issue of ungulates in the park and the purpose and need for action. We appreciate your careful consideration of this material.

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The Honorable Neil Abercrombie
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March 20, 2008

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Kona Outdoor Circle Educational Center and Botanical Gardens
76-6280 Kuakini Highway
Kailua-Kona, Hawai'i

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By Mail:


Cindy Orlando
Superintendent, Hawai'i Volcanoes National Park
RE: Protecting & Restoring Native Ecosystems by Managing Non-Native
Ungulates Plan/EIS
P.O. Box 52
Hawaii National Park, HI 96718-0052

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Through the NPS Planning, Environment and Public Comment project Web site
<http://parkplanning.nps.gov/HAVO>.

We appreciate your participation in the EIS process and look forward to receiving your comments. If you have any questions please contact Dr. Rhonda Loh, Chief of Natural Resources Management, at (808) 985-6098.

Sincerely,



Cynthia L. Orlando
Superintendent

Enclosure

cc: The Honorable Neil Abercrombie
U. S. Congress
300 Ala Moana Boulevard, Room 4-104
Honolulu HI 96750

N1621

June 2, 2011

Dr. Loyal Mehrhoff, Field Supervisor



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850



HAVO # 393

In Reply Refer To:
12200-2008-TA-0159

MAY 19 2008

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MAY 2 2008

HAWAII VOLCANOES NAT'L PARK

Ms. Cynthia Orlando, Superintendent
Hawaii Volcanoes National Park
P. O. Box 52
Hawaii National Park, Hawaii 96718-0052

Subject: Technical Assistance for the Preparation of an Environmental Impact Statement
for Hawaii Volcanoes National Park's Plan to Protect and Restore Native
Ecosystems by Managing Non-Native Ungulates

Dear Ms. Orlando:

We received your letter on March 24, 2008, requesting our input into your plan to manage non-native ungulates and restore native ecosystems within Hawaii Volcanoes National Park (Park). You requested our comments to assist you in drafting your Environmental Impact Statement (EIS) for this project. The purpose of the plan is refine strategies for managing non-native ungulates to support long-term ecosystem protection; support the recovery and restoration of native vegetation and other natural resources; and protect and preserve cultural resources. Native rainforests on the Island of Hawaii are among the most diverse ecosystems in the State and are a key area for preserving ecological diversity in the Hawaiian Islands. The U. S. Fish and Wildlife Service (Service) agrees, ungulate management is an essential step towards restoring the ecological integrity of the Park's native ecosystems. We would like to thank you for extending our deadline to reply to this letter to May 19, 2008.

Hawaiian ecosystems evolved in the absence of mammalian herbivores and as a consequence, are extremely vulnerable to damage by introduced ungulates. From telephone conversations with Dr. Rhonda Loh it is our understanding, one of the ungulate management alternatives the Park is considering involves fencing large portions of the Park. It is well known that efforts to restore and protect native Hawaiian ecosystems are unsuccessful if ungulates are present (Cuddihy *et al.* 1990, Loope 1998, Scott *et al.* 1986, Stone *et al.* 1985). Excluding and removing ungulates alone, has lead to substantial improvements to native ecosystem integrity in Hawaii (Hawaii Conservation Alliance 2005). According to our records, at least 36 federally listed threatened or endangered taxa occur in, or in close proximity to the Park (see Table 1) and there is federally designated critical habitat for 14 taxa within the park (see Table 2). Undoubtedly, most, if not all, of these taxa would benefit from ungulate exclosure and removal. In addition to



Ms. Cynthia Orlando

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destroying native understory plants by browsing, trampling and rooting, ungulates facilitate invasion by noxious weeds. Furthermore, disturbance from ungulates suppresses the natural regeneration of canopy species which eventually leads to a loss of native forests. The majority of natural resource managers and researchers agree, feral pigs are the biggest threat to the survival of Hawaiian forest birds and their habitats (Jacobi 1976, Mountainspring 1986, 1987, Mueller-Dombois *et al.* 1981, Scott *et al.* 1986, Spatz *et al.* 1975). Based on the information above, we believe that fencing and ungulate removal will be the most effective alternative to achieve the Plan goals.

We also recommend that a preferred alignment for fences be identified within your EIS. Prior to fence construction, biological surveys should be conducted along the proposed fence alignment to determine the location of listed plants, Hawaiian petrel (*Pterodroma sandwichensis*) or Newell's shearwater (*Puffinus auricularis newelli*) colonies (collectively known as seabirds). The alignment can then be adjusted to not only avoid impacting plants and seabird colonies, but to include them within the fenced area. Fences should be located at least 15 feet away from listed plants, 30 feet away from seabird colonies, and should be marked with mylar tape. The mylar tape makes fencing more visible to seabirds which reduces collisions with fences (R. Swift 2004).

The endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) is also known to occur within the Park. Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground. Fencing large portions of the Park as a method for controlling ungulates will contribute to the recovery of the majority of the Park's biota. However, when barbed wire is used in the fencing, Hawaiian hoary bats can become entangled (Donna Ball, pers. comm. and Jeff Burgett, pers. comm.). There is evidence that barbed wire fences in open areas pose a greater risk to bats than barbed wire fences in forested areas (John Jeffrey, pers. comm.). If the Park's management objectives can be met without using barbed wire as a component of fences, we recommend eliminating barbed wire from existing and planned fences. Eliminating barbed wire from fences in open areas is especially important.

We appreciate the opportunity to provide preliminary comments for the preparation of your EIS and look forward to reviewing the draft document. The removal of ungulates would enhance the recovery of listed taxa, promote integrity within critical habitat units, and benefit the Park's ecosystems in general. If you have questions regarding this letter, please contact Dr. Jeff Zimpfer, Fish and Wildlife Biologist, Consultation and Technical Assistance Program (phone: 808-792-9431; fax: 808-792-9581).

Sincerely,



for Patrick Leonard
Field Supervisor

Ms. Cynthia Orlando

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Table 1. Threatened and endangered species within and adjacent to Hawaii Volcanoes National Park.

Scientific Name	Common Name	Status
Plants		
<i>Adenophorus periens</i>	palai laau	Endangered
<i>Argyroxiphium kauense</i>	Kau silversword	Endangered
<i>Argyroxiphium sandwicense</i> subsp. <i>macrocephalum</i>	ahinahina, silversword	Threatened
<i>Asplenium peruvianum</i> var. <i>insulare</i>	no common name	Endangered
<i>Clermontia lindseyana</i>	oha	Endangered
<i>Cyanea stictophylla</i>	oha	Endangered
<i>Cyrtandra giffardii</i>	haiwale	Endangered
<i>Hibiscadelphus giffardianus</i>	hau kuahiwi	Endangered
<i>Ischaemum byrone</i>	Hilo ischaemum	Endangered
<i>Kokia drynarioides</i>	kokio	Endangered
<i>Melicope zahlbruckneri</i>	alani	Endangered
<i>Neraudia ovata</i>	maaloa	Endangered
<i>Nothoestrum breviflorum</i>	aiea	Endangered
<i>Ochrosia kilaueaensis</i>	holei	Endangered
<i>Phyllostegia racemosa</i>	kiponapona	Endangered
<i>Plantago hawaiiensis</i>	laukahi kuahiwi	Endangered
<i>Pleomele hawaiiensis</i>	halapepe	Endangered
<i>Portulaca sclerocarpa</i>	ihi	Endangered
<i>Pritchardia affinis</i>	loulou	Endangered
<i>Sesbania tomentosa</i>	ohai	Endangered
<i>Sicyos alba</i>	anunu	Endangered
<i>Silene hawaiiensis</i>	no common name	Threatened
<i>Spermolepis hawaiiensis</i>	no common name	Endangered
<i>Stenogyne angustifolia</i>	no common name	Endangered
Birds		
<i>Branta sandvicensis</i>	nene, Hawaiian goose	Endangered
<i>Buteo solitarius</i>	io, Hawaiian hawk	Endangered
<i>Hemignathus munroi</i>	akiapolaau	Endangered
<i>Loxops coccineus coccineus</i>	Hawaii akepa	Endangered
<i>Oreomystis mana</i>	Hawaii creeper	Endangered
<i>Psittirostra psittacea</i>	ou, honeycreeper	Endangered
<i>Pterodroma sandwichensis</i>	uau, Hawaiian dark-rumped petrel	Threatened
<i>Puffinus auricularis newelli</i>	Ao, Newell's Shearwater	Endangered
Reptile		
<i>Eretmochelys imbricata</i>	hawksbill sea turtle	Endangered
Mammal		
<i>Lasiurus cinereus semotus</i>	opeapea, Hawaiian hoary bat	Endangered

Ms. Cynthia Orlando

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Table 2. Federally designated critical habitat within and adjacent to Hawaii Volcanoes National Park.

Scientific Name	Common Name	Status
Plants		
<i>Argyroxiphium kauense</i>	Kau silversword	Endangered
<i>Cyanea hamatiflora</i> ssp. <i>carlsonii</i>	haha	Endangered
<i>Cyanea stictophylla</i>	oha	Endangered
<i>Cyrtandra giffardii</i>	haiwale	Endangered
<i>Hibiscadelphus giffardianus</i>	hau kuahiwi	Endangered
<i>Ischaemum byrone</i>	Hilo ischaemum	Endangered
<i>Melicope zahlbruckneri</i>	alani	Endangered
<i>Plantago hawaiiensis</i>	laukahi kuahiwi	Endangered
<i>Pleomele hawaiiensis</i>	halapepe	Endangered
<i>Portulaca sclerocarpa</i>	ihi	Endangered
<i>Sesbania tomentosa</i>	ohai	Endangered
<i>Melicope zahlbruckneri</i>	alani	Endangered
<i>Sicyos alba</i>	anunu	Endangered
<i>Silene hawaiiensis</i>	no common name	Threatened

Ms. Cynthia Orlando

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References

- Ball, D. 2008. Biologist, U. S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office.
- Burgett, J. 2008. Biologist U. S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office.
- Cuddihy, L. and C. P. Stone. 1990. Alteration of native Hawaiian vegetation; Effects of humans, their activities and introductions. University of Hawaii Cooperative National Park Resources Studies Unit. Honolulu, Hawaii. 138 pp.
- Hawaii Conservation Alliance. 2005. Position paper 2005-1.
<http://hawaiiconservation.org/library.asp> (accessed May 12, 2008)
- Jacobi, J. 1976. The influence of feral pigs on a native alpine grassland in Haleakala National Park. Proceedings Hawaii Volcanoes National Park Natural Science Conference 1:107-112
- Jeffrey, J. 2008. Senior Wildlife Biologist, Hakalau Forest National Wildlife Refuge.
- Loope, L. L. 1998. Hawaii and the Pacific Islands. Pages 747-774 in Mac, M.J., *et al.* Status and trends of the nation's biological resources. USGS, Reston Va. 964 pp.
- Mountainspring, S. 1986. An ecological model of the effects of exotic factors on limiting Hawaiian honey creeper populations. Ohio J. Sci. 86:95-100.
- Mountainspring, S. 1967. Ecology, Behavior, and Conservation of the Maui Parrotbill. The Condor. 89:24-39
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- Scott, J.M., S. Mountainspring, F.L. Ramsey, and C.B. Kepler. 1986. Forest bird communities of the Hawaiian Islands: Their dynamics, ecology, and conservation. Studies in Avian Biology 9:1-429. Cooper Ornithological Society, Los Angeles.
- Spatz, Gunter and Dieter Mueller-Dombois. 1973. The influence of feral goats on koa tree reproduction in Hawaii Volcanoes National Park. Ecology 54: 870-876.
- Swift, R. 2004. Potential effects of ungulate exclusion fencing on displaying Hawaiian petrels (*Pterodroma sandwichensis*) at Hawaii Volcanoes National Park. Master's Thesis, Oregon State University.
- Stone, C. P. and J. M. Scott. 1985. Hawaii's terrestrial ecosystems preservation and management. Cooperative National Park Resources Studies Unit. University of Hawaii, Manoa. 584 pp.

APR-25-2008 03:54 PM HAVO

18089678186

P. 02/02

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

[Signature]
LAURA H. THIELER
CHIEF OF BUREAU
BUREAU OF LAND AND NATURAL RESOURCES
COMMISSIONER OF WATER RESOURCES MANAGEMENT

RUSSELL Y. TSUI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND KAYAKING
BUREAU OF CREEPS AND TIDE
COMMISSION IN WATER RESOURCES MANAGEMENT
CONSERVATION AND CULTURAL LANDS
PRESERVATION AND RESOURCES MANAGEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
NATURAL RESOURCES AND RESOURCES COMMISSION
LAND
STATE PARKS

April 15, 2008

Ms. Cindy Orlando
Superintendent, Hawai'i Volcanoes National Park
P.O. Box 52
Hawaii National Park, HI 96718

LOG NO: 2008.1139
DOC NO: 0804TS10
Archaeology

Dear Ms. Orlando:

**SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review –
Protecting and Restoring Native Ecosystems by Managing Non-Native Ungulates
Plan/EIS
Puna and Ka'u Districts, Island of Hawai'i**

Thank you for the opportunity to comment on the aforementioned project, which we received on March 24, 2008. Public scoping meeting are to be held in April and May, we offer the following comments:

We do not expect that historic properties will be affected by this undertaking. The SHPD supports the implementation the Plan as it will have positive effects on the many and varied cultural resources of HVNP. These include limiting the potentially destructive influence of ungulates on prehistoric sites as well as restoring cultural landscapes, both of which will be appreciated by visitor and resident alike.

We look forward to reviewing the final Plan/EIS when it is ready. If you have any questions or concerns regarding this letter please contact Assistant Hawaii Island Archaeologist, Tim Scheffler at (808) 981-2979 or, timothy.e.scheffler@hawaii.gov.

Aloha,

[Signature]
Laura H. Thielen,
State Historic Preservation Officer

TS

PHONE (808) 594-1888

FAX (808) 594-1



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

RECEIVED

MAY 08 2008

HAWAII VOLCANOES NAT'L PARK

HRD08/3587

May 2, 2008

Cynthia L. Orlando, Superintendent
Hawai'i Volcanoes National Park
P.O. Box 52
Hawai'i National Park, HI 96718-0052

**RE: Protecting & Restoring Native Ecosystems by Managing Non-Native Ungulates
Plan/EIS, Hawai'i Volcanoes National Park, Hawai'i**

Aloha e Cynthia L. Orlando,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated March 20, 2008. The National Park Service (NPS) is initiating Section 106 consultation for a proposed undertaking at Hawai'i Volcanoes National Park. The NPS has begun preparation of a draft environmental impact statement (EIS) to address the long-term ecosystem protection; support recovery and restoration of native vegetation and other natural resources; and protect and preserve cultural resources. OHA has reviewed the project and offers the following comments.

OHA has substantive obligations to protect the cultural and natural resources of Hawai'i for its beneficiaries, the people of this land. The Hawaii Revised Statutes mandate that OHA "[s]erve as the principal public agency in the State of Hawaii responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians; . . . and [t]o assess the policies and practices of other agencies impacting on native Hawaiians and Hawaiians, and conducting advocacy efforts for native Hawaiians and Hawaiians." (HRS § 10-3)

The proposed undertaking by the NPS at the Hawai'i Volcanoes National Park (HVNP) does take preventative measures to ensure the protection of natural and cultural resources within the park. OHA is concerned with any destructive methods of ungulate control that would endanger any cultural and natural resources. Methods such as fencing, which would include ground disturbance, could directly impact any historic site that may lie in its location.

Cynthia L. Orlando, Superintendent
 May 2, 2008
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OHA requests that a comprehensive archaeological inventory survey for the proposed project area be conducted and submitted to the Department of Land and Natural Resources – Historic Preservation Division for review and approval. OHA should be allowed the opportunity to comment on the criteria assigned to any cultural or archaeological sites identified within the archaeological inventory survey. Consideration must also be afforded to any individuals accessing the project area for constitutionally protected traditional and customary purposes, in accordance with the Hawai'i State Constitution, Article XII, section 7.

We request the applicant's assurances that should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during the construction of the project, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

In addition, OHA recommends that the applicant include the local community in the planning process for any relocation and removal of non-native ungulates from the HVNP. Recent ungulate control projects in other natural area preserves in the state of Hawai'i have encountered opposition because of the lack of communication between the agency and the local community. OHA asks that the inclusion of modern as well as traditional methods be considered during the planning stages of this project.

Furthermore, this submission to our office does not constitute a proper Section 106 consultation according to the National Historic Preservation Act of 1966, Section 106 and its implementing regulations, 36 CFR 800. According to §800.11, documentation standards for proper consultation include a description of the undertaking, the specific accepting federal agency, a determination of the Area of Potential Effect (APE), and photographs, maps, drawings, etc.

We look forward to receiving an official Section 106 consultation letter in order to complete proper consultation as afforded by §800.2(c)(2), *Consultation on historic properties of significance to Indian tribes and Native Hawaiian organizations*. The Act, Section 301(18) names OHA as an official Native Hawaiian organization. In order for proper consultation between the NPS and OHA to be conducted, proper documentation standards must be adhered to.

Lastly, OHA is in support of control measures that will protect natural and cultural resources and preserve the cultural landscapes in the HVNP. Our office looks forward to the forthcoming Plan/Environmental Impact Statement and will offer further comments upon review of the document.

Cynthia L. Orlando, Superintendent
May 2, 2008
Page 3

Thank you for the opportunity to comment. If you have further questions, please contact Jason Jeremiah (808) 594-1816 or e-mail him at jasonj@oha.org.

‘O wau iho nō me ka ‘ōia‘i‘o,



Clyde W. Nāmu‘o
Administrator

C: OHA Hilo CRC Office

OHA Kona CRC Office

Laura Thielen
State Historic Preservation Officer
Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawai‘i 96707

US FISH AND WILDLIFE SERVICE, PACIFIC ISLANDS ECOREGION

300 Ala Moana Blvd, Rm 3108, PO Box 50088
Honolulu, HI 96850

Subject: Request for Informal Section 7 Consultation, Protecting and Restoring Native Ecosystems by Managing Non-Native Ungulate Plan/EIS at Hawai'i Volcanoes National Park

Dear Dr. Mehrhoff:

Hawai'i Volcanoes National Park would like to continue interagency consultation under Section 7 of the Endangered Species Act for the preparation of a draft environmental impact statement (DEIS) to address the long-term management of non-native ungulates within Hawai'i Volcanoes National Park.

Consultation on this project was initiated in March 2008. Since that time, the park has been preparing a Draft Environmental Impact Statement/Plan. The plan/DEIS is expected to be release for public review in Fall 2011, and will provide a parkwide framework to systematically guide non-native ungulate management activities over the next decades. The plan/DEIS will address the impacts of non-native ungulates, which include loss of native ecosystems, especially native plant and animal communities; loss of sensitive native species, including state- and federally-listed species; and loss of irreplaceable cultural resources.

To meet these objectives, the NPS concluded that the population-level objective for all action alternatives would be zero non-native ungulates (e.g. cattle, goats, sheep, mouflon sheep, axis deer, pigs), or as low as practicable in managed areas, recognizing the possibility of remnant populations and ingress animals. Existing ungulate fence barriers would continue to be inspected and repaired as needed. Also, under all proposed action alternatives, the NPS would:

- complete a boundary fence for the Kahuku unit (see enclosed map),
- complete a boundary fence for unmanaged portions of 'Ōla'a rainforest tract,

In Kahuku unit, the boundary fence would extend for several miles into sparsely vegetated lava fields before terminating at the 11,000 foot elevation where potential for animal ingress would be low. In addition, localized internal fencing could be constructed to assist in the control of non-native ungulates, if needed. Also, a boundary fence could be established on the east end of Kīlauea if active lava flow ceased and ingress of feral goats or other ungulates occurred in significant numbers. The actual sequence of fencing would be based on conditions on the ground as the implementation of other parts of the plan occurs. Design of fencing would be 4 feet to 6 feet in height depending on the species in the area, but

could be modified based on new information and future experimentation to exclude multiple non-native ungulate species.

In addition to fence construction, the following tools could be used to locate and remove non-native ungulates: ground and aerial shooting, snaring, trapping, baiting, the use of dogs to assist ground shooting, and relocation. The park would also use judas animals and consider luring non-native ungulates into larger groups by inducing estrus in captive females in order to more effectively locate animals. Volunteers under the direction of NPS staff in the field could assist in fencing, monitoring, capturing and removing animals.

While these actions would support the recovery and long term restoration of sensitive species, management actions could also potentially harm individuals or populations of rare species. Federally-listed threatened or endangered species could be temporarily disturbed during implementation of management actions, including monitoring, fence construction and maintenance, and non-native ungulate removal efforts. The use of helicopters (for monitoring, direct reduction, or fence construction and maintenance), the use of firearms, the use of motorized equipment for fencing, and the presence of people associated with ground-based management actions would introduce unnatural noise in the park, temporarily disrupting and potentially displacing some sensitive species. Any activities, including monitoring, that involve low-flying aircraft may affect the behavior and ecology of wildlife both during and after overflights. These impacts could occur during reproductive periods or in key habitat for native wildlife.

In response to the initial letter from USFWS (received by the park on May 19th 2008, copy enclosed) that provided technical assistance and additional input provided by subject experts from USGS-PIERC and NPS, the following measures were identified to minimize potential impacts to endangered species and habitat associated with ungulate removal, fence repair, replacement, and new construction:

- Ungulate removal efforts could occur year round depending on where and when animals are detected and may include actions conducted during critical periods for sensitive species. Trap placement and bait selection is done in consultation with NPS subject experts and the park botanist so as to avoid potential impacts to nēnē and other sensitive native plant and animal species in the area. The use of dogs to assist with locating animals would be avoided in known areas where nēnē or other ground nesting sensitive native species occur. In areas where ungulate (e.g. goat) presence is detected in low numbers, the use of judas animals (including the use of estrus lures) would facilitate park staff in locating individuals. Low-flying helicopter work would be minimized in sensitive wildlife habitat during critical periods. However, if control actions are required (e.g. due to animal ingress), park staff would confer with the appropriate wildlife biologist to determine if sensitive species are in the area, and depending on the determination, consult with USFWS prior to implementation of control actions. Personnel involved in removal

efforts would follow park sanitation protocols for inspecting and cleaning equipment, personal gear, and vehicles so as to reduce the risk of bringing non-native plants and animals into an area.

- All potential relocation activities would require willing recipients and would be carried out in close cooperation with the state. When considering areas to relocate animals, the NPs would avoid sites where undesirable impacts to the environment could occur (e.g. rare native plants and animals, critical habitat, soils, cultural resources etc). Any necessary permissions and permits would be obtained prior to relocation activities. Prior to transporting animals to other locations, any necessary disease testing required by the state would be conducted.
- Botanical surveys conducted prior to fence corridor clearing would mark all listed and rare plant species in the area, including helicopter staging areas. Fence alignment would be adjusted so that no endangered or rare species observed in the vicinity of the fence line would be affected by the proposed project (at least 15 feet away from listed plants per comments received from USFWS).

Impacts to native vegetation associated with fence corridor clearing would be limited to a 4-foot corridor. Plant removal would be limited to common understory vegetation, brush, and small trees less than 6 inches in diameter.

- In areas where Hawaiian petrel and Newell's shearwater occur or fly over, to reduce the risk of fence strikes, white vinyl strips, flagging, or similar material would be attached to the top strand of the fence that protrudes above the canopy. In addition to strips on the top strand of the fence, strips would be attached along the middle of the fence where the fence is found on open or sparsely vegetated lava flows. If improved marking strategies emerge they could be used in place of the current practice. Fence alignment would be adjusted to avoid impacts on seabird colonies (at least 30 feet away from seabird colonies per comments received from USFWS).
- Sanitation protocols for inspecting and cleaning personnel clothing, boots, and gear; project equipment; vehicles; and construction material would be followed to reduce the risk of bringing non-native plants and animals into the area. For a minimum of 1 year following completion of the project, worksites would be inspected and treated to remove non-native species that may have entered the area.
- In endangered forest bird habitat (ʻākepa, Hawai'i creeper, ʻakiapōlāʻau, ʻōʻū), fence alignment would be adjusted to avoid cutting large trees. The proposed specifications for vegetation clearing (described above) limits removal to trees less than 6 inches in diameter. This would protect ʻōhiʻa (*Metrosideros polymorpha*) or koa trees with a diameter of 3 feet (1 meter) or greater, which are preferred nesting habitat for ʻākepa. To the extent practical, construction activities and helicopter transport of fence materials would be scheduled before or after the peak breeding season for endangered forest birds (February through July). If an endangered forest bird or active nest is detected in or near the project area during construction, the NPS would halt construction activity and not resume until coordination with the USFWS has occurred.
- In Hawaiian hawk habitat, to the extent practical, helicopter transport of fence materials and construction activities would be scheduled before or after the breeding and nesting seasons (March through September). For construction during the breeding season, a nest search of the area proposed for fence corridor construction and surrounding environs would be conducted by the park biologist or a qualified alternate immediately prior to the onset of construction to ensure that no nests are in the vicinity. If an active nest is detected during construction, construction activity would be halted and will not resume until coordination with the USFWS has occurred.
- Trained NPS staff would evaluate helicopter staging areas prior to transport of material to drop sites, and sites may be relocated, if needed, to reduce impacts to nēnē. If nēnē are observed during construction activity along the fence line, appropriate NPS staff would be contacted to evaluate


the situation, and the construction would be suspended until the birds move on of their own accord or coordination with the USFWS occurs.

- In order to reduce potential disturbance to Hawaiian hoary bats, no tree (>15 ft height) removal or trimming would occur when lactating or non-volant bats are present (May through August, ≤5,000-ft elevation). Additionally, no barbed wire would be used in new fence construction in order to minimize potential bat entanglement. Where potential entanglement may occur (e.g., in open areas), barbed wire would be removed from existing fences.
- To protect potential host plants and habitat for the picture-wing fly (*Drosophila heteroneura*, *Drosophila mulli*), impacts on native vegetation associated with fence corridor clearing would be limited to a 4-foot corridor. Plant removal would be limited to common understory vegetation, brush, and small trees less than 6 inches in diameter, and avoid removal of important host plants (e.g. *Clermontia* spp., *Cyanea* spp. *Trematlobelia* spp., *Pritchardia* spp.).

Although these species were not identified in the initial list of federally designated species provided by USFWS, subsequent determination of species and critical habitat designation in the park required that these species be considered in this planning effort.

Although individuals of listed animal species could be temporarily displaced during implementation of management actions, they would return after actions are completed, and population stability and viability would not be negatively affected by management actions. We request your concurrence with our assessment that by incorporating the aforementioned measures, the proposed project is not likely to adversely affect federally listed species at Hawai'i Volcanoes National Park. Please address any questions to Rhonda Loh, Chief of Natural Resources Management, (rhonda_loh@nps.gov, 808-985-6098).

Sincerely,


Cindy Orlando
Superintendent

cc:

Rhonda Loh
Danielle Foster
Howard Hoshide



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850



JUL 18 2011

In Reply Refer To:
2011-I-0347
2010-I-0118
2008-TA-0159

Memorandum

To: Superintendent, Hawaii Volcanoes National Park
Hawaii National Park, Hawaii

From: Field Supervisor, Pacific Islands Fish and Wildlife Office, Fish and Wildlife Service Honolulu, Hawaii

Subject: Informal Section 7 Consultation for Long-term Management of Non-native Ungulates within Hawaii Volcanoes National Park, Island of Hawaii

Pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 *et seq.*) the U.S. Fish and Wildlife Service (Service) has reviewed your June 6, 2011, letter requesting our concurrence with your determination that proposed long-term management of non-native ungulates within Hawaii Volcanoes National Park (Park), is not likely to adversely affect threatened or endangered species or critical habitat. The proposed project, which will be addressed in a Draft Environmental Impact Statement (DEIS), addresses implementation of non-native ungulate control to support long-term ecosystem and cultural resources protection within the Park. The proposed action entails ungulate removal efforts and the completion of boundary fences for the Park's Kahuku unit and the Olaa rainforest tract. According to our records, 37 threatened or endangered taxa (Table 1) and critical habitat for 14 taxa (Table 2) occur in or in close proximity to the Park.

Our assessment of potential impacts of the proposed action is based on: (1) your June 06, 2011, letter; (2) phone calls between Jodi Charrier (Service, and Rhonda Loh, Park); (3) our January 21, 2010, Informal Section 7 Consultation Letter for "Three Miles of Boundary Fence Replacement for Kahuku Unit, Hawaii Volcanoes national Park, Island of Hawaii" (2010-I-0118); (4) our May 19, 2008, Technical Assistance Letter for the "Preparation of an Environmental Impact Statement for Hawaii Volcanoes National Park's Plan to Protect and Restore native Ecosystems by Managing Non-Native Ungulates" (2008-TA-0159); and (5) other information available to us. A complete administrative record is on file in our office.

Superintendent, Hawaii Volcanoes National Park

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Table 1. Threatened and endangered species within and adjacent to Hawaii Volcanoes National Park.

Scientific Name	Common Name	Status
Plants		
<i>Adenophorus periens</i>	palai laau	Endangered
<i>Argyroxiphium kauense</i>	Kau silversword	Endangered
<i>Argyroxiphium sandwicense</i> subsp. <i>macrocephalum</i>	ahinahina, silversword	Threatened
<i>Asplenium peruvianum</i> var. <i>insulare</i>	no common name	Endangered
<i>Clermontia lindseyana</i>	oha	Endangered
<i>Cyanea stictophylla</i>	oha	Endangered
<i>Cyrtandra giffardii</i>	haiwale	Endangered
<i>Hibiscadelphus giffardianus</i>	hau kuahiwi	Endangered
<i>Ischaemum byrone</i>	Hilo ischaemum	Endangered
<i>Kokia drynarioides</i>	kokio	Endangered
<i>Melicope zahlbruckneri</i>	alani	Endangered
<i>Neraudia ovata</i>	maaloa	Endangered
<i>Nothocestrum breviflorum</i>	aiea	Endangered
<i>Ochrosia kilaueaensis</i>	holei	Endangered
<i>Phyllostegia racemosa</i>	kiponapona	Endangered
<i>Plantago hawaiiensis</i>	laukahi kuahiwi	Endangered
<i>Pleomele hawaiiensis</i>	halapepe	Endangered
<i>Portulaca sclerocarpa</i>	ihi	Endangered
<i>Pritchardia affinis</i>	loulou	Endangered
<i>Sesbania tomentosa</i>	ohai	Endangered
<i>Sicyos alba</i>	anunu	Endangered
<i>Silene hawaiiensis</i>	no common name	Threatened
<i>Spermolepis hawaiiensis</i>	no common name	Endangered
<i>Stenogyne angustifolia</i>	no common name	Endangered
Invertebrates		
<i>Drosophila heteroneura</i>	Hawaiian picture-wing fly	Endangered
<i>Drosophila mulli</i>	Hawaiian picture-wing fly	Threatened
Birds		
<i>Branta sandvicensis</i>	nene, Hawaiian goose	Endangered
<i>Buteo solitarius</i>	io, Hawaiian hawk	Endangered
<i>Hemignathus munroi</i>	akiapolaau	Endangered
<i>Loxops coccineus coccineus</i>	Hawaii akepa	Endangered
<i>Oreomystis mana</i>	Hawaii creeper	Endangered
<i>Psittirostra psittacea</i>	ou, honeycreeper	Endangered
<i>Pterodroma sandwichensis</i>	uau, Hawaiian dark-rumped petrel	Threatened
<i>Puffinus auricularis newelli</i>	Ao, Newell's Shearwater	Endangered
Reptile		
<i>Eretmochelys imbricata</i>	hawksbill sea turtle	Endangered
Mammal		
<i>Lasiurus cinereus semotus</i>	opeapea, Hawaiian hoary bat	Endangered

Table 2. Federally designated critical habitat within and adjacent to Hawaii Volcanoes National Park.

Scientific Name	Common Name	Status
Plants		
<i>Argyroxiphium kauense</i>	Kau silversword	Endangered
<i>Cyanea hamatiflora</i> ssp. <i>carlsonii</i>	haha	Endangered
<i>Cyanea stictophylla</i>	oha	Endangered
<i>Cyrtandra giffardii</i>	haiwale	Endangered
<i>Hibiscadelphus giffardianus</i>	hau kuahiwi	Endangered
<i>Ischaemum byrone</i>	Hilo ischaemum	Endangered
<i>Melicope zahlbruckneri</i>	alani	Endangered
<i>Plantago hawaiiensis</i>	laukahi kuahiwi	Endangered
<i>Pleomele hawaiiensis</i>	halapepe	Endangered
<i>Portulaca sclerocarpa</i>	ihi	Endangered
<i>Sesbania tomentosa</i>	ohai	Endangered
<i>Melicope zahlbruckneri</i>	alani	Endangered
<i>Sicyos alba</i>	anunu	Endangered
<i>Silene hawaiiensis</i>	no common name	Threatened

Project Description

The Park will implement measures to eradicate or reduce as low as practicable numbers of non-native ungulates (e.g. cattle, goats, sheep, mouflon sheep, axis deer, pigs) and inspect and repair existing ungulate fences within the Park. In addition, ungulate boundary fences for the Kahuku unit and the Olaa rainforest tract will be completed. Our office completed an informal consultation addressing construction of the first three miles of ungulate fencing for the Kahuku unit in January 2010 (2010-I-0118). The continuation of this fence will extend for several miles into sparsely vegetated lava fields before terminating at the 11,000-foot (ft) (3,353-meter (m)) elevation where potential for animal ingress would be low. Additional boundary fencing may be installed on the east end of Kilauea or on localized, internal areas if needed. The proposed fencing for the Olaa rainforest tract will approximately double the size of the existing fenced area. The proposed project will clear a corridor of vegetation with a maximum width of 4 ft (1.2 m). Fencing will be 4-6 ft (1.2-1.8 m) in height depending on the species in the area, but could be modified based on new information and future experimentation to exclude multiple non-native ungulate species.

The following tools may be used to locate and remove non-native ungulates: ground and aerial shooting, snaring, trapping, baiting, the use of dogs to assist ground shooting, and relocation. The park will also use judas animals and consider luring non-native ungulates into larger groups by inducing estrus in captive females in order to more effectively locate animals. Helicopters may be used for monitoring, aerial shooting, animal removal, and for transporting crews and materials. Ungulate removal efforts may occur year-round depending on where and when animals are detected and may include actions conducted during critical periods for sensitive species.

Superintendent, Hawaii Volcanoes National Park

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Avoidance and Minimization Measures

Your June 6, 2011, letter indicates the following measures, which you developed in cooperation with staff from our office and USGS will be implemented to minimize and avoid potential project effects to the listed species and critical habitat:

1. To avoid potential impacts to nene and other sensitive native plant and animal species in the ungulate removal area, trap placement and bait selection will be done in consultation with Park subject experts and the Park botanist. The use of dogs to assist with locating animals will be avoided in areas where nene or other ground nesting sensitive native species occur. Trained Park staff will evaluate helicopter staging areas prior to transport of material to drop sites, and sites may be relocated, if needed to reduce impacts to nene. If nene are observed during construction activity along the fence line, appropriate Park staff will be contacted to evaluate the situation; and the construction will be suspended until the birds move on their own accord or coordination with the Service occurs.
2. Low-flying helicopter work will be minimized in sensitive wildlife habitat during critical periods.
3. Personnel involved in removal efforts will follow park sanitation protocols for inspecting and cleaning equipment, personal gear, and vehicles so as to reduce the risk of bringing non-native plants and animals into an area.
4. Botanical surveys conducted prior to fence corridor clearing and helicopter staging areas will mark all listed and rare plant species in the area. Fence alignment and helicopter staging areas will be adjusted so that no endangered or rare species observed in the vicinity of the fence line will be affected by the proposed project (at least 15 ft (4.6 m) away from listed plants).
5. Impacts to native vegetation associated with fence corridor clearing will be limited to a 4-ft (1.2-m) corridor. Plant removal will be limited to common understory vegetation, brush, and small trees less than 6 inches (in) (15.2 centimeters (cm)) in diameter.
6. To reduce the risk of fence strikes in areas where Hawaiian petrels (*Pterodroma sandwichensis*) or Newell's shearwaters (*Puffinus newelli*) occur or fly over, white vinyl strips, flagging, or similar material will be attached to the top strand of fencing that protrudes above the canopy. In addition to strips on the top strand of the fence, strips will be attached along the middle of the fence where the fence is found on open or sparsely vegetated lava flows. Fence alignment will be adjusted to at least 30 ft (9.1 m) away from seabird colonies.
7. All Park sanitation protocols for inspecting and cleaning personnel clothing, boots and gear, project equipment, vehicles and construction material will be followed to reduce bringing non-native plants, insects and coqui frogs (*Eleutherodactylus coqui*) into the area. For a minimum of one year following completion of the project, worksites will be inspected and treated to remove non-native species that may have entered the area.

8. In endangered forest bird habitat fence alignment will be adjusted to avoid cutting large trees. Ohia (*Metrosideros polymorpha*) and koa (*Acacia koa*) trees with a diameter of 3 ft (1 m) are preferred nesting habitat for akepa. To the extent practicable, construction activities and helicopter transport of fence materials will be scheduled before or after the peak breeding season for endangered forest birds (February through July). If an endangered forest bird or active nest is detected in or near the project area during construction, the Park will halt construction activity and not resume until coordination with the Service has occurred.
9. In Hawaiian hawk habitat, to the extent practical, helicopter transport of fence materials and construction activities will be scheduled before or after the breeding and nesting seasons (March and September). For construction during the breeding season, a nest search of the area proposed for fence corridor construction and surrounding environs will be conducted by the Park biologist or a qualified alternate immediately prior to the onset of construction to ensure that no nests are in the vicinity. If an active nest is detected during construction, construction activity will be halted and will not resume until coordination with the Service has occurred.
10. To reduce potential disturbance to Hawaiian hoary bats, no tree (>15-ft (4.6-m) height) removal or trimming will occur when lactating or non-volant bats are present (May-August, ≤5,000-ft (1,524-m) elevation). Additionally, no barbed wire will be used in new fence construction in order to minimize potential bat entanglement. Where potential entanglement may occur (e.g., in open areas), barbed wire will be removed from existing fences.
11. To protect potential host plants and habitat for the picture-wing fly (*Drosophila heteroneura*, *Drosophila mulli*), impacts on native vegetation associated with fence corridor clearing will be limited to a 4-ft (1.2-m) corridor. Plant removal will be limited to common understory vegetation, brush, and small trees less than 6 in (15.2 cm) in diameter, and avoid removal of important host plants (e.g., *Clermontia* spp., *Cyanea* spp., *Trematolobelia* spp., *Pritchardia* spp.).

In addition, in a July 5, 2011, Park Chief of Natural Resources Management Rhonda Loh confirmed the project will incorporate the following measures to avoid impacts from humans and vehicles when construction or eradication efforts occur in the vicinity of listed plants: Vehicles will stay on existing road and trails. If off-road use is needed, routes will be surveyed and listed plants will be clearly marked with flagging or tape. Park staff with appropriate botany expertise will supervise workers within fenced units. All listed species long fence construction corridors will be clearly marked with flagging or tape.

Effects

Fence construction will require temporary removal of a small amount of native non-listed understory vegetation resulting in an insignificant impact to listed species and critical habitat. In addition, project-related noise (such as that resulting from helicopter and dog use) may infrequently impact nesting and roosting birds. Noise impacts will be of short duration and low

Superintendent, Hawaii Volcanoes National Park

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frequency such that we do not anticipate it will result in changes in reproductive success or survival of listed bird species.

The Service supports ungulate removal as an essential step towards restoring the ecological integrity of native ecosystems in Hawaii. Hawaiian ecosystems evolved in the absence of mammalian herbivores and as a consequence, are extremely vulnerable to damage by introduced ungulates. Disturbance from ungulates suppresses the natural regeneration of native species which eventually leads to total loss of native forests. The majority of natural resource managers and researchers agree that feral pigs are the biggest threat to the survival of Hawaiian forest birds and their habitats (Jacobi 1976, Mountainspring 1986, 1987, Mueller-Dombois *et al.* 1981, Scott *et al.* 1986, Spatz *et al.* 1975). It is well known that efforts to restore and protect native Hawaiian ecosystems are unsuccessful where ungulates are not removed (Cuddihy *et al.* 1990, Loope 1998, Scott *et al.* 1986, Stone *et al.* 1985). Excluding and removing ungulates has led to substantial improvements to native ecosystem integrity in Hawaii (Hawaii Conservation Alliance 2005). The proposed removal of ungulates from the Park will be beneficial to listed taxa, the primary constituent elements of the critical habitat units, and the Park's ecosystems in general.

Summary

The long-term management of non-native ungulates and fence installation at the Park will enable the removal of ungulates that adversely impact the Park's listed resources. Project impacts to listed resources, due to noise and vegetation removal, will be insignificant. Based on this and the above information, we concur that the proposed project may affect, but is not likely to adversely affect listed species within the Park (see Tables 1 and 2). Unless the project description changes, or new information reveals that the effects of the proposed action may affect listed species or critical habitat in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the ESA is necessary. If you have questions regarding this consultation, please contact Jodi Charrier, Fish and Wildlife Biologist, at 808-792-9400.

Sincerely,



Loyal Mehrhoff
Field Supervisor

Superintendent, Hawaii Volcanoes National Park

7

References

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- Spatz, Gunter and Dieter Mueller-Dombois. 1973. The influence of feral goats on koa tree reproduction in Hawaii Volcanoes National Park. Ecology 54: 870-876.
- Stone, C. P. and J. M. Scott. 1985. Hawaii's terrestrial ecosystems preservation and management. Cooperative National Park Resources Studies Unit. University of Hawaii, Manoa. 584 pp.



United States Department of the Interior

NATIONAL PARK SERVICE
Hawai'i Volcanoes National Park
Post Office Box 52
Hawaii National Park, Hawai'i 96718



IN REPLY REFER TO:

1.A.2
1.D

November 15, 2011

Dr. Loyal Merhoff
Field Supervisor,
US Fish & Wildlife Service
300 Ala Moana Blvd..Rm. 3-122
Honolulu, HI 96850

Re: Protecting & Restoring Native Ecosystems by Managing Non-Native Ungulates Plan/EIS

Dear Loyal,

We are pleased to announce the availability of the draft plan and environmental impact statement (draft plan/EIS) to address the long-term management of non-native ungulates within Hawai'i Volcanoes National Park. The purpose of the plan is to develop a parkwide comprehensive and systematic framework for managing non-native ungulates that supports natural ecosystem recovery and provides desirable conditions for active ecosystem restoration; and supports protection and preservation of cultural resources. Using the feedback we received during initial public scoping in Spring 2008, and input from a team of scientists convened to inform the planning process, we developed a range of management alternatives for meeting these goals. We then analyzed the impacts of those alternatives on natural and cultural resources, and the broader human environment, and identified a preferred management option which we feel would provide the most flexibility to protect the special resources of Hawai'i Volcanoes National Park.

The draft plan/EIS has been prepared in accordance with the National Environmental Policy Act, the Endangered Species Act, the National Historical Preservation Act, and other laws, policies and regulations. A newsletter is enclosed with this letter along with the draft plan/EIS. The newsletter provides a brief background on the issue of ungulates in the park and the purpose and need for action as well as a summary of the alternatives presented in the draft plan/EIS. We appreciate your careful consideration of this material and your input will assist us in developing the final plan/EIS.

The week of December 5th, 2011, Hawai'i Volcanoes National Park will be holding public open house meetings at three locations on the Island of Hawai'i. They are as follows:

Monday, December 5, 6:00pm-8:00pm:
Kilauea Visitor Center
Hawai'i Volcanoes National Park
1 Crater Rim Drive
Hawai'i National Park, Hawai'i



Tuesday, December 6, 6:00pm-8:00pm:
Naʻalehu Community Center
95-5635 Mamalahoa Hwy.
Naʻalehu, Hawaiʻi

Wednesday, December 7, 6:00pm-8:00pm:
Kona Outdoor Circle Educational Center and Botanical Gardens
76-6280 Kuakini Hwy.
Kailua-Kona, Hawaiʻi

In addition to attending the public open house meetings, comments may be submitted two other ways:

Mail:

Cindy Orlando
Superintendent, Hawaiʻi Volcanoes National Park
RE:Protecting & Restoring Native Ecosystems by Managing Non-Native
Ungulates Plan/EIS
P.O. Box 52
Hawaii National Park, HI 96718-0052

Electronically:

Through the NPS Planning, Environment and Public Comment project Web site at
http://parkplanning.nps.gov/havo_ecosystem_deis.

The plan/DEIS will be available for public and agency review and comment until January 20th, 2012.

We appreciate your participation in the EIS process and look forward to receiving your comments. If you have any questions please contact Dr. Rhonda Loh, Chief of Natural Resources Management, at (808) 985-6098.

Sincerely,



Cindy Orlando
Superintendent

Enclosure



United States Department of the Interior

NATIONAL PARK SERVICE
Hawai'i Volcanoes National Park
Post Office Box 52
Hawaii National Park, Hawai'i 96718



IN REPLY REFER TO:
1.A.2
1.D

November 15, 2011

Mr. William Aila Jr.
State Historic Preservation Officer
Department of Land and Natural Resources
Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei, Hawai'i 96707

Re: Protecting & Restoring Native Ecosystems by Managing Non-Native Ungulates Plan/EIS

Dear Mr. Aila:

In accordance with the Advisory Council on Historic Preservation regulations, 36 CFR Part 800 Protection of Historic Properties, the National Park Service (NPS) is continuing section 106 consultation that started in March 2008 for a proposed undertaking at Hawai'i Volcanoes National Park. The NPS has prepared a draft plan/draft environmental impact statement (DEIS) to address the long-term management of non-native ungulates within Hawai'i Volcanoes National Park. The purpose of the plan is to develop a parkwide comprehensive and systematic framework for managing non-native ungulates that supports natural ecosystem recovery and provides desirable conditions for active ecosystem restoration; and supports protection and preservation of cultural resources. Using the feedback we received during initial public scoping in Spring 2008, consultation with individuals and groups associated with Puna and Ka'u, including the Kupuna from these areas and input from a team of scientists convened to inform the planning process, we developed a range of management alternatives for meeting these goals. We then analyzed the impacts of those alternatives on natural and cultural resources (defined as archeological sites, ethnographic resources, cultural landscapes and historic structures) within the broader human environment. The park then identified a preferred management option which we feel would provide the most flexibility to protect the special resources of Hawai'i Volcanoes National Park.

Common to all alternatives is to establish new fencing or the management of existing ungulate fence barriers. All proposed action alternatives include the following: a complete boundary fence for the Kahuku unit (see enclosed map), and a complete a boundary fence for unmanaged portions of 'Ōla'a rainforest tract near the town of Volcano.

In the Kahuku unit, the boundary fence would extend for several miles into sparsely vegetated lava fields before terminating at the 11,000 foot elevation where potential for animal ingress would be low. In addition, localized internal fencing could be constructed to assist in the control of non-native ungulates, if needed.



Also, a boundary fence could be established on the east end of Kīlauea near the active Pu‘u O‘o vent, if active lava flow ceased and ingress of feral goats or other ungulates occurred in significant numbers. The actual sequence of fencing would be based on conditions on the ground as the implementation of other parts of the plan occurs. Design of fencing would be 4 feet to 6 feet in height depending on the species in the area, but could be modified based on new information and future experimentation to exclude multiple non-native ungulate species.

The Area of Potential Effect (APE) for this particular federal action is the entire park property. It is identified on the enclosed map of the park. A newsletter is enclosed with this letter to allow you further background on the issue of ungulates in the park, the purpose and need for action as well as a summary of the alternatives presented in the draft plan/EIS.

All new fence lines will be surveyed prior to or concurrently with the fence line construction. An archeologist will be required as the fence crosses any land that has previously never been surveyed. Further consultation with the SHPD for fence placement will be needed in locations where historic rock walls are found. The walls are at various locations throughout the Kahuku property, along the property lines, and/or paddock areas.

The park understands the need for fencing and also the protection of cultural resources within the APE. As we have done in the past, we consult on actions that may have an adverse effect on a suite of cultural resources, including archeological sites, ethnographic resources, historic structures such as walls, and cultural landscapes and associated small scale features. The lands of Kahuku are currently in the process of being assessed as part of our ongoing responsibility for Section 110 of the National Historic Preservation Act that includes all cultural resources. It is likely that there will be no adverse effect to the cultural resources with the addition of fencing within the Kahuku lands. This is also our finding for the older Kīlauea section of the park. Since we have a standard operating procedure for fencing that protects any and all cultural resources.

There will be opportunities to provide direct comments to the NPS during the week of December 5th, 2011, Hawai‘i Volcanoes National Park will be holding public open house meetings at three locations on the Island of Hawai‘i. They are as follows:

Monday, December 5, 6:00pm-8:00pm:
Kīlauea Visitor Center
Hawai‘i Volcanoes National Park
1 Crater Rim Drive
Hawai‘i National Park, Hawai‘i

Tuesday, December 6, 6:00pm-8:00pm:
Na‘alehu Community Center
95-5635 Mamalahoa Hwy.
Na‘alehu, Hawai‘i

Wednesday, December 7, 6:00pm-8:00pm:
Kona Outdoor Circle Educational Center and Botanical Gardens
76-6280 Kuakini Hwy.
Kailua-Kona, Hawai‘i

In addition to attending the public open house meetings, comments may be provided in two other ways:

Mail:

Cindy Orlando
Superintendent, Hawai'i Volcanoes National Park
RE: Protecting & Restoring Native Ecosystems by Managing Non-Native
Ungulates Plan/EIS
P.O. Box 52
Hawaii National Park, HI 96718-0052


Electronically:

Through the NPS Planning, Environment and Public Comment project Web site at
http://parkplanning.nps.gov/havo_ecosystem_deis.

The plan/DEIS will be available for public review and comment until January 20th, 2012.

We request your concurrence with our finding of a no adverse effect for ungulate fencing that is common to all alternatives in the DEIS. If you have any questions regarding our findings, please don't hesitate to contact Laura C Schuster, Chief of Cultural Resource Management at (808-985-6130) for questions regarding Section 106 consultation. If you should have questions regarding the DEIS please direct your comments to Rhonda Loh, Chief of Natural Resources Management at (808-985-6098).

Sincerely,



Cynthia L. Orlando
Superintendent

Enclosure

cc:

List of all receiving S 106 letters including addresses.

cc:

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Appendices

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C/O Mr. Leroy Dikito, President
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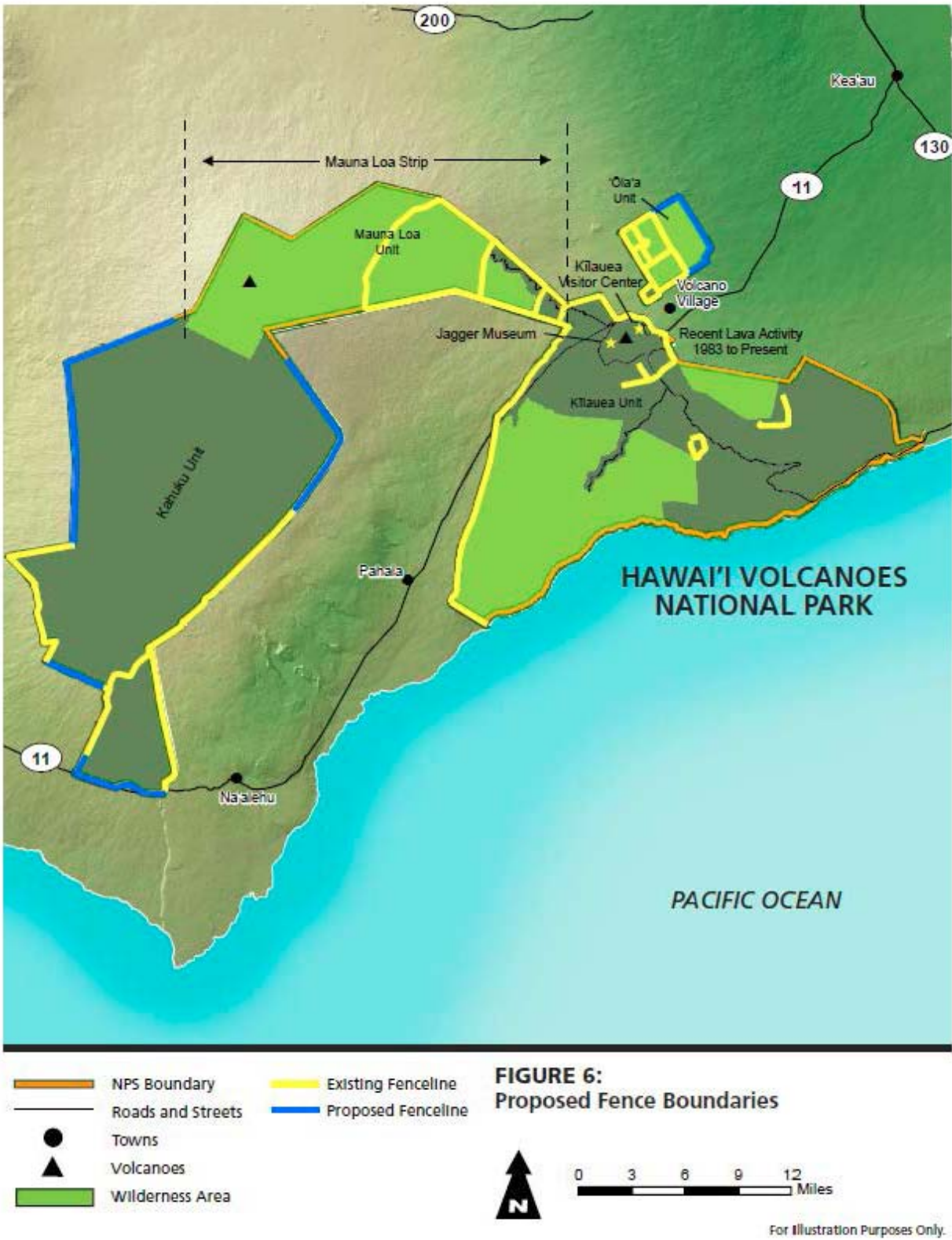
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APPENDIX B: MINIMUM REQUIREMENTS DECISION GUIDE



ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER

MINIMUM REQUIREMENTS DECISION GUIDE

WORKSHEETS

"... except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act..."

– the Wilderness Act, 1964

Please refer to the accompanying MRDG Instructions for filling out this guide.
The spaces in the worksheets will expand as necessary as you enter your response.

The MRDG Instructions may be found at: <http://www.wilderness.net/mrdg/>

**Project Title: Protecting and Restoring Native Ecosystems by
Managing Non-native Ungulates**

Step 1: Determine if any administrative action is necessary.

Description: Briefly describe the situation that may prompt action.
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The situation that prompts action is the degradation of park resources by introduced non-native ungulates at Hawai'i Volcanoes National Park. The draft plan/EIS for Protecting and Restoring Native Ecosystems by Managing Non-native Ungulates considers a range of management alternatives for protecting and restoring native species and ecosystems by removing non-native ungulates. The following section describes the purpose and need for the draft plan/EIS, and the existing conditions that prompt administrative action in wilderness areas at the park.

Purpose

The purpose of this plan/EIS is to develop a comprehensive and systematic framework for managing non-native ungulates that supports long-term ecosystem protection; supports natural ecosystem recovery and provides desirable conditions for active ecosystem restoration; and supports protection and preservation of cultural resources. A plan/EIS is needed to address the impacts of non-native ungulates, which include loss of native ecosystems, especially native plant and animal communities; loss of sensitive native species, including state- and federally-listed species; and loss of irreplaceable cultural resources.

Need

The management plan/EIS is needed to address the following items.

- The impacts of non-native ungulates that result in
 - the loss of native ecosystems, especially native plant and animal communities;
 - the loss of sensitive native species including state and federally listed species; and
 - the loss of irreplaceable cultural resources.
- Park compliance with the NPS *Management Policies 2006*, Section 4.4.4 Management of Exotic Species, which states that non-native species will not be allowed to displace native species if displacement can be prevented.
- Park compliance with the *1916 Organic Act* (16 United States Code [USC] 1) that states that the purpose of the national parks is “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”
- Park compliance with the *Redwoods National Park Expansion Act of 1978* (P.L. 95-250, 92 Stat. 163, as amended, 1978), which emphasizes the protection and preservation of natural resources in national parks. This act re-emphasized that park management must be consistent with the conservation portion of the organic act, that conservation is the single purpose of the national parks.
- Park compliance with its enabling legislation (16 USC 396) (P.L. 95-635, 16 USC 1132) which established the park and states that the park “shall be perpetually dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people of the United States . . .” It provides for the “preservation from injury of all timber, birds, mineral deposits, and natural curiosities or wonders within said park, and their retention in their natural condition as nearly as possible.”
- Park compliance with the Wilderness Act of 1964 (Section 2a), which states that designated wilderness areas “shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character [...]”
-

Existing Conditions

Hawaiian ecosystems evolved without large mammalian herbivores, and introduced mouflon, cattle, sheep, pigs and other large non-native ungulates are the primary threats to terrestrial native ecosystems, including designated wilderness areas at the park. Through trampling, browsing and bark stripping, non-native ungulates destroy habitat, inhibit native forest regeneration and cause local extinctions of sensitive species. Non-native ungulates also cause increased soil disturbance and erosion, as well as dispersal and spread of highly disruptive invasive plants. There are over 300 federally-listed threatened and endangered species in the Hawaiian Islands. Approximately 90% of these species are endemic to the State. Hawai'i Volcanoes National Park contains habitat for over 35 federally-listed endangered and threatened plants and animals (includes 8 historical species), and additional candidate species and species of concern, many of which are highly susceptible to impacts from non-native ungulates. Included are at least sixteen federally-listed endangered and threatened species that occur or were last documented in designated wilderness in the park (*Adenophorus periens*, *Argyroxiphium kauense*, *Asplenium peruvianum* var. *insulare*, *Branta sandvicensis*, *Buteo solitarius*, *Cyrtandra giffardii*, *Cyrtandra tintinnabula*, *Lasiurus cinereus* subsp. *semotus*, *Plantago hawaiiensis*, *Pleomele hawaiiensis*, *Psittirostra psittacea*, *Pterodroma sandwichensis*, *Puffinus auricularis newelli*, *Sesbania tomentosa*, *Sicyos alba*, *Silene hawaiiensis*). Upper elevation areas of Kahuku being evaluated for wilderness eligibility supports additional habitat for critically endangered forest birds and plants (e.g. *Argyroxiphium kauense*, *Hemignathus munro*, *Loxops coccineus* subsp. *coccineus*, *Oreomystis mana*).

NPS staff has been successfully controlling non-native ungulates in large portions of the park since the 1970's. Components of the non-native ungulate control strategy involved: 1) the use of barrier fences to isolate populations, 2) removal of individuals at substantially greater rates than can be replenished by reproduction and ingress from adjoining areas to reach a population goal of zero ungulates, 3) barrier fence inspection and maintenance, and 4) vigilance in monitoring and removal to prevent non-native ungulate population ingress and increase. This strategy has assisted the recovery of native species and natural conditions in large portions of the park.

Wilderness consists of four distinct units, the Ka'ū Desert unit including the dry southwestern portion of Kīlauea and several miles of coastline, the East Rift unit containing mesic and wet forest on the eastern portion of Kīlauea, the 'Ōla'a unit, which contains the 'Ōla'a forest and is separate and just north of the visitor center, and the Mauna Loa unit containing the upper portion and summit of Mauna Loa. Approximately 9.9 miles of interior and 44.4 miles of park boundary fencing occur in designated Wilderness. The upper portions of the Kahuku unit are currently being evaluated for wilderness eligibility and are included in this analysis.

Administrative Actions Analyzed in this Minimum Requirements Analysis

Under all alternatives proposed in the plan/EIS, non-native ungulate removal activities in wilderness areas may include any combination of the following: direct reduction with firearms (ground and aerial), snaring, baiting, trapping, and/or relocation, and fence construction, replacement, inspection, and maintenance. Construction, replacement, inspection, and maintenance of exclusionary fences include the use of helicopters to deliver supplies to construct, maintain and repair fences, and also to haul away old fence materials. Construction and maintenance of fences may also include the use of machetes and chainsaws to clear dense vegetation and rock drills to install fence posts and anchor bolts in rock substrate. Helicopters are used for monitoring animals, animal capture and aerial shooting. See Step 2 of this appendix for details on these activities.

To determine if administrative action is necessary, answer the questions listed in A - F on the following pages by answering Yes, No, or Not Applicable and providing and explanation.

A. Describe Options Outside of Wilderness

Is action necessary within wilderness?

Yes: ☒ No: ☐

Explain: Ecological integrity, biological diversity, and native Hawaiian cultural heritage embodied in the native plants and animals need to be preserved inside the park, including designated wilderness areas. Native species are key components of the natural conditions in wilderness. Non-native ungulates detract from natural conditions through their impacts that result in the loss of native species and habitats. So, while removal and exclusion occurs outside of wilderness, it is also necessary within wilderness.

B. Describe Valid Existing Rights or Special Provisions of Wilderness Legislation

Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows or requires consideration of the Section 4(c) prohibited uses? Cite law and section.

Yes: ☐ No: ☐ Not Applicable: ☒

Explain: There are no special provisions in The Wilderness Act of 1964 or subsequent wilderness legislation that specifically addresses non-native ungulate removal efforts.

C. Describe Requirements of Other Legislation

Is action necessary to meet the requirements of other laws?

Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

Maintenance removal and exclusion of non-native ungulates in wilderness areas is required to meet provisions of legislation that established Hawai'i National Park (later to become Hawai'i Volcanoes National Park). This legislation passed on August 1, 1916 (39 Stat. 432) declared:

That the tracts of land on the Island of Hawai'i and the Island of Maui, in the Territory of Hawai'i...shall be perpetually dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people of the United States..." and provide for, "...the preservation from injury of all timber, birds, mineral deposits, and natural curiosities or wonders within said park, and their retention in their natural condition as nearly as possible.

Non-native ungulate removal and exclusion also helps the NPS meet their responsibilities related to the 1916 Organic Act (16 USC 1), the Redwoods National Park Expansion Act of 1978 (P.L. 95-250, 92 Stat. 163, as amended, 1978), and the Endangered Species Act (16 U.S.C. Ch. 35, Sec. 1531-1544).

Provisions of the NPS Organic Act (39 Stat. 535, codified at 16 U.S.C. sections 1 through 4) directed the U.S. Department of the Interior and the NPS to manage units "to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations" (16 USC 1). The Redwood National Park Expansion Act of 1978 reiterates this mandate by stating that the NPS must conduct its actions in a manner that will ensure no "derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress" (16 USC 1a-1). By not managing non-native ungulates in wilderness areas, the park would be ignoring documented impacts that have the potential to cause significant negative cumulative effects on wilderness resources and values. Therefore, removal and exclusion of remnant non-native ungulate populations in wilderness areas is necessary to meet the requirements of the NPS Organic Act and NPS Redwood National Park Expansion Act.

Removal and exclusion of non-native ungulates has been identified by USFWS recovery plans as a requisite action to protect habitat and control threats to several plant and bird species found in Hawai'i Volcanoes National Park that are listed under the Endangered Species Act (USFWS 1984, 1996, 1997, 1998, 1999, 2003).

D. Describe Other Guidance

Is action necessary to conform to direction contained in agency policy, unit and wilderness management plans, species recovery plans, or agreements with tribal, state and local governments or other federal agencies?

Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

NPS Management Policies provide guidance for wilderness management. For example, Section 2.3.1.10 states that "...wilderness should be taken into consideration in subsequent program management and implementation plans (comprehensive management plans for wilderness and general management plans)" Such planning should also be in compliance with NPS Management Policies 2006, Section 6.3.4. and Section 6.3.5 which respectively state, "Proposals having the potential to impact wilderness resources will be evaluated in accordance with NPS procedures for implementing the National Environmental Policy Act;" and "All management decisions affecting wilderness must be consistent with the minimum requirement concept."

Ungulate exclusion and removal is consistent with NPS Management Policies (2006) outlined in Chapter 4, section 4.4.4.2 Removal of Exotic Species Already Present and Section 4.4.2.3 Management of Threatened or Endangered Plants and Animals. Section 4.4.4.2 (Removal of Exotic Species Already

Present) states that, "All exotic plant and animal species that are not maintained to meet an identified park purpose will be managed—up to and including eradication—if (1) control is prudent and feasible, and (2) the exotic species:

- interferes with natural processes and the perpetuation of natural features, native species or natural habitats, or
- disrupts the genetic integrity of native species, or
- disrupts the accurate presentation of a cultural landscape, or
- damages cultural resources, or
- substantially hampers the management of park or adjacent lands, or
- poses a public health hazard as advised by the U.S. Public Health Service (which includes the Centers for Disease Control and the NPS public health program), or
- creates a hazard to public safety."

Section 4.4.2.3, states that NPS "will survey for, protect, and strive to recover all species native to national park system units that are listed under the Endangered Species Act. The Service will fully meet its obligations under the NPS Organic Act and the Endangered Species Act to both proactively conserve listed species and prevent detrimental effects on these species." This section also specifically states that the NPS will undertake active management programs to control detrimental nonnative species.

As mentioned previously, removal and exclusion of non-native ungulates has been identified by USFWS recovery plans as a requisite action to protect habitat and control threats to several plant and bird species found in Hawai'i Volcanoes National Park that are listed under the Endangered Species Act (USFWS 1984, 1996, 1997, 1998, 1999, 2003).

According to the 1975 final environmental statement for proposed wilderness at the park, the designated area would "preserve diverse segments of the island of Hawai'i in an undeveloped state—from the 13,680-foot summit of Mauna Loa to the Puna and Ka'u Coasts, and landscape ranging from barren lava to dense tropical forests and dry coastal reaches with numerous archeological sites" (NPS 1975b). In addition, the final EIS identified the need for management intervention to ensure the survival of endemic communities of plants and animals at risk by non-native species. Specific actions identified were construction of fences and the use of helicopter to exclude nonnative goats and pigs for the protection of park resources.

E. Wilderness Character

Is action necessary to preserve one or more of the qualities of wilderness character including: Untrammeled, Undeveloped, Natural, Outstanding opportunities for solitude or a primitive and unconfined type of recreation, or other unique components that reflect the character of this wilderness area?

Untrammeled: **Yes:** ☐ **No:** ☒ **Not Applicable:** ☐

Explain:

Undeveloped: **Yes:** ☐ **No:** ☒ **Not Applicable:** ☐

Explain:

Natural: **Yes:** ☒ **No:** ☐ **Not Applicable:** ☐

Explain:

Removal and exclusion of non-native ungulates is necessary to protect the natural conditions, native biological diversity, ecological integrity, and natural sounds (generated by native birds and insects) that characterize the wilderness areas at Hawai'i Volcanoes National Park. Monitoring and maintenance of fences are necessary to prevent re-entry of animals. Destruction of native vegetation and soil erosion will occur if the animals are not removed. Native biodiversity, including rare, threatened and endangered species will be lost and critical habitat destroyed if large herbivores inhabit the park. The risk is imminent

particularly for small populations of rare species. For example, within the older section of Hawai'i Volcanoes National Park, a large number of individuals from a planted population of the federally endangered Mauna Loa silversword and a natural population of the threatened catchfly (*Silene hawaiiensis*) on the Mauna Loa Strip were damaged when several mouflon sheep breached a barrier fence in the mid-1990's. The park contains significant populations of several endangered plant and animal species remaining in the wild. The loss of park populations or individuals would critically impact the global status of these species.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation:

Yes: ☐ No: ☒ Not Applicable: ☐

Explain:

Other unique components that reflect the character of this wilderness:

Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

Preserving the natural conditions of native ecosystems through the removal and exclusion of non-native ungulates also protects the cultural heritage of the indigenous Hawaiians embodied by the native plants and animals.

F. Describe Effects to the Public Purposes of Wilderness

Is action necessary to be consistent with one or more of the public purposes for wilderness (as stated in Section 4(b) of the Wilderness Act) of recreation, scenic, scientific, education, conservation, and historical use?

Recreation: Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

Action would support recreational opportunities. Visitors in wilderness areas of the park come to experience the geologic and natural landscapes, and observe the unique native flora and fauna. Loss of the native wildlife and flora due to the presence of non-native ungulates would detract from the visitor experience in park wilderness.

Scenic: Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

Visitors in wilderness areas of the park come to experience the natural landscapes, and witness the unique native flora and fauna. Loss of these resources due to the presence of non-native ungulates would detract from the visitor experience in park wilderness.

Scientific: Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

Recognized as an international biosphere reserve and world heritage site, Hawai'i Volcanoes National Park is identified worldwide as a unique place for the study of evolutionary processes and tropical forest ecosystems. Managing non-native ungulates in a manner that will restore the natural ecosystem will allow wilderness areas to continue to serve as places for scientific inquiry and education related to evolution and the study of globally unique flora and fauna.

Education: Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

Recognized as an international biosphere reserve and world heritage site, Hawai'i Volcanoes National Park is identified worldwide as a unique place for the study of evolutionary processes and tropical forest ecosystems. Managing non-native ungulates will allow wilderness areas to continue to serve as places to learn about the processes of evolution and the study of globally unique flora and fauna.

Conservation: Yes: ☒ No: ☐ Not Applicable: ☐

Explain:

The park contains habitat for over 50 federally listed endangered, threatened, and candidate endangered plant and animal species and additional Species of Concern and rare species. Many are found only on the island of Hawai'i, including designated wilderness in the park. Also protected are unique native plant and animal communities. Exclusion of non-native ungulates by fencing, monitoring, and removal of animals is needed to preserve these rare and critical habitats, and associated species. Removal of non-native ungulates has been identified by USFWS recovery plans as a requisite action to protect habitat and reduce threats to several federally endangered plant and bird species present at the park (USFWS 1984, 1996, 1997, 1998, 1999, 2003).

Historical use: Yes: ☐ No: ☐ Not Applicable: ☒

Explain:

Step 1 Decision: Is any administrative action necessary in wilderness?

Yes: ☒ No: ☐ More information needed: ☐

Explain:

Under all alternative proposed by the plan/EIS, fencing and removal of non-native ungulates are required in wilderness areas to ensure the native plant and animal species which contribute to wilderness character are not lost. Fence maintenance is also needed as non-native ungulates will breach them if they are not repaired or replaced. As described previously, destruction of native vegetation will occur and result in the loss of native plant communities, which contributes to loss of habitat and native wildlife. Native biodiversity, including rare, threatened and endangered species will be lost and critical habitat destroyed if large herbivores are able to enter the park. The risk is imminent, as noted in the example described previously when several mouflon sheep damaged populations of the federally endangered Mauna Loa silversword and the threatened catchfly. Impacts to these natural resources also affects native Hawaiian cultural heritage. Fence inspections, ground and aerial monitoring, and control actions are necessary to ensure management actions are successful; to identify and remove remnant or ingress animals; and to ensure fences are maintained

If action is necessary, proceed to Step 2 to determine the minimum activity.

Step 2: Determine the minimum activity.

Please refer to the accompanying MRDG *Instructions* for information on identifying alternatives and an explanation of the effects criteria displayed below.

Description of Alternatives

For each alternative, describe what methods and techniques will be used, when the activity will take place, where the activity will take place, what mitigation measures are necessary, and the general effects to the wilderness resource and character.

Alternative # A, B, C, D, and E

Description:

Under all alternatives, the NPS would implement the following management activities to remove non-native ungulates from areas that include designated wilderness. However, under Alternative A (no action alternative), they would not be part of a comprehensive, systematic management plan and consequently there would be less certainty that management actions would continue over time as institutional knowledge may be lost as a result of administrative and staff changes.

Population Objective

Under the no action alternative, population level objectives in existing management units (including wilderness units) would continue to be zero non-native ungulates (or as low as practicable) in order to protect and support restoration of ecosystems in the park. No established population level objective would be identified for future management areas in a comprehensive plan to guide future management in the park.

Under all action alternatives the population level objective would be zero non-native ungulates, or as low as practicable in all managed areas as part of a parkwide comprehensive plan to guide future management in the park, recognizing the possibility of remnant populations and ingress animals.

Fencing

Under all alternatives, the NPS would continue maintaining or replacing deteriorated boundary and internal fences to delineate managed non-native ungulate removal areas and exclude non-native ungulates from sensitive resource areas, including restoration plots. Fence repair/replacement would rely on helicopters to supply fence material, equipment and camp supplies to work sites located along fences. Vehicles are used only on existing administrative roads located in non-wilderness. A combination of machetes (brush), and chainsaw (e.g. to clear large logs fallen across fence corridors) is used to clear vegetation away from fences. Installation of fence posts and anchors into lava surfaces require using a motorized rock drill to secure posts and anchor bolts 6 to 10 inches into the rock. Old fence material is hauled out by helicopter. Several tons of fencing (~6 tons/mile, 1-5 miles a year) is replaced annually in the interior and along the boundary of designated wilderness. Many areas are not accessible using existing roads and trails. The heavy load weights, treacherous or fragile terrain (e.g. uneven 'a'ā, fragile pāhoehoe, earth cracks) and dense jungle vegetation (in rain forest) does not allow for non-mechanized transport by stock animals. Work crews may be required to camp overnight in temporary camps located in remote areas.

Under alternative A, existing conditions, there would be no comprehensive plan identifying a fencing strategy for unmanaged areas of the park. Under the action alternatives B-E, the NPS would:

- complete a boundary fence for the Kahuku Unit which could include portions inside eligible Wilderness areas
- complete a boundary fence for unmanaged portions of the 'Ōla'a Wilderness Unit

In addition, localized internal fencing could be constructed to assist in the control of non-native ungulates, if needed. Boundary fences could be established on the east end of Kīlauea (East Rift Wilderness Unit) if active lava flow ceased and ingress of goats or other large ungulates occurred. The actual sequence of fencing would be based on conditions on the ground as the implementation of other parts of the plan occurs.

Monitoring and Removal

Many of the management tools used to locate and remove animals (e.g. ground and aerial searches and reduction with firearms, dogs, snares, baits) are used by all alternatives, but may vary by species or location. Additional techniques that include the use of infrared cameras, cracker shells, inducing estrus, and relocation of animals are identified under the action alternatives (see Chapter 2, table 4 Consideration for Implementing Management Tools). However under alternative A, there would be no plan to provide a comprehensive, systematic approach for guiding these activities. Implementation of non-native ungulate management would depend largely on the professional judgment, past experience, and scientific knowledge of NPS staff responsible for conducting management activities; and it would be uncertain whether the NPS would progress through management phases, monitor, and apply management tools consistently as staff and institutional knowledge change over time.

Under the action alternatives B-E, ungulate management under a comprehensive, systematic plan would be divided into four phases, as follows:

1. **Initial assessment.** Occurs prior to initiation of control work, and includes monitoring to estimate initial abundance levels and distribution and to determine the amount of resources that will be necessary to manage non-native ungulates in prescribed areas.
2. **Reduction.** This first phase of control work typically begins at or near maximum population density, and usually after ingress has been controlled by fences. The goal of this phase is to reduce the population as much as possible in a short period of time, thereby reducing population recruitment and curtailing excessive ecosystem damage.
3. **Post-reduction.** This phase occurs when remnant levels of non-native ungulates have been achieved and the animals often become more difficult to detect, monitor, and manage.
4. **Maintenance.** The goal of this phase is to prevent ingress to management units in which non-native ungulates have been fully removed.

Removal Efforts

Reduction/Post-reduction: Frequency and duration of the reduction/post-reduction phases for mouflon, pigs, and goats in upper Kahuku, for which portions are currently being evaluated for wilderness eligibility, have been estimated based on reduction efforts in the west (approximately 12,600 ac) and mauka (approximately 8,900 ac) Kahuku units (FY 2003–FY 2009). During this phase, the annual number of full-day removal efforts using ground shooting averaged 20 and varied between 8 and 28. The annual number of helicopter-assisted (herding and/or aerial shooting) reduction/post-reduction efforts for mouflon and goats averaged 7 and varied between 0 and 19, typically increasing to 2 to 3 times a month as animals became more wary of ground-pursuit methods. Aerial shooting generally lasts 1.5 to 2 hours, while ground shooting can last up to 10 hours per day. The reduction phase would typically take place over a period of 6 to 36 months, depending on the size of the unit, whether the unit is expanded, and availability of funding. For the purposes of the analysis, it is assumed that reduction/post reduction would continue at a similar pace for the foreseeable future, resulting in about 20 removal efforts per year within a unit. Up to one-third of the removal efforts would include helicopter assistance. Frequency and duration of the reduction/post-reduction phases in remaining unmanaged areas (4,500 acre) of 'Ōla'a Wilderness Unit have been based on feral pig control efforts in the New unit (1,900 acre) of the 'Ōla'a area from FY 2005 to FY 2007. During this time, staff conducted an average of 24 full-day removal efforts using ground shooting with dogs and snaring during this period. A similar intensity of effort per acre would be assumed for remaining unmanaged areas. The number of reduction efforts would decrease over the life of the plan as non-native ungulates are removed and excluded from an area and the NPS moves into the maintenance phase.

Maintenance: Information on the frequency and duration of management actions during the maintenance phase is based on efforts conducted in non-native ungulate control units in the Kīlauea (which includes portions of East Rift and Ka'ū Wilderness Units), Mauna Loa (which includes portions of the Mauna Loa Wilderness Unit), and 'Ōla'a (which includes portions of 'Ōla'a Wilderness Unit) sections

of the park. Because non-native ungulate populations targeted for control have generally been excluded and removed in these areas, management actions are focused on removing ingress animals. The frequency of maintenance activities varies based on the number of non-native ungulates that breach an area in any given year. Between October 2004 and September 2009, the park conducted an average of approximately fifteen removal efforts per year across all units in the maintenance phase (both wilderness and non-wilderness areas). During that period, four efforts (three involving goats and one involving mouflon) were helicopter assisted (i.e., aerial shooting). Aerial operations last no more than a couple of hours. The remaining removal efforts were conducted using snaring, trapping, and/or ground shooting. These ground operations generally last 6 to 8 hours. Removal efforts typically begin at first light to minimize impacts on visitors and to maximize effectiveness. For the purposes of this analysis, it is assumed that maintenance efforts would continue at a similar level for the foreseeable future, resulting in about five to twenty-five removal efforts per year across all units in the maintenance phase. Approximately one-third of these efforts per year would require helicopter assistance. In mid-elevation, seasonally dry nēnē habitat on Kīlauea, baiting and live trapping would be the primary tool for removing feral pigs from the vicinity of nests and goslings. These localized activities would be conducted annually and limited to the breeding season (October thru March) and include portions of the Ka'ū Wilderness Unit.

Relocation

Under alternatives D and E, management activities for relocating animals would employ similar survey and capture techniques (aerial and ground surveys, live traps), but could require additional efforts to drive animals out of the area. This would likely require additional helicopter (to drive animals) and ground support, including construction of temporary corrals, and could potentially prolong the reduction/post reduction phases for some areas.

Monitoring

- 1) Initial assessment phase. Initial assessments are conducted prior to initiation of control work. The goal of monitoring during this phase is to estimate initial abundance levels, distribution, and to determine the amount of resources that will be necessary to manage ungulates within prescribed areas.
 - a) Aerial surveys for feral cattle, goats, sheep, and mouflon sheep
 - i) Line or belt transects spaced 500–1,000 m apart depending on vegetation density. These are typically done once prior to removal efforts.
 - b) Ground-based transect survey for feral pigs
 - i) Transects spaced 400–500 m apart. Presence of scat, tracks, digging, wallows, rubs, and browse are recorded on 50 m² plots. This is typically done once prior to removal efforts.
- 2) Reduction phase. This first phase of control work begins typically at or near maximum population density, and usually after trespass has been controlled by fences. The goal of this phase is to reduce the population as much as possible in a short period of time, thereby reducing population recruitment, and curtailing excessive ecosystem damage. Repeated systematic surveys may be used to determine population trajectory and the rate of removal necessary for further population reduction. Systematic surveys may become less effective as abundance decreases.
 - a) Repeated aerial surveys as in 1a) may be used to assess the effect of control work during the reduction phase for feral cattle, goats, sheep, and mouflon. This may be done at 12 to 24 month intervals.
 - b) Repeated ground-based transect surveys as in 1b) may be used to assess the effect of control work during the reduction phase for feral pigs. This may be done at 12 to 24 month intervals.
- 3) Post-reduction phase. This phase occurs when remnant levels of ungulates have been achieved and ungulates often become more difficult to detect, monitor, and manage. Transect-based systematic methodology becomes less effective because ungulates may congregate in small groups between original transects. Remaining ungulates may also learn to avoid locations visited repeatedly by staff. Monitoring is typically done in conjunction with removal efforts (see Reduction/Post reduction removal efforts for frequency of activities).
 - a) Systematic sweeps with staff spaced at regular distances of approximately 200 m increases the probability of detecting ungulates. Sweeps may be oriented perpendicular to original transects.

- b) Systematic sweeps as in 3a) with the assistance of dogs may be used to detect feral pigs, and in some cases, other ungulate species.
 - c) To increase the chances of encountering ungulates, staff may follow game trails, check areas with preferred forage, escape terrain, or other locations favored by ungulates. Areas with ungulates detections are visited repeatedly.
 - d) Judas animals are effective means of locating remnant ungulates in units being managed because they usually join with their conspecifics (Taylor Katahira 1988).
 - e) Aerial scouting. Short non-systematic overflights may be useful to locate ungulates where ungulates have been observed frequently in the past, in favorable habitats, or to verify reports at other locations from other agencies.
- 4) Maintenance phase. The goal of this phase of management is to prevent ingress to management units in which ungulates have been fully removed. Detecting ungulates during this phase is potentially the most difficult because there may be only one or a few individuals which have re-entered management units. It may be necessary to employ several monitoring methods simultaneously.
- a) Fence inspection
 - i) Monthly perimeter inspection of fences is the primary means of assessing management unit integrity. Fence breaches caused by fallen trees, tipped-up trees, or uprooted anchors indicate a high probability of ingress. Ungulate sign and fence condition assessment is recorded on standardized data sheets and reported immediately. GPS locations or marker tags on fences may be used to relocate fence damage and ungulate sign. Other monitoring methods may be initiated when ingress has been detected.
 - b) Systematic sweeps
 - i) Systematic sweeps as in 3a) may be used when fence inspections indicate ingress has occurred. Dogs are generally not used during these sweeps because sign from a small number of ungulates may become obscured.
 - c) Judas animals
 - i) Judas animals as in 3d) are effective means of locating some ungulates which have entered managed units because they usually join their conspecifics (Taylor Katahira 1988). This method may be avoided to reduce further damage in areas where sensitive native plants occur.
 - d) Browse survey
 - i) Ungulates such as mouflon may occasionally jump over intact fences which renders fence inspection inadequate as a stand-alone monitoring technique. The presence of any tracks, scat, browse, or bark stripping indicates ingress has occurred. Browse is most likely to occur on highly palatable native plants. Such preferred plants therefore serve as indicator species during browse surveys.
 - e) Monitoring rare plantings and natural plant populations
 - i) Rare native plant species such as silverswords and *Silene* spp. provide an opportunity for efficient ungulate monitoring because these species are preferentially eaten before less palatable species. Botanical specialists may monitor and care for these species during restoration efforts and will therefore often be the first to notice and report browse damage. This monitoring is done opportunistically, typically between 6 month and 2 year intervals.
 - f) Remote-triggered cameras.
 - i) Infrared-triggered remote cameras may be used to monitor fence lines and sensitive plant species. These types of cameras are useful in identifying ungulate species if this is not clear from other monitoring methods.
 - g) Ad-hoc methods
 - i) Occasionally other methods may be necessary to detect small numbers of ungulates such as opportunistic observations from ground or aircraft, or the use of night-vision or thermal imaging equipment. The amount of time staff are present in management units increases the likelihood of encountering small numbers of ungulates. Observations from staff of other agencies are also encouraged.

Effects:

**Wilderness Character
"Untrammeled"**

Monitoring and removal of non-native ungulates: Controlling the ungulates, even though they are non-native, would negatively impact the untrammeled quality of wilderness (free from human control or manipulation). However, actions to eliminate the ungulate population would decrease over time; therefore the amount of trampling would decrease over time. Over the long-term, elimination of the ungulate population would assist recovery of natural conditions and the untrammeled nature of the wilderness character by reducing evidence of human manipulation.

Fencing: The fencing itself does not impact the untrammeled character of wilderness. Human activities or actions that control or manipulate the components or processes of ecological systems inside the wilderness are what impact the untrammeled quality of wilderness.

"Undeveloped"

Monitoring and removal of non-native ungulates: Actions taken to monitor or remove ungulates would not change the undeveloped nature of the wilderness area as they do not involve the use of permanent or temporary structures that would change the character of the area.

Fencing: Repairing and maintaining the fence would maintain a modern structure in wilderness. The use of motorized equipment and mechanized transport for the construction, repair, inspection, and maintenance of fences will also have a negative impact on the undeveloped quality. Use of remote cameras, temporary corrals, or holding pens may introduce a modern element into the wilderness. These are temporary and could be mitigated by placing them into inconspicuous areas.

"Natural"

Monitoring and removal of non-native ungulates: Short-term effects would occur from the periodic use of helicopters and firearms to monitor for and/or remove non-native ungulates from wilderness areas. During times of management actions, these actions would introduce activities that are not part of the natural environment, such as the potential for noise from helicopters or firearms to disturb wildlife. These actions would be temporary, and intermittent. Once these actions are completed, long-term benefits would occur from the protection of the natural conditions of ecological integrity, biological diversity and natural sounds (latter caused by native birds and insects) across large areas of wilderness.

Fencing: Short-term effects would result from noise caused by motorized equipment and helicopters potentially disturbing wildlife. Long-term adverse effects include the trampling and loss of vegetation along fence corridors, as well as the potential impacts on native birds (petrels) and bats in the area. However, mitigation measures are used to minimize the potential for bird-fence strikes (such as the use of bird tape and strategic placement of fence) or impalement (avoiding the use of barb-wire). Long-term benefits are protection of the natural conditions of ecological integrity, biological diversity, and natural sounds (latter caused by native birds and insects) across large areas of wilderness. Fence corridors are resurveyed for sensitive plant and animal species prior to repair or replacement. Fence work is minimized or avoided in areas identified as sensitive forest bird and bat habitat during critical breeding seasons. Helicopter operations will follow park Standard Operating Procedures for administrative flights. All landings, drop sites, and temporary camps will be surveyed and placed to minimize impacts to ecological systems.

**"Outstanding opportunities for solitude or a primitive and unconfined type of recreation"
Other unique components that reflect the character of this wilderness**

Monitoring and removal of non-native ungulates: There would be a temporary intrusion caused by helicopter and/or firearm noise that could disrupt opportunities for solitude. In most cases, areas where management actions would occur are located miles away from visitor campsites and most trails; dense vegetation also obscures and attenuates sound from these intrusions so they would be short-term and localized disturbances to solitude.

Long-term benefits would result from the improvement of the wilderness character in the absence of non-native ungulates, and the improvement in the primitive wilderness experience in these areas.

Fencing: There would be a temporary intrusion caused by helicopters (noise and sight), equipment noise, and temporary employee tent camps. In most cases, however, fences are located miles away from visitor campsites and most trails; dense vegetation also obscures and attenuates sound from these intrusions and they would be temporary. Minimum tools will always be considered in an effort to minimize noise, visual and environmental impacts. This would apply to initial construction as well as maintenance activities. Every effort will also be made to evaluate and select appropriate fencing alignment in order to minimize visual impacts especially in areas that may be more prone to contact by visitors.

Heritage and Cultural Resources

Exclusion of animals will provide long term benefits through the protection of archeological features and cultural landscapes from damage caused by trampling and soil erosion. In addition, protection of native vegetation and wildlife habitat will preserve an important component of Native Hawaiian heritage. Potential impacts caused by fences will be mitigated by conducting surveys prior to fence construction and repair and avoiding cultural features. Helicopter operations will follow park Standard Operating Procedures for administrative flights. All landings, drop sites, and temporary camps will be surveyed and placed to minimize impacts to surroundings.

Maintaining Traditional Skills

Not applicable

Special Provisions

Not applicable

Economics and Timing Constraints

Implementation of activities strictly by hand tools and ground crews would not allow for management objectives and purpose of the plan to be met. Mechanized equipment is necessary to transport several tons of fencing (~6 tons/mile, 1-5 miles a year) that are replaced annually in the interior and along the boundary of designated wilderness. Many areas are not accessible using existing roads and trails. The heavy load weights, treacherous or fragile terrain (e.g. uneven 'a'ā, fragile pāhoehoe, earth cracks) and dense jungle vegetation (in rain forest) does not allow for non-mechanized transport by stock animals. Mechanized equipment is needed to effectively monitor and reach all ungulates in remote areas. In open terrain, feral goats, mouflon sheep, and axis deer are extremely agile, fast moving animals that require rapid pursuit over highly uneven or treacherous terrain and across large expanses. Effective search and removal, particularly for remnant populations, require a combination of ground and aerial pursuit in order to successfully apprehend animals, which is not possible by ground pursuit methods alone.

Additional Wilderness-specific Comparison Criteria

Not applicable

Safety of Visitors, Personnel, and Contractors

Visitor and employee concerns related to safety include the use of firearms by volunteers and park staff during removal actions; use of helicopters; and visitors encountering management actions while in the park. There is also a danger posed by encountering non-native ungulates while in the park. However, removal efforts typically occur far removed from where most visitation occurs and, if necessary, limited and temporary closures could be implemented to protect visitors. Fences and other management actions are generally far removed from trails or campsites, and visitors seldom travel cross-country because of the lack of available water and challenging terrain. All staff using helicopters or firearms have specific training in these activities. Helicopter transport is considered the safest method for transporting large loads given the fragile lava surfaces and uneven terrain. Crews must follow established work safety procedures for all management actions.

Comparison of Alternatives

Under all alternatives, there would be impacts caused by searching and removing animals and constructing and maintaining fences. Many of these impacts would be short-term and temporary, and efforts would be made to evaluate and select appropriate fencing alignment in order to minimize visual impacts caused by fences especially in areas that may be more prone to contact by visitors.

Under Alternative A: No Action (Continue Existing Non-native Ungulate Management Activities), the NPS would continue current management of non-native ungulates, thereby supporting the protection and recovery of native plant and animal species, and the protection of cultural resources. However, the lack of a comprehensive management plan to guide future actions means that the implementation of non-native ungulate management would depend largely on the professional judgment, past experience, and scientific knowledge of NPS staff responsible for conducting management activities. As a result, consistent application of management tools over time would be uncertain, meaning that the benefits to wilderness character would be less than under the action alternatives.

Under all action alternatives, managing populations of non-native ungulates would perpetuate or assist long-term recovery of the natural conditions that contribute to the character of the wilderness at Hawai'i Volcanoes National Park. Alternative C (Comprehensive Management Plan that Maximizes Efficiency by Expanding Lethal Removal Techniques and Discontinuing the Use of Volunteers) would be the quickest to reach the maintenance phase. Consequently, there would be slightly fewer impacts caused by removal efforts, and benefits to native species and natural conditions of wilderness could be realized sooner than by other action alternatives.

Under alternatives D and E, management activities for relocating animals would employ similar survey and capture techniques (aerial and ground surveys, live traps) as other action alternatives, but could require additional efforts to drive animals out of the area. This would likely require additional helicopter (to drive animals) and ground support, including construction of temporary corrals, and could potentially prolong the reduction/post reduction phases for some areas. However once animal populations are removed, impacts to wilderness would be similar among all action alternatives.

It may be useful to compare each alternative's benefits and adverse effects to each of the criteria in tabular form, keeping in mind the law's mandate to "preserve wilderness character."

	Alt A: Existing Conditions	Alt B	Alt C	Alt D	Alt E
Untrammeled	-	-	-	-	-
Undeveloped	-	-	-	-	-
Natural	+	+	+	+	+
Solitude or Primitive Recreation	+, -	+, -	+, -	+, -	+, -
Unique components	NA	NA	NA	NA	NA
WILDERNESS CHARACTER	++/---	++/---	++/---	++/---	++/---

	Alt A: Existing Conditions	Alt B	Alt C	Alt D	Alt E
Heritage & Cultural Resources	+	+	+	+	+
Maintaining Traditional Skills	NA	NA	NA	NA	NA
Special Provisions	NA	NA	NA	NA	NA
Economics & Timing	+	+	+	+	+
Additional Wilderness Criteria	NA	NA	NA	NA	NA
OTHER CRITERIA SUMMARY	+	+	+	+	+

	Alt A: Existing Conditions	Alt B	Alt C	Alt D	Alt E
SAFETY (PUBLIC AND WORKERS)	+, -	+, -	+, -	+, -	+, -

Safety Criterion

Documentation:

Several tons of fencing (~6 tons/mile, 1-5 miles a year) are replaced annually in the interior and along the boundary of designated wilderness. Many areas are not accessible using existing roads and trails. The heavy load weights, treacherous or fragile terrain (e.g. uneven 'a'ā, fragile pāhoehoe, earth cracks) and dense jungle vegetation (in rain forest) does not allow for safe non-mechanized transport by stock animals. Injuries incurred by hiking or carrying heavy loads are the most common work-related accidents among work crews (NPS 2009m).

Step 2 Decision: What is the Minimum Activity?

Please refer to the accompanying MRDG Instructions before describing the selected alternative and describing the rationale for selection.

Selected alternative:

Monitoring and removal of non-native ungulates: All action alternatives (B-E) require the implementation of reduction, post reduction, and maintenance phases of non-native ungulate management, including monitoring and removal. Details of the actions are provided in Step 1. Helicopters would be used to conduct periodic sweeps to determine the presence or absence of non-native ungulates in wilderness areas. If non-native ungulates are identified, removal actions, using a firearm (from the ground or by air), trapping or snaring will be initiated. Actions would be more frequent during the reduction/post reduction phases than in the maintenance phase.

Fencing: Helicopters would be used to transport fence material, equipment, tools and camp supplies to fences located in wilderness. Details of these actions are provided in Step 1. Deteriorated fence will be repaired or replaced. A combination of machete (brush), and chainsaw (e.g. to clear large logs fallen across fence corridors) is used to clear vegetation away from fences. Installation of fence posts and anchors into lava surfaces may require using a motorized rock drill. Old fence material will be dismantled and hauled out by helicopter. For fence segments in more remote areas, a temporary administrative camp may be established for the duration of the repair work.

Rationale for selecting this alternative (including safety criterion, if appropriate):

The proposed management actions described under alternative B-E to remove non-native ungulates are appropriate and necessary for the long-term management of park resources, including wilderness areas. The activities proposed are part of a clearly defined plan and mitigations exist to minimize any impact on the wilderness. Long-term beneficial impacts to natural conditions would be fully realized under the action alternatives because the comprehensive, systematic approach described in Chapter 2 “Elements Common to All Action Alternatives” would ensure that the NPS would progress through ungulate management phases, monitor, and apply management tools consistently over time. Long-term beneficial impacts would be less likely under alternative A, because management would depend largely on the professional judgment, past experience, and scientific knowledge of NPS staff responsible for conducting management activities and implementation of management tools could become increasingly inconsistent as staff and institutional knowledge change over time.

Although visitors may hear the noise (temporary) and see the fence (long-term), monitoring and removal of non-native ungulates and construction/maintenance of fences is necessary to preserve the natural qualities that make up the wilderness character and preserve cultural resources for present and future generations to experience in designated wilderness. Removal of non-native ungulates and maintenance of fences protect and allow the recovery of native species (including rare and federally listed species), critical habitat, and ecosystems processes by preventing further destruction caused by non-native ungulates. Such actions will also result in restoring and insuring the long term protection of the original wilderness values associated with Hawai'i Volcanoes National Park and fulfilling the intent of the Wilderness Act of 1964 as well as NPS Management Policies 2006 addressing “Wilderness Preservation and Management”.

Effective removal of all non-native ungulates requires full access to all areas of the park including areas not accessible by roads or trails or by stock animals. In open terrain, feral goats, mouflon sheep, and axis deer are extremely agile, fast moving animals that require rapid pursuit over highly uneven or treacherous terrain and across large expanses. Effective pursuit and removal, particularly for remnant populations, require a combination of ground and aerial pursuit in order to successfully apprehend animals, which is not possible by ground pursuit methods alone.

Helicopter support is needed to assist with transport of fence material and equipment to construct and repair fences in remote wilderness areas. Several tons of fencing (~6 tons/mile, 1-5 miles a year) is

replaced annually in the interior and along the boundary of designated wilderness. Many areas are not accessible using existing roads and trails. In addition to the heavy loads, the expansive lava substrates characterized by jagged 'a'ā flows and fragile pāhoehoe flows, limit the safe use of stock animals in many areas of the park. In rain forest, the dense understory vegetation and hidden earth cracks do not permit the use of stock animals or hiking of heavy loads away from trails. Helicopter transport, although a temporary intrusion on wilderness character, minimizes long-term impacts to lava surfaces and vegetation. If stock were to be used, it would require vegetation clearing and leveling of surfaces along the travel routes, which would result in long-term impacts, compared to the short-term impacts caused by helicopter use.

In rocky substrates, the use of motorized equipment (e.g. Cobra rock drill) is needed to secure fence posts and anchor bolts. Using a manual post pounder, fence posts and anchors are driven 6 to 10 inches in rock in pre-drilled holes spaced 5 to 10 feet apart. There are over 130 miles of fence in the park, including 50+ miles in designated wilderness. The hard lava substrates, depth, and quantity of drill holes required make the manual use of a hand held star drill impractical and increases safety concerns for work crews. Operators installing fence posts on solid pahoehoe lava will typically drill 100 to 130 1 1/2" X 10" holes per work day using the Cobra rock drill. Work crews using the manual technique would only be able to install a small fraction of what a crew could install using the Cobra rock drill, thus significantly prolonging impacts to wilderness character caused by activities during fence construction. In addition the star drill requires considerable skill by the operator to consistently strike the target with a sledgehammer while a 2nd person holds the fence or anchor bolt. Fatigue and the potential for the sledgehammer to strike the holder increases with repetitive use. While the machete is the primary tool for clearing brush from fence lines, limited use of chainsaw is required to clear large snags or heavy woody debris lying across the fence corridor.

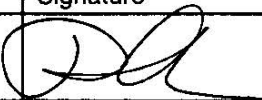
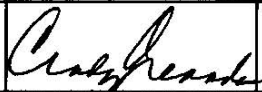
Monitoring and reporting requirements:

Vegetation and non-native ungulate monitoring to determine progress toward restoration goals would be conducted as needed. For vegetation this could be done annually or at 5 to 20 year intervals depending upon the vegetation type and environment. Ungulate monitoring would be done according to the monitoring phases described above. Impacts to wilderness character caused by fences (miles in wilderness), helicopter (hours), and use of motorized tools (number of projects) would be reported annually.

Check any Wilderness Act Section 4(c) uses approved in this alternative:

- | | |
|--|---|
| <input checked="" type="checkbox"/> mechanical transport | <input checked="" type="checkbox"/> landing of aircraft |
| <input checked="" type="checkbox"/> motorized equipment | <input type="checkbox"/> temporary road |
| <input type="checkbox"/> motor vehicles | <input checked="" type="checkbox"/> structure or installation |
| <input type="checkbox"/> motorboats | |

Record and report any authorizations of Wilderness Act Section 4(c) uses according to agency procedures.

Approvals	Signature	Name	Position	Date
Prepared by:		Rhonda K Loh	Chief of Natural Resources	10/10/12
Approved:		Cindy Orlando	Superintendent	10.10.12

APPENDIX C: PROGRESSION OF MONITORING TECHNIQUES CURRENTLY USED DURING UNGULATE MANAGEMENT AT HAWAI'I VOLCANOES NATIONAL PARK

A progression of monitoring techniques is currently used to evaluate ungulate management at Hawai'i Volcanoes National Park, depending on phase of management, species, and the environment being managed. Management phases include (1) initial assessment, (2) reduction, (3) post-reduction, and (4) maintenance. When ungulates such as mouflon sheep are abundant and inhabit relatively open environments, particularly during the initial assessment phase, systematic aerial surveys are an effective means to assess population levels. Feral pigs, however, are the most problematic ungulate to assess during all management phases because they inhabit environments with dense vegetation, making them unlikely to be detected from aircraft even at high population levels. Therefore, ground-based systematic monitoring techniques are often used when feral pigs are at high population levels. Systematic monitoring techniques are less effective for all species at low population levels because ungulates may congregate in small numbers between original monitoring locations. Adaptive strategies and combinations of multiple techniques may be necessary to monitor small numbers of ungulates remaining in management units. Monthly perimeter inspection of fences is the primary means of assessing the integrity of management units during the maintenance phase. Occasionally, some monitoring techniques may be used out of sequence or during other phases of ungulate management, as needed.

- 1) **Initial Assessment Phase.** Initial assessments are conducted prior to initiation of control work. The goal of monitoring during this phase is to estimate initial abundance levels and distribution, and to determine the amount of resources that will be necessary to manage ungulates within prescribed areas.
 - a) Aerial surveys for feral cattle, goats, sheep, and mouflon sheep
 - i) Line or belt transects spaced 500–1,000 meters apart depending on vegetation density. Methods may follow Hess et al. (2006).
 - b) Ground-based transect survey for feral pigs
 - i) Transects spaced 400–500 meters apart. Presence of scat, tracks, digging, wallows, rubs, and browse are recorded on 50-square meter plots. Plot density may range from 50 to 310 per square kilometer. Methods and analysis follow Anderson and Stone (1994).
- 2) **Reduction Phase.** This first phase of control work begins typically at or near maximum population density, and usually after trespass has been controlled by fences. The goal of this phase is to reduce the population as much as possible in a short period of time, thereby reducing population recruitment and curtailing excessive ecosystem damage. Repeated systematic surveys may be used to determine population trajectory and the rate of removal necessary for further population reduction. Systematic surveys may become less effective as abundance decreases.
 - a) Repeated aerial surveys as in 1a may be used to assess the effect of control work during the reduction phase for feral cattle, goats, sheep, and mouflon sheep.
 - b) Repeated ground-based transect surveys as in 1b may be used to assess the effect of control work during the reduction phase for feral pigs.
- 3) **Post-reduction Phase.** This phase occurs when remnant levels of ungulates have been achieved, and ungulates often become more difficult to detect, monitor, and manage. Transect-based systematic

methodology becomes less effective because ungulates may congregate in small groups between original transects. Remaining ungulates may also learn to avoid locations repeatedly visited by staff.

- a) Systematic sweeps with staff spaced at regular distances of approximately 200 meters increases the probability of detecting ungulates. Sweeps may be oriented perpendicular to original transects.
 - b) Systematic sweeps as in 3a with the assistance of dogs may be used to detect feral pigs, and in some cases, other ungulate species.
 - c) To increase the chances of encountering ungulates, staff may follow game trails and check areas with preferred forage, escape terrain, or other locations favored by ungulates. Areas with ungulates detections are visited repeatedly.
 - d) Judas goats or Judas cattle are effective means of locating remnant ungulates in units being managed because they usually join with their conspecifics (Taylor and Katahira 1988).
 - e) Aerial scouting. Short nonsystematic overflights may be useful in locating ungulates where ungulates have been observed frequently in the past or in favorable habitats, or to verify reports at other locations from other agencies.
- 4) **Maintenance Phase.** The goal of this phase of management is to prevent ingress to management units in which ungulates have been fully removed. Detecting ungulates during this phase is potentially the most difficult because there may be only one or a few individuals which have reentered management units. It may be necessary to employ several monitoring methods simultaneously in combination.
- a) Fence inspection
 - i) Monthly perimeter inspection of fences is the primary means of assessing management unit integrity. Fence breaches caused by fallen trees, tipped-up trees, or uprooted anchors indicate a high probability of ingress. Ungulate sign and fence condition assessment is recorded on standardized data sheets and reported immediately. Global positioning system (GPS) locations or marker tags on fences may be used to relocate damaged fences and ungulate sign. Other monitoring methods may be initiated when ingress has been detected.
 - b) Systematic sweeps
 - i) Systematic sweeps as in 3a may be used when fence inspections indicate ingress has occurred. Dogs are generally not used during these sweeps because sign from a small number of ungulates may become obscured.
 - c) Judas animals
 - i) Judas goats or Judas cattle as in 3d are effective means of locating some ungulates that have entered managed units because they usually join their conspecifics (Taylor and Katahira 1988). This method may be avoided to reduce further damage in areas where sensitive native plants occur.
 - d) Browse survey
 - i) Ungulates such as mouflon sheep may occasionally jump over intact fences, rendering fence inspection inadequate as a stand-alone monitoring technique. The presence of any tracks, scat, browse, or bark stripping indicates ingress has occurred. Browse is most likely to occur on highly palatable native plants. Such preferred plants therefore serve as indicator species during browse surveys.

- e) Monitoring rare plantings and natural plant populations
 - i) Rare native plant species such as silverswords and *Silene* spp. provide an opportunity for efficient ungulate monitoring because these species are preferentially eaten before less palatable species. Botanical specialists may monitor and care for these species during restoration efforts and will therefore often be the first to notice and report browse damage.
- f) Remote-triggered cameras
 - i) Infrared-triggered remote cameras may be used to monitor fence lines and sensitive plant species. These types of cameras are useful in identifying ungulate species if this is not clear from other monitoring methods.
- g) Ad hoc methods
 - i) Occasionally other methods may be necessary to detect small numbers of ungulates such as opportunistic observations from ground or aircraft, or the use of night-vision or thermal imaging equipment. The amount of time staff are present in management units increases the likelihood of encountering small numbers of ungulates. Observations from staff of other agencies are also encouraged.

Literature Cited in Appendix C

Anderson, S. J. and C. P. Stone

- 1994 Indexing sizes of feral pig populations in a variety of Hawaiian natural areas. *Transactions of the Western Section of the Wildlife Society* 30:26-39.

Hess, S., B. Kawakami, D. Okita, and K. Medeiros

- 2006 A preliminary assessment of mouflon abundance at the Kahuku Unit of Hawaii Volcanoes National Park. US Geological Survey Open File Report OF 2006-1193.

Taylor, D. and L. Katahira.

- 1988 Radio telemetry as an aid in eradicating remnant feral goats. *Wildlife Society Bulletin* 16:297-299.

APPENDIX D: ACOUSTIC SAMPLING AREAS INFORMATION

Measured L50 Natural Ambient Sound Levels

Acoustic Sampling Area ¹	Measurement Site	L50 Natural Ambient Sound Level (dBA)
Zone 1 (Shoreline)	1A	54.2
	1B	46.6
Zone 2 (Coastal Lowlands)	2A	28.3
	2B	32.7
	2C	29.1
Zone 3 (Sparsely Vegetated)	3A	31.4
	3B	29.1
	3C	32.7
	3D	20.4
Zone 4 (Montane Rain Forest)	4A	33.5
Zone 5 (Mauna Loa Montane/Subalpine)	5A	35.0
	5B	22.1
	5C	27.5
Zone 6 (Dry Ohi'a Woodlands)	6A	28.0
	6B	28.0
	6C	32.7
Zone 7 (Mauna Loa Alpine) ²	N/A	N/A
Zone 8 (Lowland Rain Forest)	8A	42.6
	8B	38.2
	8C	29.7
Zone 9 (New Lava Flows)	9A	28.6
	9B	28.6
	9C	25.4
Zone 10 (Kahuku Pastures)	N/A	N/A

Source: USDOT-FAA 2006, unpublished data

Notes:

1. Kahuku was acquired subsequent to the measurement study, so no data were collected. Measurements conducted in older sections of the park were extrapolated to Kahuku based on vegetation type and elevation.
2. Weather and accessibility to Zone 7 prevented the ability to take measurements in this zone. However, sound levels for these zones were characterized based on the similarity in attributes when compared to Zone 3.

Zone 1 (Shoreline). Sounds from surf and waves as well as birds are prominent natural sound characteristics of this zone. This zone is also comprised of strong trade winds, bluffs, and low shoreline vegetation with elevations ranging from sea level to approximately 100 feet. Additional sounds within this zone include aircraft overflights, vehicles, and hikers, especially in the vicinity of measurement site

1B, which is nearest to the lava eruption viewing area. L50 natural ambient sound levels range between 50 to 55 dBA in the southwestern portion of this zone and 45 to 50 dBA in the northeastern portion of this zone. Variability within the zone may be attributed to differences in visitor activity (USDOT-FAA 2006).

Zone 2 (Coastal Lowlands). This zone extends over an elevation range of 100 to 1,500 feet, has strong trade winds like the shoreline due to the mountains, contains low grass or scrub vegetation as well as widespread barren lava flows, and has natural animal sounds (i.e., compared to pets brought by park visitors) that are negligible. Near the measurement site locations (2A, 2B, and 2C), sound sources include wind noise through the grass, insect noise, and vehicle noise. L50 natural ambient sound levels within this zone range between 25 to 35 dBA, where variability may be attributed to differences in visitor uses throughout the zone (USDOT-FAA 2006).

Zone 3 (Sparsely Vegetated). Elevations within this zone range between 700 and 3,800 feet, with recent lava flows and low vegetative cover. The predominant natural sound source in this zone is the trade winds. In the vicinity of the measurement locations, winds, insect noises and aircraft activity also contribute to sound levels. L50 natural ambient sound levels range between 30 to 35 dBA in the northernmost tip and southern portion of this zone and between 20 and 30 dBA in other portions of this zone. Variations may be attributed to differences in visitor activity and higher wind speeds in some locations (USDOT-FAA 2006). Data was extrapolated to areas of similar vegetation and topography for Kahuku, since no ambient data was collected for this area of the park.

Zone 4 (Montane Rain Forest). This zone encompasses the tree fern rain forest on slopes of Mauna Loa, with elevations between 3,300 and 4,400 feet in ‘Ōla‘a, and from 5,000 to 6,200 feet elevation in Kahuku. The dominant natural sounds include rain on the tree canopy, crickets, and some bird sounds within specific locations. L50 natural ambient sound levels within this zone range between 30 to 35 dBA (USDOT-FAA 2006). Data was extrapolated to areas of similar vegetation and topography for Kahuku, since no ambient data was collected for this area of the park.

Zone 5 (Mauna Loa Montane/Subalpine). This zone covers an elevation range between 4,000 and 8,500 feet on the Mauna Loa slopes. It contains forest, shrublands, grasslands, and lava flows. Wind speeds are less than along the coast and bird sounds are heard in the forested portions of the zone. Additional sounds sources observed near the measurement locations within this zone include vehicle noise from the nearby Mauna Loa Strip Road and aircraft activity. L50 natural ambient sound levels range between 20 to 25 dBA in the western portion of this zone, 25 to 30 dBA in the central portion, and 30 to 35 dBA in the easternmost portion. Based on the measurement data collected at sites 5A, 5B, and 5C, variations in sound level ranges may be attributable to differences in air tour activities within the zone (USDOT-FAA 2006). Data was extrapolated to areas of similar vegetation and topography for Kahuku, since no ambient data was collected for this area of the park.

Zone 6 (Dry ‘Ohi’a Woodlands). Elevations within this zone range between 1,000 and 3,300 feet, with forests, woodlands, and savannas. The predominant natural sound source is the trade winds rushing through the forest canopy. Additional sounds observed at the measurement locations within this zone include insect noise and aircraft events. L50 natural ambient sound levels range between 25 to 30 dBA throughout most of this zone and between 30 and 35 dBA in the portion adjacent to zones 2, 8, and 9. Variability in the sound levels may be attributed to aircraft activities (USDOT-FAA 2006). Data was extrapolated to areas of similar vegetation and topography for Kahuku, since no ambient data was collected for this area of the park.

Zone 7 (Mauna Loa Alpine). This zone comprises the barren portion on Mauna Loa from approximately 8,500 to 13,677 feet. The climate is dry, and although winds are not strong, the dominant natural sounds in this zone are winds rushing over the lava fields, as well as occasional birds. Weather and accessibility

to this zone proved to be issues during the measurement period, and therefore ambient data collected from zone 3, which has similar vegetative and topographical cover to zone 7, was used to characterize the acoustics of zone 7. L50 natural ambient sound levels range between 30 and 35 dBA throughout the entire portion of this zone (USDOT-FAA 2006).

Zone 8 (Lowland Rain Forest). Located along the edge of Kilauea Caldera and the East Rift Zone, elevations within this zone range between 2,000 and 4,000 feet. Dominant natural sound sources include rain on vegetation and a great number of birds in the closed canopy forest. Additional sounds observed at the measurement site locations within this zone include traffic noise from Highway 11 at sites 8A and 8B, and aircraft activity at site 8C, which is near Napau Crater. L50 natural ambient sound levels range between 25 to 30 dBA in the portion of the zone where measurement site 8C is located and between 35 to 45 dBA in the remaining portion of the zone where measurement sites 8A and 8B are located. Variability in the sound levels within the zone may be attributable to human activity, including aircraft sounds and traffic noise (USDOT-FAA 2006).

Zone 9 (New Lava Flows). This zone is located on the East Rift Zone of Kilauea, where elevations range between 8,500 and 13,677 feet, and includes recent lava flows (within the past 40 years). Sounds within this zone from the newest lava flows include: bench collapses, rock fall from cinder cones and pit crater edges, crackling of cooling pahoehoe flows and sounds of clinkers falling in moving ‘a’a flows, gas venting, methane explosions, and falling trees on the edge of lava flows (USDOT-FAA 2006, 18). Additional sound sources observed near the measurement sites include birds and insects and aircraft activity, especially near measurement site 9A, which was along an air tour flight path. L50 natural ambient sound levels range between 25 to 30 dBA throughout the entire zone (USDOT-FAA 2006).

Zone 10 (Kahuku Pastures). This zone was added to Hawai‘i Volcanoes subsequent to measurement data collection and contains woodlands and rainforests, lava flows, ancient archaeological sites, and Mauna Loa’s southwest rift zone. Since no ambient data was collected for this area of the park, vegetative and topographical comparisons were used between this zone and zones where ambient data was collected to characterize the acoustics of Zone 10. Knowing this zone contains rare and endangered plant, bird, and insect species, the predominant natural sound sources expected include bird and insect sounds. L50 natural ambient sound levels were estimated between 25 to 30 dBA. Variations may be attributable to traffic noise from Highway 11 (USDOT-FAA 2006).

Literature Cited in Appendix D

U.S. Department of Transportation, Federal Aviation Administration (FAA)

- 2006 Baseline ambient sound levels in Hawai‘i Volcanoes National Park. Unpublished data. April 2006.

APPENDIX E: COMMENT ANALYSIS REPORT

**DRAFT PLAN / ENVIRONMENTAL IMPACT
STATEMENT FOR PROTECTING AND RESTORING
NATIVE ECOSYSTEMS BY MANAGING NON-NATIVE
UNGULATES**

COMMENT ANALYSIS REPORT

SEPTEMBER 2012

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INTRODUCTION AND GUIDE

INTRODUCTION

Pursuant to the National Environmental Policy Act (NEPA), its implementing regulations, and NPS guidance on meeting the Service's NEPA obligations, Hawaii Volcanoes National Park (the park) must assess and consider comments submitted on the Draft Plan/Environmental Impact Statement for Protecting and Restoring Native Ecosystems by Managing Non-Native Ungulates (draft plan/EIS). This report describes how the NPS considered public comments and provides responses to those comments.

Following the release of the draft plan/EIS, a 60-day public comment period was open between November 18, 2011, and January 20, 2012. This public comment period was announced on the park website (www.nps.gov/havo); through mailings sent to interested parties, elected officials, and appropriate local and state agencies; and through press releases and newspapers. The draft plan/EIS was made available through several outlets, including the NPS Planning, Environment, and Public Comment (PEPC) website at http://parkplanning.nps.gov/havo_ecosystem_deis, the Hawaii Volcanoes National Park Kīlauea Visitor Center, several libraries throughout Hawaii Island, and was available on CD or hardcopy by contacting the park Superintendent. After reviewing the draft plan/EIS, the public was encouraged to submit comments regarding the draft plan/EIS through the NPS PEPC website, or by postal mail sent directly to the park.

PUBLIC COMMENT MEETINGS

Three public open-house meetings were held in December 2011 to present the plan/EIS, provide an opportunity to ask questions, and facilitate public involvement and community feedback on the draft plan/EIS for non-native ungulate management at Hawaii Volcanoes National Park.

All three of the public meetings were held during the public comment period for the draft plan/EIS from 6:00 p.m. to 8:00 p.m., as follows:

- Monday, December 5, 2011: Hawai'i Volcanoes National Park Kīlauea Visitor Center. One Crater Rim Drive, Hawai'i National Park, HI 96718
- Tuesday, December 6, 2011: Na'alehu Community Center. 95-5635 Mamalahoa Hwy, Na'alehu, HI 96772
- Wednesday, December 7, 2011: Kona Outdoor Circle. 76-6280 Kuakini Hwy, Kailua-Kona, HI 96740

These public meetings were held to continue the public involvement process and to obtain community feedback on the draft plan/EIS for non-native ungulate management at Hawaii Volcanoes National Park. Release and availability of the draft plan/EIS, as well as public meetings, were advertised as described in the "Introduction" section above.

A total of 54 meeting attendees signed in during the three meetings. All of the meetings were an open house format where attendees had the opportunity to ask questions and observe informational displays illustrating the study area; the purpose, need, and objectives of the plan; summaries of the five proposed alternatives; and information on the history of non-native ungulate management at the park. The open house format allowed the attendees to submit comments, and discuss issues with the project team and resource specialists in small groups. Comments made to park staff during the open house meetings were recorded on flipcharts. If the commenter did not want to submit comments at the meetings, comment

sheets were available at the sign-in table. Attendees could fill out the forms and submit them at the meeting or mail them to the park at any time during the public comment period. Those attending the meetings were also given a copy of a brochure sent to the park's mailing list, which provided additional information about the NEPA process, background regarding the project, and how to comment on the project, including directing comments to the NPS Planning, Environment, and Public Comment (PEPC) website at http://parkplanning.nps.gov/havo_ecosystem_deis. Public comments received are detailed in the following sections of this report.

METHODOLOGY

During the comment period for the draft plan/EIS, 28 pieces of correspondence were received. Correspondences were received by one of the following methods: email, hard copy letter or comment sheet via mail, comment sheet submitted at the public meetings, flipcharts from the public meetings, or direct entries into the Internet-based PEPC system by the commenter. Letters received by email or through the postal mail, as well as the comments received from the public meetings, were entered into the PEPC system for analysis. Each of these letters or submissions is referred to as a correspondence. Correspondences that were received after the public comment period had closed do not appear in this report. However, the comments in the late correspondences are very similar to other comments received during the public comment period and therefore the content of the late comments has been captured through the concern statements presented in this report.

Once all the correspondences were entered into PEPC, each was read, and specific comments within each correspondence were identified. A total of 274 comments were derived from the correspondences received. Each comment recorded on flipcharts at the public meetings described above was counted as a separate comment.

In order to categorize and address comments, each comment was given a code to identify the general content of a comment and to group similar comments together. A total of 33 codes were used to categorize all of the comments received on the draft plan/EIS. An example of a code developed for this project is *AL10000 Alternatives: Meat Handling and Donation*. In some cases, the same comment may be categorized under more than one code, reflecting the fact that the comment may contain more than one issue or idea.

During coding, comments were also classified as substantive or non-substantive. A substantive comment is defined in the NPS Director's Order 12 Handbook as a comment that does one or more of the following (Director's Order 12, Section 4.6A):

- Question, with a reasonable basis, the accuracy of information presented in the EIS;
- Question, with reasonable basis, the adequacy of the environmental analysis;
- Present reasonable alternatives other than those presented in the EIS; and/or
- Cause changes or revisions in the proposal.

As further stated in Director's Order 12, substantive comments "raise, debate, or question a point of fact or policy. Comments in favor of or against the proposed action or alternatives, or comments that only agree or disagree with NPS policy, are not considered substantive." All comments were read and considered and will be used to help create the final plan/EIS. Typically, only those comments considered to be substantive are analyzed for creation of concern statements for NPS response. This process is described below. However, some non-substantive issues have been identified for response during this process.

Under each code, all substantive comments were grouped by similar themes, and those groups were summarized with a concern statement. For example, under the code *AL1000 Alternatives: Elements Common to All Alternatives*, one concern statement identified was, “Commenters stated their opposition to the park’s goal of zero non-native ungulates within the park; one commenter asked why the non-native ungulates need to be eradicated.” This concern statement captured many comments. Following each concern statement are one or more “representative quotes,” which are comments taken from the correspondence to illustrate the issue, concern, or idea expressed by the comments grouped under that concern statement.

Approximately 19% of the correspondences received contained comments related to 2 of the 33 codes—AL10000: Alternatives: Meat Handling and Donation, and AL12000: Alternatives: Support Removing Non-Native Ungulates. Of the 26 correspondences, 19 (73%) were from commenters in the state of Hawaii, while the remaining correspondences were from commenters in 6 other states. The majority of comments (88.46%) were from unaffiliated individuals rather than organizations or state or federal agencies.

GUIDE TO THIS DOCUMENT

This report is organized as follows:

Content Analysis Report: This is the basic report produced from PEPC that provides information on the numbers and types of correspondences and comments received, organized by code and by various demographics. The first section is a summary of the number of correspondences that contain comments for each code and the percentage of correspondences that contain comments under those codes. For example, it states that code AL10000: Alternatives: Meat Handling and Donation appears in 11 correspondences. This means that 11 correspondences addressed meat handling and donation. Those 11 correspondences also likely addressed other issues, and those comments were categorized under different codes, which is why the total number of correspondences in this table is not the same as the number of correspondences received.

Data are then presented about the correspondence by type (i.e., amount of emails, letters, etc.); amount received by organization type (i.e., organizations, governments, individuals, etc.); and amount received by state and country.

Concern Response Report: This report summarizes the substantive comments received during the draft plan/EIS public review comment process. These comments are organized by codes and further organized into concern statements. Representative quotes are then provided for each concern statement. An agency response will be provided for each concern statement.

Attachment 1 – Correspondence List: This attachment cross-references the unique tracking number assigned to each piece of correspondence and the corresponding commenter name.

Attachment 2 – Index by Organization Type Report: This attachment provides a listing of all groups that submitted comments, arranged and grouped by the following organization types (and in this order): federal government agencies, recreational groups, state government agencies, and unaffiliated individuals. The commenters or authors are listed alphabetically, along with their correspondence number and the codes of their comments, organized under the various organization types. Correspondence identified as N/A represents unaffiliated individuals.

Attachment 3 – Index by Code Report: This attachment lists the commenters or authors (identified by organization type) that commented on the various topics, as identified by the codes used in this analysis.

The report is listed by code, and under each code is a list of the authors who submitted comments categorized in that code, and their correspondence numbers. Correspondence identified as N/A represents unaffiliated individuals.

Attachment 4 – Copies of Letters from Agencies, Organizations, and Businesses: This attachment contains copies of correspondences received from agencies, organizations, businesses, etc., excluding those received from individual commenters (non-affiliated).

CONTENT ANALYSIS REPORT

CORRESPONDENCE DISTRIBUTION BY CODE

Code	Description	# of Correspondences	% of Correspondences
AE12000	Affected Environment: Wildlife And Wildlife Habitat	1	0.88%
AE12500	Affected Environment: Wildlife And Wildlife Habitat (Non-Substantive)	1	0.88%
AE13000	Affected Environment: Cultural Resources	1	0.88%
AE20000	Affected Environment: Land Use	1	0.88%
AL1000	Alternatives: Elements Common To All Alternatives	7	6.19%
AL10000	Alternatives: Meat Handling and Donation	11	9.73%
AL11000	Alternatives: Using Volunteers	7	6.19%
AL11500	Alternatives: Using Volunteers (Non-Substantive)	3	2.65%
AL12000	Alternatives: Support Removing Non-Native Ungulates	11	9.73%
AL14000	Alternatives: Lethal Removal of Non-Native Ungulates	2	1.77%
AL15000	Alternatives: Elements Common To All Alternatives (Non-Substantive)	6	5.31%
AL17000	Alternatives: Relocation	9	7.96%
AL2000	Alternatives: Alternatives Eliminated	6	5.31%
AL2500	Alternatives: Alternatives Eliminated (Non-Substantive)	2	1.77%
AL4000	Alternatives: New Alternatives Or Elements	4	3.54%
AL5200	Alternatives: Support the No Action Alternative	3	2.65%
AL7000	Alternatives: Alternative C	7	6.19%
AL7200	Alternatives: Support Alternative C	2	1.77%
AL8000	Alternatives: Alternative D	2	1.77%
AL8200	Alternatives: Support Alternative D	6	5.31%
AL8400	Alternatives: Oppose Alternative D	1	0.88%
AL9200	Alternatives: Support Alternative E	1	0.88%
CC1000	Consultation and Coordination: General Comments	3	2.65%

Code	Description	# of Correspondences	% of Correspondences
CR4000	Cultural Resources: Impact Of Proposal And Alternatives	2	1.77%
ED1000	Editorial	1	0.88%
GA1000	Impact Analysis: Impact Analyses	2	1.77%
GA1500	Impact Analysis: Impact Analysis - Fire Danger	2	1.77%
LC1000	Late Correspondence: Received after Comment Period Closed	2	1.77%
MT1000	Miscellaneous Topics: General Comments	4	3.54%
PN3000	Purpose And Need: Scope Of The Analysis	2	1.77%
WH4000	Wildlife And Wildlife Habitat: Impact Of Proposal And Alternatives	1	0.88%
TOTAL		114	100.00%

Note: Because correspondences likely contain comments that are coded under several different codes, the total number of correspondences in this table is not an accurate representation of the actual amount of correspondences received. This is explained further in the "Guide to this Document" section.

DISTRIBUTION BY CORRESPONDENCE TYPE

Type	# of Correspondences	% of Correspondences
Web Form	14	50.00%
Letter	8	28.57%
Other	4	14.29%
E-mail	2	7.14%
Total	28	100.00%

DISTRIBUTION BY ORGANIZATION TYPE

Organization Type	# of Correspondences	% of Correspondences
Federal Government	1	3.57%
Recreational Groups	1	3.57%
State Government	2	7.14%
Unaffiliated Individual	24	85.71%
Total	28	100.00%

DISTRIBUTION BY STATE

State	# of Correspondences	% of Correspondences
HI	21	75.00%
CA	2	7.14%
AZ	1	3.57%
TX	1	3.57%
DC	1	3.57%
NJ	1	3.57%
Unknown	1	3.57%
Total	28	100.00%

DISTRIBUTION BY COUNTRY

Country	# of Correspondences	% of Correspondences
USA	28	100%
Total	28	100%

Hawai'i Volcanoes National Park

Draft Plan/EIS for Protecting and Restoring Native Ecosystems by Managing Non-Native Ungulates

CONCERN RESPONSE REPORT

Report Date: 07/09/2012

AE12000 - Affected Environment: Wildlife and Wildlife Habitat

Concern ID: 37443

**CONCERN
STATEMENT:**

One commenter stated that the park fences disturb ungulate migration patterns.

RESPONSE: The purpose of the boundary fences is to modify the movement of non-native ungulates such that animals can be located and removed from inside fences, and outside animals prevented from entering fenced areas of the park. Impacts are expected to be minimal for species that have small populations or small home ranges. For other species, park fences would prevent animals from entering the park where they could be lethally removed. To address this comment, additional text has been added to the impacts analysis for "Land Management Adjacent to the Park" in chapter 4 of the plan/EIS.

Representative Quote(s):

Corr. ID: 21

Organization: Not Specified

Comment ID: 256600

Organization Type: Unaffiliated Individual

Representative Quote: Park fences are disturbing the migration patterns of the ungulates.

AE13000 - Affected Environment: Cultural Resources

Concern ID: 37444

**CONCERN
STATEMENT:**

One commenter stated that because the draft plan/EIS lacks Native Hawaiian experts as part of the list of preparers, it lacks sufficient information regarding Hawaiian culture; misinterprets cultural accounts about the pua'a; contains inaccurate information pertaining to the Hawaiian culture; and lacks an understanding of Hawaiian cultural traditions.

RESPONSE: Several individuals with extensive backgrounds in Hawaiian culture, history and prehistory contributed to the compilation of this document (refer to list of preparers and consultants in chapter 5). The cultural sections were intended to summarize existing knowledge based on available literature, and were not intended to be independent research. Additionally, Native Hawaiian individuals and groups associated with areas in and adjacent to the park including the Kupuna from these areas were consulted in preparing the draft plan/EIS and were provided the opportunity to review the document.

Chapter 5 of the plan/EIS has been updated to document all Kupuna meetings where non-native ungulate management or the draft plan/EIS was discussed.

Representative Quote(s):

Corr. ID: 14

Organization: Not Specified

Comment ID: 256307

Organization Type: Unaffiliated Individual

Representative Quote: The DEIS lacks Native Hawaiian experts as part of its list of preparers and consultants. Yet, there is a long list of Science Team Members,

NPS staff, and others that were consulted. As a result, the DEIS lacks a Hawaiian cultural understanding of the relationship of the pua'a with the forest. The DEIS also has basically cited only a few select Hawaiian accounts without any comprehensive research or understanding that resulted in inaccurate statements pertaining to the Hawaiian culture, especially as it pertains to the pua'a.

Corr. ID: 14

Organization: *Not Specified*

Comment ID: 256263

Organization Type: Unaffiliated Individual

Representative Quote: The DEIS lacks substantial cultural understanding and insight about the role of the pua'a in Hawaiian culture and in the forest environment. In addition, the DEIS misinterprets cultural accounts about the pua'a and disperses several inaccuracies.

Corr. ID: 14

Organization: *Not Specified*

Comment ID: 256309

Organization Type: Unaffiliated Individual

Representative Quote: Case in point, the following inaccurate conclusion that was contrived from the story of Kamapua'a demonstrates a lack of understanding about Hawaiian cultural traditions.

"These stories are interesting because they illustrate that a pig problem existed prior to Western contact as Native Hawaiians struggled to control the pigs." (p. 135)

In addition, there are several other erroneous statements pertaining to Hawaiian cultural traditions found throughout this document.

AL1000 - Alternatives: Elements Common to All Alternatives

Concern ID:

37446

CONCERN STATEMENT:

One commenter suggested that the draft plan/EIS should include a DNA sampling plan prior to any ungulate management actions in order to determine if any of the pua'a within the project area are the last descendants of Polynesian pua'a. The commenter also indicated there should be a cultural plan to address those pua'a that are Polynesian.

RESPONSE: Non-native ungulates are contributing to the degradation of native ecosystems and other cultural resources in the park. A DNA analysis and cultural plan for the pua'a would not change the need to manage the impacts of non-native ungulates, including pua'a which may be of Polynesian descent, or the population-level objective described in chapter 2 of the plan/EIS. Additional text was added to clarify that European and other domestic strains of pigs have become the dominant type in the wild in the impact analysis for "Ethnographic Resources" in chapter 4 of the plan/EIS.

Representative Quote(s):

Corr. ID: 14

Organization: *Not Specified*

Comment ID: 256310

Organization Type: Unaffiliated Individual

Representative Quote: The DEIS assumes that there are no descendants of the Polynesian pua'a remaining in the project area. However, a sampling of DNA from wild pigs on Hawai'i Island has disclosed that some pua'a are direct maternal descendants of the first pigs brought to this island. Their mtDNA sequence samples have documented they share a "Pacific Clade" sequence (PC3). Although, they might not be 100% Polynesian pigs, they are still significant. Likewise, just because many individuals are not 100% Hawaiian, they are still significant. Therefore, the DEIS should include a DNA sampling plan prior to any further eradication to determine if any of the pua'a within the project area are some of the last descendants of Polynesian pua'a. There should also be a cultural plan to address those that are Polynesian.

Concern ID:
CONCERN STATEMENT:

37447

Commenters stated their opposition to the park's goal of zero non-native ungulates within the park; one commenter asked why the non-native ungulates need to be eradicated.

RESPONSE: Non-native ungulate management experts and other experts were identified and included on a Science Team to provide scientific expertise and technical input during the alternatives development process. Science Team members were asked to consider non-native ungulate population levels necessary to support the plan's purpose of long-term ecosystem protection, as well as the recovery and restoration of native vegetation and other natural resources. The Science Team members noted that there are well-established, scientific links between non-native ungulates and impacts to native ecosystems in Hawai'i and elsewhere. A bibliography containing references for over 60 documents on this topic was provided to the Science Team by the U.S. Geological Survey. The Nature Conservancy was also contacted to obtain an annotated literature review related specifically to feral pig research and management in Hawai'i. These publications all support the Science Team's recommendation that non-native ungulates must be completely removed to successfully restore native ecosystems. Because of these findings, the NPS has identified a population objective of zero non-native ungulates, or as low as practicable in managed areas, as noted in the plan/EIS ("Elements Common to All Action Alternatives" in chapter 2 of the plan/EIS).

Representative Quote(s):

Corr. ID: 19	Organization: <i>Not Specified</i>
Comment ID: 256459	Organization Type: Unaffiliated Individual
Representative Quote: - Animals introduced in 1700s. Why do they no longer belong?	
Corr. ID: 19	Organization: <i>Not Specified</i>
Comment ID: 256476	Organization Type: Unaffiliated Individual
Representative Quote: - Why does it have to be zero ungulates?	
Corr. ID: 20	Organization: <i>Not Specified</i>
Comment ID: 256527	Organization Type: Unaffiliated Individual
Representative Quote: Need more control versus eradication, we can all live together.	
Corr. ID: 20	Organization: <i>Not Specified</i>
Comment ID: 256451	Organization Type: Unaffiliated Individual
Representative Quote: Control goats down to low numbers, but don't eradicate.	
Corr. ID: 21	Organization: <i>Not Specified</i>
Comment ID: 256591	Organization Type: Unaffiliated Individual
Representative Quote: No to eradication.	

Concern ID:
CONCERN STATEMENT:

37448

Commenters provided suggestions regarding park fencing, such as opening the fences so that pigs can exit the park, and fencing Koa to protect it and allow it to shade out non-native plants. One commenter asked if the fences are erected to restrict animals or people, while another commenter suggested that fencing and spending for ungulate control could be better used on other services, such as public health.

RESPONSE: The plan/EIS does not specifically identify types of fences that could be used within the park. The types of fences to be used would be determined on a case-by-case basis, keeping in mind those considerations presented in the “Fencing” discussion of the “Elements Common to All Alternatives” and “Elements Common to All Action Alternatives” sections of chapter 2.

Providing openings where pigs could leave the park on their own would minimize the effectiveness of the fencing. However, the park has considered temporarily opening fences as part of relocation activities, as described in the “Relocation” section under “Alternative C: Comprehensive Management Plan that Maximizes Flexibility of Management Techniques” in chapter 2. As described in this section, the NPS would need to consult with adjacent landowners before this option could be implemented.

Erecting fences around Koa is a restoration tool that the park is already applying, and would continue to explore further as restoration of these areas is undertaken. Inside fenced areas, park staff are experimenting with koa in combination with planting of other native trees and understory plants to shade out invasive non-native plants (McDaniel and Ostertag 2009).

In regards to the purpose of the fencing, the park erects fences as a tool to restrict non-native ungulates from entering certain areas of the park; fences are not used to restrict visitors. The purpose of the plan/EIS is “to develop a comprehensive and systematic framework for managing non-native ungulates that supports long-term ecosystem protection; supports natural ecosystem recovery and provides desirable conditions for active ecosystem restoration; and supports protection and preservation of cultural resources.” Funding public health services is not part of the mission of the NPS at Hawai‘i Volcanoes National Park. Therefore, allocating funds to public health is outside the scope of this plan/EIS.

Representative Quote(s):

Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256472 **Organization Type:** Unaffiliated Individual
Representative Quote: - Fencing and control spending could be better used on other services - public health, etc.

Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256419 **Organization Type:** Unaffiliated Individual
Representative Quote: Fence areas to be reforested; let the Koa grow to shade out non-native plants, then move the fence out.

Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256474 **Organization Type:** Unaffiliated Individual
Representative Quote: - Are the fences to keep animals in/out or people out?

Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256535 **Organization Type:** Unaffiliated Individual
Representative Quote: People are doing the damage through the fencing. All the pigs are trapped inside the fence. Open the fence so the pigs can get back out so we won't have the problem with the pigs.

Concern ID: 37449

CONCERN STATEMENT: Commenters stated that the plan should include any non-native species that are not yet established on the island. One commenter provided a link to a Maui County document that relates to deer and mouflon management at Lana'i.

RESPONSE: Because deer and other non-native ungulates could be found in the park within the next 15–20 years, the plan/EIS has been modified to address this possibility and subsequent management actions, in the following sections:

- Chapter 1, Purpose and Need for Action
- Chapter 1, Axis Deer
- Chapter 1, Purpose and Need for Action
- Chapter 2, Elements Common to All Alternatives

Representative Quote(s):

Corr. ID: 11 **Organization:** *Not Specified*

Comment ID: 256352 **Organization Type:** Unaffiliated Individual

Representative Quote: I am hopeful that the EIS can be written to include species not yet on this island.

Corr. ID: 12 **Organization:** *Not Specified*

Comment ID: 256389 **Organization Type:** Unaffiliated Individual

Representative Quote: Park planning needs to include the control of any ungulates not yet established on the island (Axis deer are an example).

Corr. ID: 23 **Organization:** *Not Specified*

Comment ID: 256437 **Organization Type:** Unaffiliated Individual

Representative Quote: Your plan should include deer strategies and impacts as well, as they are likely here to stay.

Corr. ID: 23 **Organization:** *Not Specified*

Comment ID: 256435 **Organization Type:** Unaffiliated Individual

Representative Quote: Here is a link to a Maui County document relating to ungulate management on Lana'i. It is the only situation that I am aware of where surveys and population analysis is done on any introduced game animal by the state since Jon Giffin's work 30 years ago.

http://www.co.maui.hi.us/documents/Water/Water%20resource%20Planning%20Division/2009%20Lanai%20WUDP/Ch_6_Source_Water_Protection_pgs_49_to_60.pdf

AL10000 - Alternatives: Meat Handling and Donation

Concern ID: 37450

CONCERN STATEMENT:

Commenters suggested that people should be able to benefit from the availability of non-native ungulates (whether they are volunteers or simply people living on the island), stating that ungulates are an important food source for people. Some commenters suggested ways in which the meat could be distributed or donated to the public, while one commenter stated that volunteers assisting in non-native ungulate lethal reduction actions should be able to keep the meat because it is a culling activity, as opposed to a hunting activity. The U.S. Environmental Protection Agency suggested that the final plan/EIS identify specific communities that would benefit from meat donation and include a plan to coordinate with these communities to facilitate the most practicable plan to maximize opportunities for donation.

RESPONSE: The NPS recognizes the potential food source that non-native ungulates provide and the associated benefits of donating meat from those animals

removed from the park. This is why the NPS would salvage and donate meat from non-native ungulates when possible, and in accordance with all applicable public health and government property guidelines, under the preferred alternative. However, exactly how this program is carried out in the future is an operational issue, and details have not been developed yet. While it is likely local communities would benefit most from such a program, identification of specific communities that could receive meat donations is not possible at this time.

Ultimately, flexibility will be needed to maximize such a program over time, and public comments submitted during review of the draft plan/EIS will be considered as the NPS implements the meat donation program.

In regards to the suggestion that volunteers keep the meat from ungulates they remove, please see the response to concern ID 37451.

Representative Quote(s):	Corr. ID: 2	Organization: <i>Not Specified</i>
	Comment ID: 256267	Organization Type: Unaffiliated Individual
	Representative Quote: I think killing the Pigs, Sheep, Goats and Cattle and leaving the carcass there is a waste of meat, when people can make use of meat.	
	Corr. ID: 11	Organization: <i>Not Specified</i>
	Comment ID: 256353	Organization Type: Unaffiliated Individual
	Representative Quote: I oppose hauling meat to pick-up locations or distribution of meat unless it is from the volunteers to themselves. Donations of meat to non-profit organizations could be considered if it is practical and within park policies.	
	Corr. ID: 12	Organization: <i>Not Specified</i>
	Comment ID: 256392	Organization Type: Unaffiliated Individual
	Representative Quote: Consideration should be given to donation of carcasses from ungulate control work to non-profit organizations such as the food bank, if there is interest and it is practical.	
	Corr. ID: 17	Organization: Environmental Protection Agency
	Comment ID: 256508	Organization Type: Federal Government
	Representative Quote: EPA appreciates the NPS plan to "pursue opportunities to salvage and donate meat," (p, 235). We suggest the Final Environmental Impact Statement (FEIS) identify specific communities that would benefit from these practices and include a plan to coordinate with these communities to facilitate the most practicable plan to maximize opportunities for donation.	
	Corr. ID: 19	Organization: <i>Not Specified</i>
	Comment ID: 256493	Organization Type: Unaffiliated Individual
	Representative Quote: - Ungulates are an important food source for island people dependant on shipping lines.	
	Corr. ID: 19	Organization: <i>Not Specified</i>
	Comment ID: 256409	Organization Type: Unaffiliated Individual
	Representative Quote: FHFH (Farmers and Hunters For Hunter) may be an example to follow	
	Corr. ID: 20	Organization: <i>Not Specified</i>
	Comment ID: 256504	Organization Type: Unaffiliated Individual
	Representative Quote: Subsistence is big topic/concern. Trying to be self-sufficient. If wasting animals, everybody loses.	
	Corr. ID: 20	Organization: <i>Not Specified</i>
	Comment ID: 256546	Organization Type: Unaffiliated Individual
	Representative Quote: Don't waste the meat, throwing away food, give to the people, let volunteers take the carcass.	
	Corr. ID: 20	Organization: <i>Not Specified</i>
	Comment ID: 256547	Organization Type: Unaffiliated Individual

Representative Quote: Donate meat to homeless shelter/Cooper Center

Corr. ID: 26

Organization: Safari Club International

Comment ID: 257773

Organization Type: Recreational Groups

Representative Quote: At the very least, NPS personnel could allow volunteers to participate in a general raffle for portions of the meat in the cull. This is the option currently being used at Rocky Mountain National Park. However, under this scenario, a volunteer stands the chance of not being selected and this seems a rather extreme method distinguishing "culling" from "hunting."

Volunteers should not be penalized for offering to participate in Volcanoes National Park's ungulate management effort. True "hunting" required fair chase, which is not a part of the cull of Volcanoes NP's ungulate removal. The ability to use the meat from a take does not convert a legitimate cull into a hunt.

Corr. ID: 26

Organization: Safari Club International

Comment ID: 257772

Organization Type: Recreational Groups

Representative Quote: If the NPS finds it absolutely necessary to prohibit each volunteer from taking a portion of the animal that he or she shot, park personnel could certainly distribute equally divided portions of the general take by volunteers and park personnel to each volunteer participant.

Concern ID:

**CONCERN
STATEMENT:**

37451

Commenters asked why Hawai'i Volcanoes National Park should modify its longstanding practice of allowing volunteers to keep some portion of their take solely because the NPS has adopted a relatively new practice in two other parks (Theodore Roosevelt National Park and Rocky Mountain National Park) of prohibiting volunteers from keeping any portion of the animal taken.

RESPONSE: As described in the "Hunting in the Park" in the "Alternatives Eliminated from Further Consideration" section in chapter 2 of the plan/EIS, volunteer participation in culling activities is not recreational, does not involve personal taking of meat or other parts of animals, and is not bound by the principles of fair chase. Allowing volunteers to keep parts of the animals would be contrary to National Park Service practice at the other parks that have recently studied and instituted culling programs. It also could be seen as making the culling program more like hunting, which is strictly prohibited by this park's enabling statute.

Representative Quote(s):

Corr. ID: 19

Organization: Not Specified

Comment ID: 256490

Organization Type: Unaffiliated Individual

Representative Quote: - Work on changing the requirements preventing meat harvest for NPS across the U.S. Control ungulates and be able to utilize meat. Would like alternate D to make sure that meat can be used.

Corr. ID: 26

Organization: Safari Club International

Comment ID: 257770

Organization Type: Recreational Groups

Representative Quote: The NPS offers only a single reason for the modification of its existing Deputy Ranger Control Program - to make the program consistent with NPS policy. This solution seems rather ironic. Why should Volcanoes National Park modify its longstanding practice of allowing volunteers to keep some portion of their take, solely because the NPS has adopted a relatively new practice in two other parks, of disallowing volunteers to keep any portion of the animal taken? The irony deepens where the evidence (or lack thereof) suggests that the newer policy - applied to Rocky Mountain National Park and Theodore Roosevelt National Park was developed without consideration of the successes achieved over the last four decades with Volcanoes National Park's program. It would make more sense to modify the programs at RMNP and TRNP to match the policy established

by Volcanoes National Park, long before these other parks initiated their more recent volunteer programs.

Corr. ID: 26

Organization: Safari Club International

Comment ID: 257771

Organization Type: Recreational Groups

Representative Quote: Volcanoes' Ungulate Plan suggests that a program that allows the volunteer to keep the animal he or she takes appears more like "hunting" than "culling." (Volcanoes' Ungulate Plan at 78). However the stigma associated with keeping the meat from one's personal take of an animal does not truly apply to the volunteer program as it is operated on National Parks. In a true fair-chase hunt, the hunter normally gets to choose the animal he or she wishes to take. That is generally not the case for volunteer programs operated on a National Park where an NPS official (or in some cases a state game and fish officer) identifies the animal to be taken and instructs the volunteer to take the shot. Consequently, the volunteer is not selecting a particular animal to hunt and take home. Instead, he or she is removing an unwanted animal from the park and is making use of that unwanted animal's meat, and possibly its hide and other parts. Volcanoes NP should at least give volunteers the opportunity to share some portion of the general meat taken by the full volunteer contingent.

Concern ID:

37452

**CONCERN
STATEMENT:**

One commenter suggested leaving non-native ungulate carcasses on the ground, so the site will benefit from the nutrients.

RESPONSE: As stated in the description of carcass handling and disposal for the preferred alternative in chapter 2, non-native ungulate carcasses may be left on the ground as necessary or relocated from sensitive areas.

Representative Quote(s):

Corr. ID: 20

Organization: Not Specified

Comment ID: 256514

Organization Type: Unaffiliated Individual

Representative Quote: Do not remove meat (carcass). Leave it they represent nutrients taken from site and need to stay.

Concern ID:

37453

**CONCERN
STATEMENT:**

Commenters stated that allowing volunteers to harvest meat from non-native ungulates killed during management actions is costly in money and time.

RESPONSE: Volunteers would only be able to harvest meat from non-native ungulates under alternative A. Refer to chapter 2, table 3, "Carcass Disposal" of the plan/EIS. This is inconsistent with NPS practice at other parks that have recently studied and initiated culling programs and could be seen as making the program more like hunting, which is strictly prohibited at Hawaii Volcanoes. Therefore, this would not be continued under any of the action alternatives. However, as described for alternative D in chapter 2, while the NPS would salvage and donate meat when possible, carcasses may be left in the field as necessary.

Representative Quote(s):

Corr. ID: 18

Organization: Not Specified

Comment ID: 256403

Organization Type: Unaffiliated Individual

Representative Quote: While I respect and understand wishes of hunters to utilize the meat, this is neither cost-effective nor efficient, and would be costly in time, money, and resources to monitor and regulate.

Corr. ID: 19

Organization: Not Specified

Comment ID: 256496

Organization Type: Unaffiliated Individual

Representative Quote: - 100% harvest of meat is not the answer either. Need to see what is feasible.

AL11000 - Alternatives: Using Volunteers

Concern ID: 37454

CONCERN STATEMENT: One commenter suggested that the draft plan/EIS should clearly define “current NPS practices,” in reference to volunteering and being able to keep the meat.

RESPONSE: The text of the “Qualified Volunteer” discussion in the “alternative B” section of the plan/EIS (chapter 2)—which also applies to the NPS preferred alternative (alternative D)—has been updated to indicate that under current NPS practice, lethal removal of wildlife in accordance with an approved management plan is not a recreational activity, does not involve the principles of fair chase, and qualified volunteers involved in such activities are not allowed to personally take the meat or any other parts of animals they remove.

Representative Quote(s): **Corr. ID:** 24 **Organization:** *Not Specified*
Comment ID: 256356 **Organization Type:** Unaffiliated Individual
Representative Quote: Suggest: SPELL OUT "Current NPS Practices" and HAVO's option/lack of option to differ from this.

Concern ID: 37455

CONCERN STATEMENT: One commenter stated that the resources and efficiencies for administration of the park should not be considered a valid factor in deciding how to continue the volunteer program, that the stated benefits of the program are more important, and that the data used to illustrate the costs of using volunteers is incomplete and lacks details. Commenters also suggested ways to reduce the costs of the volunteer program.

RESPONSE: The NPS recognizes the benefits of the volunteer program, which furthers the purposes of the Volunteers in Parks Act and NPS *Management Policies 2006* related to the use of volunteers by engaging the surrounding community and general public in stewardship of park resources as authorized agents of the NPS; and by providing an opportunity to increase awareness of non-native ungulate adverse impacts. As a result, the NPS has kept the volunteer ungulate control program as part of the preferred alternative.

In regards to data on volunteer versus staff effectiveness, the volunteer program to control mouflon sheep was begun in 2004 when the park acquired Kahuku, which contained large numbers of these animals. No data exists for previous efforts comparing efficiencies by the use of volunteers. Data on the staff directed volunteer ungulate control program are not available prior to 2004. Thus the available data indicate that NPS staff are more efficient at conducting lethal removal activities than volunteers (see chapter 2, alternative C, “Qualified Volunteers”). When implementing the plan, the park may consider additional selection requirements for volunteers and may modify how volunteer operations are conducted to increase the efficiency, and would consider any public comments received in doing so.

Representative Quote(s): **Corr. ID:** 26 **Organization:** Safari Club International
Comment ID: 257775 **Organization Type:** Recreational Groups
Representative Quote: Regardless of what the additional data might show, the cost issue should not be considered a valid factor in deciding whether or how to continue the volunteer program. The visitor experience and stewardship opportunity discussed above in this letter should outweigh any suggestion that volunteer participation has a cost that outweighs its benefits.

Corr. ID: 26

Organization: Safari Club International

Comment ID: 257774

Organization Type: Recreational Groups

Representative Quote: Volcanoes' Ungulate Plan suggests that the use of volunteers is more costly than exclusive utilization of park personnel. The data upon which the NPS offers this premise is far from complete and lacks details about which if any restrictions are placed upon the volunteers' ability to take ungulates during their participation in the program that could potentially increase the cost of the program. It is quite likely that the cost of the program may be inflated by the choice of methods employed by park personnel. For example, the Park assigns one NPS officer for only two volunteers.

Volcanoes' Ungulate Plan at 60.

Perhaps a 1 to 6 ratio of park employees to volunteers would be more efficient and cost effective than the 1 to 2 ratio being employed. The Volcanoes Ungulate Plan also suggests that park officials are more efficient at removing mouflon sheep than qualified volunteers, noting that for the closely directed volunteer program at Kahuku, NPS staff took 5.2 sheep per day as compared to a 4.6 per day take for volunteers during the period between March 2004 and February 2007. *Id.* at 62. This information is too limited to give an accurate picture of the comparison between volunteer and staff-only effort. The program has been in operation since 1971, so an accurate picture would require data from before March 2004 and after February 2007. In addition, the plan mentions a comparison of staff-only to staff-volunteer removal effort for a single day in September of 2009. Since there is no data to indicate the conditions affecting the take on either day, or any other disparities that might affect the success of staff vs. volunteers, this comparison offers very little to help define the efficacy or cost of a program that has been in effect for over 40 years.

Corr. ID: 26

Organization: Safari Club International

Comment ID: 257762

Organization Type: Recreational Groups

Representative Quote: Perhaps the most valuable piece of information included in the Volcanoes' Ungulate Plan is the brief description of the benefits, other than the removal of unwanted ungulates, that both the park and the volunteers achieve from the program: The majority of volunteers are from the Island of Hawai'i, while some are from communities adjacent to the park. This program allows these local residents access to the park for recreation; provides interaction with the park staff, which supports social connectedness and public-federal relations; promotes communications among landowners of the region; and also allows local residents to assist in helping protect park resources (i.e., park stewardship)

Volcanoes' Ungulate Plan at 153. These are very kinds of experiences that National Parks were designed to offer. Regardless of any "cost" to a park of running a volunteer program, the fact that the park is able to provide these types of experiences in a safe manner, should outweigh any criticism or suggestion to modify or discontinue this program.

Concern ID:

**CONCERN
STATEMENT:**

37456

Commenters stated that the volunteer program should continue or should be expanded.

RESPONSE: Under alternative D, the preferred alternative, the volunteer program would be continued. Alternative C is the only alternative that would discontinue the volunteer program (see chapter 2, table 3, of the plan/EIS), and this was not selected as the preferred alternative. Expanding or altering how the

volunteer program is implemented would be at the discretion of park staff based on their expertise, cost, and available funding for the program; availability of volunteers and staff members to assist the volunteers; available opportunities for volunteers (how accessible non-native ungulates are in relation to the terrain); and the effectiveness of the program.

Representative Quote(s): **Corr. ID:** 2 **Organization:** *Not Specified*
Comment ID: 257120 **Organization Type:** Unaffiliated Individual
Representative Quote: If you want to get rid of them, then let volunteers that are hunters help to remove the animals or work together with park rangers.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256465 **Organization Type:** Unaffiliated Individual
Representative Quote: - Add weekend shoot days and alternate weekend locations.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256442 **Organization Type:** Unaffiliated Individual
Representative Quote: - Increase the number of volunteer hunt days per month
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256509 **Organization Type:** Unaffiliated Individual
Representative Quote: Wish more use of volunteer hunts. No just current lottery 1X month.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256542 **Organization Type:** Unaffiliated Individual
Representative Quote: Increase volunteer numbers for ungulate removal, list is too long.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256581 **Organization Type:** Unaffiliated Individual
Representative Quote: Volunteer program (although labor intensive) has bought some credibility with public outreach. If any part can be continued is good w/o slowing process too much.

Concern ID:
CONCERN
STATEMENT:

37457
 Commenters suggested there should be better public communication about the volunteer program. One commenter suggested creating a “stand-by” list that would be used in cases when volunteers do not show up for their volunteer opportunity.

RESPONSE: As noted in Concern ID 37456, there may be changes to the volunteer program in the future. Comments and recommended changes to the volunteer program will be considered by park staff as the management measures in this plan/EIS are implemented.

Representative Quote(s): **Corr. ID:** 19 **Organization:** *Not Specified*
Comment ID: 256410 **Organization Type:** Unaffiliated Individual
Representative Quote: More advertisement for control work (volunteer control) and education about the program.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256545 **Organization Type:** Unaffiliated Individual
Representative Quote: Start standby list for no show volunteers good for retired people more flexible.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256599 **Organization Type:** Unaffiliated Individual
Representative Quote: Better public communication about volunteer program.

Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256597 **Organization Type:** Unaffiliated Individual
Representative Quote: More advertisement about relocation and the volunteer program.

Concern ID:
CONCERN
STATEMENT:

37458
 Commenters suggested changes to the current volunteer program, such as splitting the lottery into two groups (one for people of Ka'u, one for everyone else), charging an entrance fee and allowing volunteers to use archery for removal activities, allowing volunteers to assist in trapping and relocation activities, allowing more local citizens to participate, and only allowing volunteers to participate once (which would give more opportunities to volunteers who have not participated).

RESPONSE: As stated in the previous two responses (for Concern IDs 37456 and 37457), potential modifications to the volunteer program (including splitting the lottery into two groups, only allowing volunteers to participate once, as well as allowing more local citizens to participate) are potential future changes to the program that would be determined at a later date during implementation.

In regards to charging fees, volunteers are acting as agents for the NPS; it would not be appropriate to charge them a fee when they are essentially donating their services to NPS, unlike recreational users. Further, the NPS has considered the use of archery for volunteers and has found this method to be unfeasible and inefficient in the setting of the park. Using archery has considerable limitations, including the archer's limited range. In the park, the typical shot to kill a non-native mouflon is 200 yards.

In regards to allowing volunteers to participate in trapping and relocation activities, under alternatives A, B, D, and E, volunteers could be used for a range of non-native ungulate management activities, including direct reduction with firearms, fence construction and maintenance, monitoring, baiting, trapping, and relocation (see chapter 2, table 3, of the plan/EIS).

Representative Quote(s): **Corr. ID:** 19 **Organization:** *Not Specified*
Comment ID: 256413 **Organization Type:** Unaffiliated Individual
Representative Quote: If allowed archery, you could have more hunters in at one time and charge entrance fee that would go back to the park (goes with permit comment above) and donate meat to not have it be "hunting" (and with education comment).

Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256485 **Organization Type:** Unaffiliated Individual
Representative Quote: - If a hunter already went on one hunt, park should give other hunters who didn't get a chance to go, and names should not go on the draw list.

Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256549 **Organization Type:** Unaffiliated Individual
Representative Quote: Drive animals from Mauka Kakuku to paddocks more opportunity for volunteers.

Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256505 **Organization Type:** Unaffiliated Individual
Representative Quote: If park needed man-power for the hunt, public could help with corralling, pushing, relocating. (Look at offers in past that were made)

Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256534 **Organization Type:** Unaffiliated Individual
Representative Quote: Archery is also a technique to be considered with use of volunteers.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256598 **Organization Type:** Unaffiliated Individual
Representative Quote: Volunteer program: chose more locals/district of kau.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256583 **Organization Type:** Unaffiliated Individual
Representative Quote: Allow volunteers to help w/trapping and relocation; consider directly relocating to processing facilities (increases costs) or to individuals.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256539 **Organization Type:** Unaffiliated Individual
Representative Quote: Lottery should be split - one for Kau people and everyone else in the other. One group (of the 2) is from Kau lottery, the other is from the "other" lottery group.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256577 **Organization Type:** Unaffiliated Individual
Representative Quote: More local participation

Concern ID:
CONCERN
STATEMENT:

37459
[One commenter suggested that the plan should discontinue the volunteer program.](#)

RESPONSE: The NPS did consider discontinuing the volunteer program in the plan/EIS. This element is included under alternative C (see chapter 2 of the plan/EIS).

As described in the draft plan/EIS, the park would retain the volunteer program in the preferred alternative (alternative D) because (a) it assists in removal of non-native ungulates in support of the plan/EIS; (b) it furthers the purposes of the Volunteers in Parks Act and NPS *Management Policies 2006* related to the use of volunteers by engaging the surrounding community and general public in stewardship of park resources as authorized agents of the NPS; and (c) it provides an opportunity to increase awareness of non-native ungulate adverse impacts. In addition to removing mouflon by ground shooting, under alternatives A, B, D, and E, volunteers could be used for a range of non-native ungulate management activities, including fence construction and maintenance, monitoring, baiting, trapping, and relocation (see chapter 2, table 3, of the plan/EIS). However, the NPS has the discretion to discontinue or expand the volunteer program depending on its effectiveness in helping the park meet its non-native ungulate management objectives. Text to this effect has been added in the description of the alternatives that involve the use of volunteers in chapter 2 of the final plan/EIS, and to the impacts analysis in chapter 4 for "Park Management and Operations."

Representative Quote(s): **Corr. ID:** 20 **Organization:** *Not Specified*
Comment ID: 256516 **Organization Type:** Unaffiliated Individual
Representative Quote: The potential for public assistance in animal removal is coming to a close as mouflon decline, so it should not be continued in plan adopted.

AL14000 - Alternatives: Lethal Removal of Non-Native Ungulates

Concern ID: 37460

CONCERN STATEMENT: Commenters expressed concern about the humaneness of the lethal removal program.

RESPONSE: As stated in the “Humane Management Actions” section in chapter 2 of the plan/EIS, “The NPS would adhere to guidelines from the American Society of Mammalogists and the American Veterinary Medical Association to ensure that management actions are conducted as humanely as possible to minimize non-native ungulate suffering. When using direct reduction with firearms, consideration would be given to the choice of firearm, ammunition, and shot placement to ensure the humaneness of the action.”

Representative Quote(s):

Corr. ID: 5	Organization: <i>Not Specified</i>
Comment ID: 256290	Organization Type: Unaffiliated Individual
Representative Quote: If you need the animals removed please be humane.	
Corr. ID: 19	Organization: <i>Not Specified</i>
Comment ID: 256421	Organization Type: Unaffiliated Individual
Representative Quote: It is not humane to shoot an animal and leave it or to injure and leave it.	
Corr. ID: 19	Organization: <i>Not Specified</i>
Comment ID: 256467	Organization Type: Unaffiliated Individual
Representative Quote: - Concerned about humaneness of shooting ewes with young.	

AL17000 - Alternatives: Relocation

Concern ID: 37461

CONCERN STATEMENT: Commenters made suggestions for relocation activities, such as relocating the non-native ungulates to the Ka'u Forest, relocating them to other hunting areas (including a specific recommendation to use helicopters to roundup animals to an enclosure first), and relocating them to Bishop Estate Land (adjacent to Kahuku).

RESPONSE: The NPS has reconsidered the element of relocation in response to concerns raised by the public during the comment period for the draft plan/EIS (see concern ID 37462 and 37463). This element would still be included under alternatives D and E, but would be limited to driving non-native ungulates to adjacent property where the landowner is a willing recipient, as opposed to trapping and transporting. In addition, relocation would be limited so that non-native ungulates would only be relocated to areas where non-native ungulate populations have already been established in large numbers.

To reflect this change, the following sections were revised in the plan/EIS:

- Executive Summary, page xii, Table (under alternative D, Socioeconomics)
- Chapter 2, Table 3 (under alternative D, Relocation)
- Chapter 2, Table 4 (“Notes” at the bottom of the table)
- Chapter 2, (“Relocation”)
- Chapter 2, Table 6 (under alternative D, Socioeconomics)
- Chapter 4, alternative D & E analysis, where appropriate throughout

Representative Quote(s): **Corr. ID:** 19 **Organization:** *Not Specified*
Comment ID: 256494 **Organization Type:** Unaffiliated Individual
Representative Quote: - Use the helicopter to chase animals to an enclosure then relocate to other hunting grounds.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256448 **Organization Type:** Unaffiliated Individual
Representative Quote: - On Kahuka boundary adjacent to Bishop relocate sheep.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256576 **Organization Type:** Unaffiliated Individual
Representative Quote: Step eradication of ungulates, re-locate ungulates to hunting areas.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256590 **Organization Type:** Unaffiliated Individual
Representative Quote: Like relocation to let others to hunt instead of just eradication.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256604 **Organization Type:** Unaffiliated Individual
Representative Quote: Relocate the ungulates to Kau Forest.

Concern ID: 37462

CONCERN STATEMENT: One commenter asked where the non-native ungulates would be relocated.

RESPONSE: Details on the proposed relocation program, which have been modified based on public comments, are provided under Concern ID 37461.

Representative Quote(s): **Corr. ID:** 21 **Organization:** *Not Specified*
Comment ID: 256602 **Organization Type:** Unaffiliated Individual
Representative Quote: Where will they be relocated?

Concern ID: 37463

CONCERN STATEMENT: Commenters opposed relocation, stating that relocation on the island will only move the problem to another agency even though non-native ungulates are already in the state game management and forest reserves. The Hawaiian Homes Commission requested that no non-native ungulates be relocated to their lands near South Point.

RESPONSE: The NPS has reconsidered the element of relocation in response to the concerns raised. Please see the response to Concern ID 37461.

Representative Quote(s): **Corr. ID:** 9 **Organization:** *Not Specified*
Comment ID: 256346 **Organization Type:** Unaffiliated Individual
Representative Quote: Additionally, for the same reasons, considering translocation and driving ungulates to adjacent lands means moving the destructive nature of these animals to other lands. This neither helps our native forests and watersheds nor addresses why these these ungulates are a problem and should be eliminated.
Corr. ID: 12 **Organization:** *Not Specified*
Comment ID: 256393 **Organization Type:** Unaffiliated Individual
Representative Quote: Unless it is easier for the park, ungulate relocation is not needed. There are plenty of ungulates already in the state game management and forest reserves.

Corr. ID: 15 **Organization:** Department of Hawaiian Home Lands
Comment ID: 256396 **Organization Type:** State Government
Representative Quote: With a large landholding near the Kahuku area of the park and with limited resources to manage that track of land, please be sure that any action that you are taking to relocate and prohibit ungulates from the National Park does not result in ungulates inhabiting or being displaced to our lands near South Point.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256513 **Organization Type:** Unaffiliated Individual
Representative Quote: Totally irresponsible to translocate outside park (look at examples of degradation of those places) w/translocated animals.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256532 **Organization Type:** Unaffiliated Individual
Representative Quote: Relocating transfers the problem and impact to another area. Don't do it!

AL2000 - Alternatives: Alternatives Eliminated

Concern ID: 37464

**CONCERN
STATEMENT:**

Commenters suggested that hunting in the park should be allowed and that hunters should be able to keep the meat from their kill. Commenters questioned why hunting is not allowed within the park. Commenters also suggested several elements related to hunting (such as using hunting guides). The commenters felt these elements could accelerate eradication. Commenters suggested that one fenced area should be used for sustained hunting. Other commenters noted the following: hunting is both a Hawaiian and local cultural practice; licensed organizations (hunt clubs) should be used for removal; the NPS should issue permits for hunting; the NPS should open access to neighboring hunting areas which would allow hunters to come through park to access other hunting areas; and the NPS should attempt to change the legislation in order to allow hunting.

RESPONSE: The plan/EIS explains the reasons why hunting is not allowed at Hawaii Volcanoes National Park. This explanation, which can be found in chapter 2 in the section “Alternatives Eliminated from Further Discussion,” notes that hunting would be inconsistent with long-standing laws, policies, and regulations for Hawaii Volcanoes National Park and all other NPS units where hunting is not authorized. Changing these longstanding servicewide policies and regulations regarding hunting in parks is beyond the scope of this plan/EIS, is inconsistent with the purposes of this park.

The issue of access through the park to adjacent hunting areas is beyond the scope of this plan. However, it has been communicated to the planners involved in the park’s general management planning effort, which is still ongoing.

Representative Quote(s): **Corr. ID:** 19 **Organization:** *Not Specified*
Comment ID: 256458 **Organization Type:** Unaffiliated Individual
Representative Quote: - Hawaiian island hunting important for hundreds of years to people of Hawaiian islands.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256481 **Organization Type:** Unaffiliated Individual
Representative Quote: - Open up access to neighboring hunting areas allowing hunts to come thru park to access other hunting areas.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256455 **Organization Type:** Unaffiliated Individual

Representative Quote: - Hunting is both a Hawaiian and local cultural practice.

Corr. ID: 19 **Organization:** *Not Specified*

Comment ID: 256502 **Organization Type:** Unaffiliated Individual

Representative Quote: - Consider issuing permits for limited time; control total number hunters/day and quantify all animals removed.

Corr. ID: 19 **Organization:** *Not Specified*

Comment ID: 256411 **Organization Type:** Unaffiliated Individual

Representative Quote: Have a permit/tag system (with check point) that is specific to sex and number of each allowed.

Corr. ID: 19 **Organization:** *Not Specified*

Comment ID: 256428 **Organization Type:** Unaffiliated Individual

Representative Quote: - Change legislation to allow hunting.

Corr. ID: 20 **Organization:** *Not Specified*

Comment ID: 256543 **Organization Type:** Unaffiliated Individual

Representative Quote: Use licensed organizations for removal, example hunt clubs. Insured, chartered, have all the legal paperwork in line. Hunters of Hawaii.

Corr. ID: 20 **Organization:** *Not Specified*

Comment ID: 256553 **Organization Type:** Unaffiliated Individual

Representative Quote: Keep one fenced area for sustained hunting.

Corr. ID: 21 **Organization:** *Not Specified*

Comment ID: 256587 **Organization Type:** Unaffiliated Individual

Representative Quote: On South Point, using hunting guides helped to speed up eradication of goats.

Corr. ID: 21 **Organization:** *Not Specified*

Comment ID: 256586 **Organization Type:** Unaffiliated Individual

Representative Quote: Why doesn't the park allow hunting by public? More hunting by locals, archery hunting like the PTA archery hunt for 3 weekends to knock down and then agency went in to eradicate.

Corr. ID: 21 **Organization:** *Not Specified*

Comment ID: 256594 **Organization Type:** Unaffiliated Individual

Representative Quote: Being able to hunt helps families eat.

Concern ID:

37465

**CONCERN
STATEMENT:**

One commenter suggested that the park should consider the possibility of using toxicants.

RESPONSE: As noted by the commenter, one toxicant for ungulate control is currently being researched for use in the United States. However, it is not currently approved for management purposes, and it is not clear if it would become available during the life of this plan. Ultimately, the park could pursue its own research with this toxicant, which would require separate NEPA documentation, and if approved for use as a management tool, could revisit this plan/EIS when it becomes available. Text has been added to the plan/EIS discussion of "Toxicants and Poisons" in the "Alternatives Eliminated from Further Consideration" section of chapter 2 to indicate this potential.

Representative Quote(s):

Corr. ID: 9 **Organization:** *Not Specified*

Comment ID: 256347 **Organization Type:** Unaffiliated Individual

Representative Quote: On page 80, HAVO should consider adding a sentence to leave room open for potential toxicants for feral pigs (you could identify threshold uses similar to the birth control section previously). At the recent Wildlife Society Conference held in Kona, a presentation was made introducing a potential feral hog toxicant (HOGGONE) being tested in Australia. It is very safe and humane (all it is

is sodium in high doses). USDA APHIS is currently conducting test trials on delivery of this toxicant on the mainland, with the eventual goal of pursuing an experimental use permit from EPA in the next 2-3 years for this toxicant. According to the speaker, they are looking for test sites in Hawaii as well. Therefore, it is very possible a toxicant for feral pigs could be available for use by HAVO in the lifespan of this plan.

AL4000 - Alternatives: New Alternatives or Elements

Concern ID:

37466

CONCERN

STATEMENT:

Commenters suggested several new elements should be added to the alternatives, such as creating a fenced area and charging visitors to view them; corralling the animals and allowing people to take them home; using game animals to control fire risk; evaluating new technologies with controlled experiments; and using boundary fence devices that would allow animals to leave the park but restrict them from entering again.

RESPONSE: Creating a fenced holding-area for non-native ungulates and allowing visitors to view them is not consistent with the purpose of the plan/EIS, or the park. Maintaining any non-native ungulates in the park would be inconsistent with the population-level objective described in chapter 2. Even if fenced, as these animals could escape and damage park resources. Thus, this is not a viable option in the plan/EIS.

Corralling non-native ungulates and allowing people to take them home would be similar to the type of relocation that has been eliminated from the plan/EIS based on concerns raised during the public comment period. Please see the Concern ID 37461.

Allowing any non-native ungulates to remain in the park in order to minimize fire danger is not consistent with the purpose of the plan/EIS, because any number of remaining non-native ungulates in the park would prevent the park from restoring native ecosystems. Additionally, the NPS recognizes the potential for increased fire risk, and fire management measures are in place, as described in the “Weed and Fire Management” discussion under the “Elements Common to All Alternatives” section of chapter 2, and in the “Fire Ecology and Management Inside and Outside the Park” discussion in the “Cumulative Impacts Scenario” section of chapter 4.

While the park is willing to evaluate new technologies with controlled experiments, the details for these future, potential experiments have not yet been established. In addition, such research would be outside the scope of this management plan, and would require separate compliance prior to conducting any related activities.

While the plan/EIS does not specifically identify types of fences that could be used within the park, the park recognizes that the types of fences used would be determined on a case-by-case basis. Please see Concern ID 37448 for an explanation of fencing within the park.

Representative Quote(s):

Corr. ID: 19

Organization: *Not Specified*

Comment ID: 256420

Organization Type: Unaffiliated Individual

Representative Quote: Fence area, have a corral, then have people come get the animals (they can bring trailers, etc.)

Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256418 **Organization Type:** Unaffiliated Individual
Representative Quote: Create fenced area where there are purchased mouflon and charge visitors to view - this would also keep grazers and alleviate fire hazard.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256454 **Organization Type:** Unaffiliated Individual
Representative Quote: - Use game animals to control grass so you lower fire risk
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256500 **Organization Type:** Unaffiliated Individual
Representative Quote: - Should evaluate new technologies with appropriate controlled experiments.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256603 **Organization Type:** Unaffiliated Individual
Representative Quote: Establish trap-gate like fences: pigs can leave but can't get back in. Use bait to lure them out.

Concern ID:
CONCERN
STATEMENT:

37467
 One commenter asked why the park is not wrapping tree trunks in order to protect them.

RESPONSE: Wrapping and protecting individual trees is not a feasible or efficient method to protect native ecosystems in the park. Wrapping tree trunks can protect individual trees, but it is inefficient when the purpose is to protect entire landscapes and native vegetative communities. Furthermore, the process would be very time consuming and costly, and the benefits would not justify the costs.

Representative Quote(s):

Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256422 **Organization Type:** Unaffiliated Individual
Representative Quote: Why not protect trees by wrapping the trunk?

Concern ID:
CONCERN
STATEMENT:

37468
 Commenters made suggestions that are outside the scope of the project, such as examining ways to eradicate food shortages and disease, providing water easements, prohibiting pets inside the park, privatizing building and operations maintenance that would support education and reforestation efforts, providing transportation to the hunting areas, and providing access to the Ka'ū Forest.

RESPONSE: The suggestions presented within these public comments were determined by the NPS to be outside the scope of the plan/EIS. Please refer to the "Purpose and Need for Action" section in chapter 1 of the plan/EIS for a clear statement on the scope of the plan/EIS.

Representative Quote(s):

Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256475 **Organization Type:** Unaffiliated Individual
Representative Quote: - Privatize building, operate maintenance of hunting cabins - a concession to NPS. Would support education and reforestation efforts (a requirement of participation)
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256524 **Organization Type:** Unaffiliated Individual
Representative Quote: Provide transportation to hunting area.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256526 **Organization Type:** Unaffiliated Individual
Representative Quote: Look at ways to eradicate food shortages and disease.

Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256538 **Organization Type:** Unaffiliated Individual
Representative Quote: Help in the district to provide water easements to the water sources.
Corr. ID: 21 **Organization:** *Not Specified*
Comment ID: 256601 **Organization Type:** Unaffiliated Individual
Representative Quote: Need access to the Kau Forest for the community.
Corr. ID: 22 **Organization:** *Not Specified*
Comment ID: 256564 **Organization Type:** Unaffiliated Individual
Representative Quote: In a related side issue, I think it's also time to prohibit pets in the park. This is the ruling in some other national parks and even though most dog owners follow regulations, all it takes is one who lets their dog run off-leash and off-trail in the forest to disturb some of our unique species; for example, nene will not nest where a dog has been. I appreciate the solicitation of input on your draft and EIS and hope you will also seriously consider disallowing pets to enter into VNP.

Concern ID:
CONCERN
STATEMENT:

37469
One commenter asked how the park plans to manage invasive plant species.
RESPONSE: Management actions related to non-native and invasive vegetation are addressed in several sections of the plan/EIS. As stated under “Weed and Fire Management Programs” in chapter 2 of the plan/EIS, “The NPS would continue to implement the weed control program and the fire management plan that are already in use at the park.”

For further information, please refer to the “Vegetation” section in chapter 3 and the “Cumulative Impacts Scenario” in chapter 4 of the plan/EIS.

Representative Quote(s): **Corr. ID:** 20 **Organization:** *Not Specified*
Comment ID: 256530 **Organization Type:** Unaffiliated Individual
Representative Quote: If the park is putting together an ungulate management plan, then what is the plan for invasive plants?

AL7000 - Alternatives: Alternative C

Concern ID:
CONCERN
STATEMENT:

37470
Commenters supported alternative C because it would align with the State of Hawaii’s near-term goals of native forest watershed protection, and because it is the most efficient alternative.

RESPONSE: All of the alternatives analyzed in the plan/EIS will facilitate the protection and restoration of native ecosystems in the park. This includes forest areas that would help the State of Hawaii reach near-term goals of native forest watershed protection. While alternative C is expected to be the most efficient, the park’s preferred alternative, alternative D was identified as the NPS preferred alternative for those reasons described in chapter 2 of the EIS (see the “Preferred Alternative” section), most notably because it provides the most management flexibility and would still meet the purpose, need, and objectives of the plan.

Representative Quote(s): **Corr. ID: 8** **Organization: Not Specified**
Comment ID: 256327 **Organization Type: Unaffiliated Individual**
Representative Quote: By adopting Alternative "C" of this Draft Plan, HAVO will be aligned with the State of Hawaii's near term goals of native forest watershed protection. I suspect that at least parts of HAVO are part of the Big Island's watershed so that protecting native forest in the Park will benefit the protection of fresh water sources on the island.

Corr. ID: 9 **Organization: Not Specified**
Comment ID: 256345 **Organization Type: Unaffiliated Individual**
Representative Quote: I would like to express support for Alternative C because it more effectively and efficiently meets the purpose and need.

Corr. ID: 10 **Organization: Not Specified**
Comment ID: 256344 **Organization Type: Unaffiliated Individual**
Representative Quote: I am in support of the NPS objectives and goal of 0 or as low as practicable non-native ungulates and complete boundary fencing for Kahuku and 'Ōla'a rainforest and using professional staff. I feel Alternative "C" will best reach this goal for protection and restoration of native ecosystems in HVNP, specifically the Kahuku Unit.

Corr. ID: 13 **Organization: Not Specified**
Comment ID: 256398 **Organization Type: Unaffiliated Individual**
Representative Quote: Because Alternative C allows for reaching the population objective sooner and more efficiently, I favor it.

Corr. ID: 16 **Organization: Not Specified**
Comment ID: 256417 **Organization Type: Unaffiliated Individual**
Representative Quote: I believe Alternative C would be the most effective, as it allows any and all methods deemed necessary to kill the ungulates and keep them out. It seems in keeping with the NPS to place this in the hands of trained personnel. This alternative also seems to keep vested interests of hunters from being involved.

AL8000 - Alternatives: Alternative D

Concern ID: 37471
CONCERN One commenter opposed alternative D because of the additional costs and
STATEMENT: administrative oversight expected.

RESPONSE: As stated in the "Preferred Alternative" section in chapter 2 of the plan/EIS, although alternative D would be expected to involve some increase over other alternatives in the time, costs, and administrative oversight needed to achieve the population-level objective, this would not prevent the NPS from fully meeting its non-native ungulate management objectives. However, should it be determined that the volunteer program is precluding the ability of the NPS from meeting its non-native ungulate management objectives, the park has the discretion to discontinue it. Similarly, if the volunteer program proves to be more effective than anticipated, additional opportunities could be explored. Text to this effect has been added in the description of the alternatives that involve the use of volunteers in chapter 2 of the final plan/EIS, and to the impacts analysis in chapter 4 for "Park Management and Operations."

Additionally, among all alternatives evaluated, alternative D provides NPS with assistance in resource management activities; furthers the purposes of the Volunteers in Parks Act and NPS Management Policies 2006 related to volunteers by engaging the community and general public in stewardship of park resources as

authorized agents; and provides an opportunity to increase awareness of non-native ungulate adverse impacts.

Representative Quote(s): **Corr. ID:** 8 **Organization:** *Not Specified*
Comment ID: 256334 **Organization Type:** Unaffiliated Individual
Representative Quote: Page vi under Preferred Alternative (= Alternative D) states "Although alternative "D" would likely include some additional costs and administrative oversight over the other alternatives??..". There lies the problem.

Concern ID: 37472
CONCERN STATEMENT: One commenter was opposed to translocation, which is an available option under alternatives D and E. A commenter was also opposed to induced estrus, which is also an available option under alternatives C, D, and E.

RESPONSE: As with all alternatives selected for analysis, a variety of management techniques and methods would be used in order to reach the desired goal of zero non-native ungulates within the park. As discussed previously (Concern ID 37461), the plan/EIS has been modified to include the potential for relocation activities on a limited basis, based on park staff expertise and public comments. For an explanation of how relocation would be conducted, please refer back to Concern ID 37461.

Under alternatives C, D, and E, the NPS would consider inducing estrus in captive female non-native ungulates to lure other non-native ungulates. This is only one of several methods and techniques that the park would consider using for managing non-native ungulate populations in the park and due to its inherent limitations, would not be used as a standalone management technique. Park staff would decide if inducing estrus would be a viable option on a case-by-case basis, based on their knowledge and expertise. Sterilization is a technique that could be used for judas animals as a way of locating remnant animals in management units.

Representative Quote(s): **Corr. ID:** 20 **Organization:** *Not Specified*
Comment ID: 256511 **Organization Type:** Unaffiliated Individual
Representative Quote: Induced estrus fails every time it has been tried and failed w/every organism everywhere.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256517 **Organization Type:** Unaffiliated Individual
Representative Quote: Dumbfounded that plan still contains elements of failed methods i.e., translocation and sterilization and meat removal. All distractive and ineffective.

CC1000 - Consultation and Coordination: General Comments

Concern ID: 37474
CONCERN STATEMENT: One commenter stated that the draft plan/EIS does not contain adequate consultation with Native Hawaiian organizations and individuals.

RESPONSE: The park believes it has consulted adequately as pertains to Section 106. Consultation occurred with parties that meet the definition of 36 CFR 800.2, which is related to consulting parties, and 800.16 (s) (1) and (2), which defines Native Hawaiian and Native Hawaiian organization. In addition to the six kupuna consultation meetings where non-native ungulate management and/or this plan/EIS was discussed, the NPS held 3 public meetings, and mailed 42 letters to 31

organizations and 11 individuals that have interest in and knowledge of park resources that live in the adjacent communities.

The NPS also believes it has met all of its obligations under NEPA for consultation and soliciting comments on the draft plan/EIS. This has included numerous consultations with Kupuna groups for this planning effort, which have been better documented in the final plan/EIS (see chapter 5). Through consultations with the Kupuna and state agencies, and the solicitation of public comments, we believe the plan/EIS adequately addresses a variety of concerns to native peoples, and no further consultation is necessary.

- Representative Quote(s):** **Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256314 **Organization Type:** Unaffiliated Individual
Representative Quote: Likewise, nowhere in this DEIS has it been cited that consultation has occurred directly with those ancestral akua, 'aumākua, kupua, kia'i and others connected to the project area. Some of them are manifested in the natural elements and other life forms, while others serve in the capacity as guardians for this sacred landscape. Although this cultural perspective might seem difficult to grasp by those unfamiliar with these traditional practices, there are individuals who have the ability and gift to interact and communicate with those still connected to the project area.
- Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256262 **Organization Type:** Unaffiliated Individual
Representative Quote: The DEIS does not include adequate Section 106 Consultation with Native Hawaiian Organizations and/or individuals as required by federal law.
- Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256304 **Organization Type:** Unaffiliated Individual
Representative Quote: Section 106 Consultations with Native Hawaiians Organizations (NHO) and individuals have not been adequately done for this project. According to this document (page 303), Native Hawaiian consultation was only conducted at two Kupuna consultation meetings in 2008. Therefore, a more expansion form of Native Hawaiian consultation should be planned and implemented. Also, a detailed description of the outcomes of these Section 106 Consultations should be included in an appendix as part of the public record.

It is recommended that the preparers of this DEIS follow the guidelines provided by the Advisory Council on Historic Preservation in their document, Consultation with Native Hawaiian Organizations in the Section 106 Review Process: A Handbook. An excerpt from this handbook is noted below:

Consultation means the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process.(36 CFR Section 800.16 (f)).

Consultation constitutes more than simply notifying a Native Hawaiian organization about a planned undertaking. The ACHP views consultation as a process of communication that may include written correspondence, meetings, telephone conferences, site visits, and e-mails.

The requirements to consult with Native Hawaiian organizations in the Section 106 review process are derived from the specific language of Section 101(d)(6)(B) of NHPA.

According to Section 101(d)(6)(B) of this act, it requires "the agency official to consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by an undertaking."

Concern ID:

37475

**CONCERN
STATEMENT:**

Commenters noted that there should have been additional public meetings in the northern areas of the island, and that the posters used at the public meetings should be available on the park website.

RESPONSE: The park would like to thank these commenters for the suggestions regarding the public meetings and the suggestion to include the posters used at the public meetings on the park website. The park will make the public meeting posters available on their website, and will consider doing this for future planning efforts.

Regarding the locations of the public meetings, the NPS held the public meetings in the communities most directly affected by non-native ungulates and non-native ungulate management actions at the park. Although public meetings were not held in other parts of the island, other outreach was conducted including mailing a newsletter, publishing press releases in major newspapers informing residents of the public scoping for the preparation of the draft plan/EIS, publishing press releases in major newspapers for the public comment period on the draft plan/EIS, and providing the information on the park website. Additionally, every interested individual, organization, business, and agency had an equal opportunity to read the plan/EIS, and provide comments on it.

Representative Quote(s):

Corr. ID: 19

Organization: *Not Specified*

Comment ID: 256436

Organization Type: Unaffiliated Individual

Representative Quote: - More meetings in north part of island.

Corr. ID: 20

Organization: *Not Specified*

Comment ID: 256533

Organization Type: Unaffiliated Individual

Representative Quote: Put public meetings boards on website

Concern ID:

37476

**CONCERN
STATEMENT:**

One commenter suggested that the NPS create a partnership with the state for this program.

RESPONSE: As stated under "Formal Partnerships" in chapter 2 of the plan/EIS, formal partnerships would be pursued and continued under all alternatives. Please refer to the "Formal Partnerships" section in chapter 2 of the plan/EIS for the full description.

Representative Quote(s):

Corr. ID: 20

Organization: *Not Specified*

Comment ID: 256503

Organization Type: Unaffiliated Individual

Representative Quote: Partner with state

CR4000 - Cultural Resources: Impact or Proposal and Alternatives

Concern ID:

37477

**CONCERN
STATEMENT:**

Commenters stated that the proposed action would have significant impacts to the Hawaiian culture and ethnographic resources. Further, one commenter stated that the draft plan/EIS failed to consider and/or disclose the adverse impacts of the proposed actions upon the ancestral akua, aumakua, kupua, kia'i and others

connected to the areas of proposed actions. Lastly, commenters stated that the use of metal posts (vs. wooden posts) implanted into the ground causes a significant disturbance to the natural electromagnetic field and energy lines that cross through the project area.

RESPONSE: Part of the purpose of the proposed plan is to preserve the cultural (including natural) resources within the park by removing non-native ungulate species that disrupt the natural environment and hence the broader cultural ties to it. As described in the analysis of impacts to “Ethnographic Resources” in chapter 4, while there may be some temporary impacts to Hawaiian culture and ethnographic resources during implementation of management actions, the long-term effect would be to protect and restore native flora and fauna integral to Hawaiian culture.

Regarding the use of metal posts, this practice is not unique to the park, is not a new action, and has not been raised as a concern when consulting on past fencing projects. Also, the proposed fencing does not include the use of bulldozers, and other measures would be implemented to avoid or minimize impacts on cultural resources when constructing new fences (see the “Cultural Resources” discussion in the “Elements Common to All Alternatives” section of chapter 2).

Additionally, actions on NPS lands to manage non-native ungulates would not change how adjacent lands are administered, including those lands where they are managed as game animals.

- Representative Quote(s):** **Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256294 **Organization Type:** Unaffiliated Individual
Representative Quote: Also, this DEIS has failed to consider and/or disclose the adverse impacts of the proposed actions upon the ancestral akua, 'aumākua, kupua, kia'i and others connected to the areas of proposed actions.
- Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256300 **Organization Type:** Unaffiliated Individual
Representative Quote: The existing and proposed activities cause a disturbance to the 'āina and everything and everyone connected to it at many different levels and dimensions.
- The impacts of the proposed fencing project utilizing metal posts and associated ground disturbance of the cultural landscape in the project area were not adequately addressed in this DEIS. Firstly, the use of metal posts (vs. wooden posts) implanted into the ground causes a significant disturbance to the natural electromagnetic field and energy lines that cross through the project area. In addition, associated ground disturbances associated with several different fencing activities in the past have been significant. The bulldozing of the sacred landscape in various areas due to fence installations has at times done more damage than ungulates. The DEIS fails to provide a detailed description of the proposed method and scope of the fence construction in the project area.
- Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256301 **Organization Type:** Unaffiliated Individual
Representative Quote: In addition, the pua'a is a Hawaiian cultural and ethnographic resource. Therefore, total eradication of the pua'a from the project area would be significant to Hawaiians.
- Corr. ID:** 14 **Organization:** *Not Specified*
Comment ID: 256261 **Organization Type:** Unaffiliated Individual
Representative Quote: The proposed activities identified in the DEIS (especially when assessed from a cumulative perspective of this impact along with the past, present, and future activities associated with HAVO) would contribute to a

significant disturbance to the Hawaiian cultural and ethnographic resources as well as natural resources in this area.

Corr. ID: 14

Organization: *Not Specified*

Comment ID: 256273

Organization Type: Unaffiliated Individual

Representative Quote: The DEIS lacks any DNA analysis of the types pua'a that the NPS plans to eradicate. As a result, there is a potential that some of the last descendants of Polynesian pua'a that have been in these islands over 1,000 years would be eradicated with the proposed action.

Corr. ID: 20

Organization: *Not Specified*

Comment ID: 256439

Organization Type: Unaffiliated Individual

Representative Quote: So deleting goats is deleting part of the history of the area.

ED1000 - Editorial

Concern ID:

37478

**CONCERN
STATEMENT:**

One commenter noted that on pages 146 and 173 of the draft plan/EIS, information about the fence at Hakalau's Kona Forest Unit needs to be updated (the fence work began in 2011 and is anticipated to be completed in 2012).

RESPONSE: The text regarding the fence at Hakalau's Kona Forest Unit has been revised (chapter 3, "Land Management Adjacent to the Park, National Wildlife Refuges"; and chapter 4, "Cumulative Impact Scenario," "Non-native Plant and Animal Species Management Outside the Park, Including Fencing and Game Management").

Representative Quote(s):

Corr. ID: 9

Organization: *Not Specified*

Comment ID: 256348

Organization Type: Unaffiliated Individual

Representative Quote: On pages 146 and 173, information on the fence at Hakalau's Kona Forest Unit needs to be updated. The fence work began in 2011 and is anticipated to be completed in 2012.

GA1000 - Impact Analysis: Impact Analyses

Concern ID:

37479

**CONCERN
STATEMENT:**

Commenters questioned the overall viability of the fencing program, noting that fences are expensive to maintain. Commenters questioned whether the non-native ungulate control program is sustainable if park funding or the economy decline.

RESPONSE: Sustained management of non-native ungulates inside barrier fences has been effective in large portions of the park since the early 1970s. The park is committed to maintaining the non-native ungulate control program, including the fencing program, as it is integral to meeting the mission of the NPS at Hawai'i Volcanoes National Park.

Representative Quote(s):

Corr. ID: 19

Organization: *Not Specified*

Comment ID: 256456

Organization Type: Unaffiliated Individual

Representative Quote: - Fences are expensive to maintain.

Corr. ID: 19

Organization: *Not Specified*

Comment ID: 256449

Organization Type: Unaffiliated Individual

Representative Quote: - How sustainable is ungulate control if economy goes down?

Corr. ID: 21

Organization: *Not Specified*

Comment ID: 256574

Organization Type: Unaffiliated Individual

Representative Quote: No more \$ for fences.

Concern ID:

**CONCERN
STATEMENT:**

37480

One commenter stated that recreational access in the park can displace animals.

RESPONSE: Recreational access and how it may affect wildlife is addressed within the plan/EIS. As stated under the “Cumulative Impacts” section for Native Wildlife and Wildlife Habitat in chapter 4 of the plan/EIS, “Visitation at the park could also contribute to localized disturbances to native wildlife and wildlife habitat if visitors encounter any wildlife or damage habitat by wandering off designated trails.”

Further, visitation is addressed under the “Cumulative Impacts” section for Rare, Unique, Threatened and Endangered Species in chapter 4 of the plan/EIS: “Visitation at the park could also contribute to localized disturbances to rare, unique, threatened, or endangered species and their habitat if visitors encounter any species of special concern or damage habitat by wandering off designated trails.”

Representative Quote(s):

Corr. ID: 19

Organization: *Not Specified*

Comment ID: 256469

Organization Type: Unaffiliated Individual

Representative Quote: - Increasing recreation access also damages and displaces animals.

Concern ID:

**CONCERN
STATEMENT:**

37481

One commenter questioned the value of birds and plants to human beings.

RESPONSE: It is the purpose of the NPS to protect and preserve natural and historic resources. The NPS has the responsibility for administering the national parks, and receives its overall authority from the Act of Congress, approved August 25, 1916, by which the NPS was established in the Department of Interior. The Act states:

“The Service thus established [the National Park Service] shall promote and regulate the use of the Federal areas known as national parks, monuments and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”

Furthermore, the Hawai‘i Volcanoes National Park purpose statement reads: “Hawai‘i Volcanoes National Park protects, studies, and provides access to Kīlauea and Mauna Loa, two of the world’s most active volcanoes; and perpetuates endemic Hawaiian ecosystems and the traditional Hawaiian culture connected to these landscapes.”

Thus, it is the purpose of the NPS and of Hawai‘i Volcanoes National Park to protect birds and plants. These birds and plants are part of the reason visitors come to Hawai‘i Volcanoes National Park, and visitation has socioeconomic benefits to local communities. The flora and fauna of the park are also integral parts of the

natural environment and the broader cultural ties to that environment, so their protection and restoration also benefits native cultural practices and belief systems.

Representative Quote(s): **Corr. ID:** 21 **Organization:** *Not Specified*
Comment ID: 256592 **Organization Type:** Unaffiliated Individual
Representative Quote: What is the benefit of birds and plants to people? They don't feed us.

GA1500 - Impact Analysis: *Impact Analysis - Fire Danger*

Concern ID: 37482

CONCERN STATEMENT: Commenters stated concerns about fire danger as a result of eradicating the non-native ungulates.

RESPONSE: The potential for increased fire risk in the absence of non-native ungulates is addressed in the plan/EIS. As stated in chapter 4, in the analysis for alternative B for vegetation, “Also, fire risk could increase in certain areas where grazers and browsers are removed, while for other areas fire risk could decrease or remain unchanged. The implementation of weed and fire management programs (see chapter 2) through existing plans, and weed sanitation protocols to prevent establishment of invasive species, would limit the potential adverse effects of non-native weeds and an altered fire regime on vegetation.” Based on the analysis in the plan/EIS, the NPS found that the adverse impacts of retaining non-native ungulates would be greater than the risk of fire in the absence of non-native ungulates. Additionally, because the NPS recognizes the potential for increased fire risk, the park has fire management measures in place to address them, as described in the “Weed and Fire Management” discussion under the “Elements Common to All Alternatives” section of chapter 2, and in the “Fire Ecology and Management Inside and Outside the Park” discussion in the “Cumulative Impacts Scenario” section of chapter 4.

Furthermore, allowing non-native ungulates to remain in the park in order to minimize fire danger is not consistent with purpose of plan/EIS, as any number of remaining non-native ungulates in the park would prevent the park from restoring native ecosystems.

Representative Quote(s): **Corr. ID:** 19 **Organization:** *Not Specified*
Comment ID: 256441 **Organization Type:** Unaffiliated Individual
Representative Quote: - When the vegetation comes back inside the fence, who manages the fire hazard that results, more problems are created that need to be managed.
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256471 **Organization Type:** Unaffiliated Individual
Representative Quote: - Removal of hooved animals will increase fire hazard
Corr. ID: 19 **Organization:** *Not Specified*
Comment ID: 256484 **Organization Type:** Unaffiliated Individual
Representative Quote: - Fire hazard after removal of ungulates.
Corr. ID: 20 **Organization:** *Not Specified*
Comment ID: 256551 **Organization Type:** Unaffiliated Individual
Representative Quote: Cut number of animals down but don't eradicate. Make sure numbers aren't too high but can help during drought - fire risk lower from less brush/grass.

PN3000 - Purpose and Need: Scope of the Analysis**Concern ID:** 37483**CONCERN****STATEMENT:**

One commenter suggested that the NPS should work beyond park boundaries to help remove non-native ungulates from the entire island, while another commenter questioned how the park determines what is native and non-native on the island.

RESPONSE: Although the plan/EIS focuses on removal of non-native ungulates within the park, the NPS recognizes the importance of working with its partners toward common goals. As stated in the “Formal Partnerships” section of chapter 2 of the plan/EIS, formal partnerships would be pursued and continued under all alternatives.

As stated in the section titled “Impacts Associated with Non-native Ungulates at Hawai‘i Volcanoes National Park” in chapter 1 of the plan/EIS, the NPS considers non-native species to be those “that do not naturally occur in the ecosystem and were introduced by humans, accidentally or incidentally, into the environment from elsewhere.”

Representative Quote(s):**Corr. ID:** 3**Organization:** *Not Specified***Comment ID:** 256286**Organization Type:** Unaffiliated Individual

Representative Quote: But while removing them from the park will be beneficial, it is important to also work beyond park boundaries and remove them from entire islands.

Corr. ID: 20**Organization:** *Not Specified***Comment ID:** 256525**Organization Type:** Unaffiliated Individual

Representative Quote: How does the park determine what is non-native when everything on this island is introduced. Nothing is native.

WH4000 - Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives**Concern ID:** 37484**CONCERN****STATEMENT:**

One commenter asked how sheep are harming forest birds that live in trees.

RESPONSE: Please see the explanation on the harm non-native ungulates are inflicting on natural resources in the park, as described in the section titled “Influence of Non-native Ungulates” in chapter 3 the plan/EIS.

Representative Quote(s):**Corr. ID:** 20**Organization:** *Not Specified***Comment ID:** 256522**Organization Type:** Unaffiliated Individual

Representative Quote: Forest birds live in trees so what harm does the sheep do?

ATTACHMENT 1: CORRESPONDENCE LIST

Correspondence ID	Name
1	Kept Private
2	Kept Private
3	Kept Private
4	Kept Private
5	Kept Private
6	Kept Private
7	Kay, Byron
8	Kept Private
9	Kept Private
10	Kept Private
11	Kept Private
12	Kept Private
13	Robichaux, Rob
14	Flores, E. Kalani
15	Nahale'a, Albert
16	Kircher, Ann
17	Goforth, M. Kathleen
18	Lyle, John
19	Public Meeting, Kailua-Kona
20	Public Meeting, HI National Park
21	Public Meeting, Nā'ālehu
22	De la Cruz, Rochelle
23	Warshauer, Frederick
24	Levin, Ruth
25	Ikagawa, Mary
26	Anderson, Kevin
27	Kawauchi, Jamie M
28	Conry, Paul J

ATTACHMENT 2: INDEX BY ORGANIZATION TYPE REPORT

Federal Government

Environmental Protection Agency - 17; AL10000 - Alternatives: Meat Handling and Donation. AL15000 - Alternatives: Elements Common to All Alternatives (Non-Substantive). AL8200 - Alternatives: Support Alternative D.

Recreational Groups

Safari Club International - 26; AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. AL11500 - Alternatives: Using Volunteers (Non-Substantive). AL5200 - Alternatives: Support the No Action Alternative.

State Government

Department of Hawaiian Home Lands - 15; AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL17000 - Alternatives: Relocation. AL8200 - Alternatives: Support Alternative D.

Department of Land and Natural Resources - 28; AL15000 - Alternatives: Elements Common to All Alternatives (Non-Substantive).

Unaffiliated Individual

Carnegie Institution - Stanford University - 4; AL11500 - Alternatives: Using Volunteers (Non-Substantive). AL8200 - Alternatives: Support Alternative D.

Pu'u Kukui Watershed - 6; AL12000 - Alternatives: Support Removing Non-Native Ungulates.

N/A - 1; AL5200 - Alternatives: Support the No Action Alternative. 2; AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. 3; AL12000 - Alternatives: Support Removing Non-Native Ungulates. PN3000 - Purpose and Need: Scope of the Analysis. 5; AL14000 - Alternatives: Lethal Removal of Non-Native Ungulates. AL17000 - Alternatives: Relocation. AL2000 - Alternatives: Alternatives Eliminated. 7; AL10000 - Alternatives: Meat Handling and Donation. AL2000 - Alternatives: Alternatives Eliminated. 8; AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL15000 - Alternatives: Elements Common to All Alternatives (Non-Substantive). AL17000 - Alternatives: Relocation. AL7000 - Alternatives: Alternative C. AL7200 - Alternatives: Support Alternative C. AL8000 - Alternatives: Alternative D. AL8400 - Alternatives: Oppose Alternative D. 9; AL17000 - Alternatives: Relocation. AL2000 - Alternatives: Alternatives Eliminated. AL7000 - Alternatives: Alternative C. ED1000 - Editorial. 10; AL7000 - Alternatives: Alternative C. 11; AL1000 - Alternatives: Elements Common To All Alternatives. AL10000 - Alternatives: Meat Handling and Donation. AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL17000 - Alternatives: Relocation. 12; AL1000 - Alternatives: Elements Common to All Alternatives. AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL15000 - Alternatives: Elements Common to All Alternatives (Non-Substantive). AL17000 - Alternatives: Relocation. 13; AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL7000 - Alternatives: Alternative C. AL8200 - Alternatives: Support Alternative D. MT1000 - Miscellaneous Topics: General Comments. 14; AE13000 - Affected Environment: Cultural Resources. AL1000 - Alternatives: Elements Common to All Alternatives. CC1000 - Consultation

and Coordination: General Comments. CR4000 - Cultural Resources: Impact of Proposal and Alternatives. 16; AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL7000 - Alternatives: Alternative C. 18; AL10000 - Alternatives: Meat Handling and Donation. AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL8200 - Alternatives: Support Alternative D. 19; AE12500 - Affected Environment: Wildlife And Wildlife Habitat (Non-Substantive). AL1000 - Alternatives: Elements Common to All Alternatives. AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. AL11500 - Alternatives: Using Volunteers (Non-Substantive). AL14000 - Alternatives: Lethal Removal of Non-Native Ungulates. AL15000 - Alternatives: Elements Common to All Alternatives (Non-Substantive). AL17000 - Alternatives: Relocation. AL2000 - Alternatives: Alternatives Eliminated. AL2500 - Alternatives: Alternatives Eliminated (Non-Substantive). AL4000 - Alternatives: New Alternatives or Elements. CC1000 - Consultation and Coordination: General Comments. GA1000 - Impact Analysis: Impact Analyses. GA1500 - Impact Analysis: Impact Analysis - Fire Danger. MT1000 - Miscellaneous Topics: General Comments. 20; AL1000 - Alternatives: Elements Common to All Alternatives. AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. AL15000 - Alternatives: Elements Common to All Alternatives (Non-Substantive). AL17000 - Alternatives: Relocation. AL2000 - Alternatives: Alternatives Eliminated. AL2500 - Alternatives: Alternatives Eliminated (Non-Substantive). AL4000 - Alternatives: New Alternatives or Elements. AL7000 - Alternatives: Alternative C. AL7200 - Alternatives: Support Alternative C. AL8000 - Alternatives: Alternative D. AL8200 - Alternatives: Support Alternative D. CC1000 - Consultation and Coordination: General Comments. CR4000 - Cultural Resources: Impact of Proposal and Alternatives. GA1500 - Impact Analysis: Impact Analysis - Fire Danger. MT1000 - Miscellaneous Topics: General Comments. PN3000 - Purpose and Need: Scope of the Analysis. WH4000 - Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives. 21; AE12000 - Affected Environment: Wildlife and Wildlife Habitat. AE20000 - Affected Environment: Land Use. AL1000 - Alternatives: Elements Common to All Alternatives. AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL17000 - Alternatives: Relocation. AL2000 - Alternatives: Alternatives Eliminated. AL4000 - Alternatives: New Alternatives or Elements. AL5200 - Alternatives: Support the No Action Alternative. AL7000 - Alternatives: Alternative C. AL9200 - Alternatives: Support Alternative E. GA1000 - Impact Analysis: Impact Analyses. MT1000 - Miscellaneous Topics: General Comments. 22; AL12000 - Alternatives: Support Removing Non-Native Ungulates. AL4000 - Alternatives: New Alternatives or Elements. 23; AE19000 - Affected Environment: Other Agencies? Land Use Plans. AL1000 - Alternatives: Elements Common to All Alternatives. 24; AL10000 - Alternatives: Meat Handling and Donation. AL11000 - Alternatives: Using Volunteers. 25; LC1000 - Late Correspondence: Received after Comment Period Closed. 27; LC1000 - Late Correspondence: Received after Comment Period Closed.

ATTACHMENT 3: INDEX BY CODE REPORT

Code	Description	Organization	Correspondence ID
AE12000	Affected Environment: Wildlife And Wildlife Habitat	N/A	21
AE12500	Affected Environment: Wildlife And Wildlife Habitat (Non-Substantive)	N/A	19
AE13000	Affected Environment: Cultural Resources	N/A	14
AE19000	Affected Environment: Other Agencies? Land Use Plans	N/A	23
AE20000	Affected Environment: Land Use	N/A	21
AL1000	Alternatives: Elements Common To All Alternatives	N/A	11
			12
			14
			19
			20
			21
			23
AL10000	Alternatives: Meat Handling and Donation	Environmental Protection Agency	17
		Safari Club International	26
		N/A	2
			7
			11
			12
			18
			19
			20
			21
			24
AL11000	Alternatives: Using Volunteers	Safari Club International	26
		N/A	2
			12
			19
			20
			21
			24

Appendices

Code	Description	Organization	Correspondence ID
AL11500	Alternatives: Using Volunteers (Non-Substantive)	Carnegie Institution - Stanford University	4
		Safari Club International	26
		N/A	19
AL12000	Alternatives: Support Removing Non-Native Ungulates	Department of Hawaiian Home Lands	15
		Pu'u Kukui Watershed	6
		N/A	3
			8
			11
			12
			13
			16
			18
			21
			22
AL14000	Alternatives: Lethal Removal of Non-Native Ungulates	N/A	5
			19
AL15000	Alternatives: Elements Common To All Alternatives (Non-Substantive)	Department of Land and Natural Resources	28
		Environmental Protection Agency	17
		N/A	8
			12
			19
			20
AL17000	Alternatives: Relocation	Department of Hawaiian Home Lands	15
		N/A	5
			8
			9
			11
			12
			19
			20
			21

Code	Description	Organization	Correspondence ID
AL2000	Alternatives: Alternatives Eliminated	N/A	5
			7
			9
			19
			20
			21
AL2500	Alternatives: Alternatives Eliminated (Non-Substantive)	N/A	19
			20
AL4000	Alternatives: New Alternatives Or Elements	N/A	19
			20
			21
			22
AL5200	Alternatives: Support the No Action Alternative	Safari Club International	26
		N/A	1
			21
AL7000	Alternatives: Alternative C	N/A	8
			9
			10
			13
			16
			20
			21
AL7200	Alternatives: Support Alternative C	N/A	8
			20
AL8000	Alternatives: Alternative D	N/A	8
			20
AL8200	Alternatives: Support Alternative D	Carnegie Institution - Stanford University	4
		Department of Hawaiian Home Lands	15
		Environmental Protection Agency	17
		N/A	13
			18
			20

Code	Description	Organization	Correspondence ID
AL8400	Alternatives: Oppose Alternative D	N/A	8
AL9200	Alternatives: Support Alternative E	N/A	21
CC1000	Consultation and Coordination: General Comments	N/A	14
			19
			20
CR4000	Cultural Resources: Impact Of Proposal And Alternatives	N/A	14
			20
ED1000	Editorial	N/A	9
GA1000	Impact Analysis: Impact Analyses	N/A	19
			21
GA1500	Impact Analysis: Impact Analysis - Fire Danger	N/A	19
			20
LC1000	Late Correspondence: Received after Comment Period Closed	N/A	25
			27
MT1000	Miscellaneous Topics: General Comments	N/A	13
			19
			20
			21
PN3000	Purpose And Need: Scope Of The Analysis	N/A	3
			20
WH4000	Wildlife And Wildlife Habitat: Impact Of Proposal And Alternatives	N/A	20

ATTACHMENT 4: COPIES OF LETTERS FROM AGENCIES, ORGANIZATIONS, AND BUSINESSES



**ENVIRONMENTAL
PROTECTION AGENCY**

James M. Munson
Environmental Protection Specialist
Environmental Review Office

U.S. EPA - Region 9 CED-2
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**ENVIRONMENTAL PROTECTION AGENCY
REGION IX**
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San Francisco, CA 94105

Photo

Cindy Orlando, Superintendent
Hawai'i Volcanoes National Park
P.O. Box 52
Hawaii National Park, HI 96718-0052

RECEIVED
JAN 05 2012
Initial: *K*

Subject: Draft Environmental Impact Statement for the Protecting and Restoring Native Ecosystems By Managing Non-Native Ungulates Project, Hawai'i Volcanoes National Park, Hawai'i County, Hawai'i. (CEQ# 20110390).

Dear Ms. Orlando:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Protecting and Restoring Native Ecosystems By Managing Non-Native Ungulates Project pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

EPA supports an innovative plan to refine strategies to reduce non-native ungulate populations with the goal of protecting native ecosystems and through recovery and restoration of native vegetation and other natural resources. We have rated the DEIS LO, Lack of Objections (see enclosed EPA Rating Definitions). Our rating is based on the Preferred Alternative D which gives the most flexibility for management of non-native ungulates including non-lethal methods.

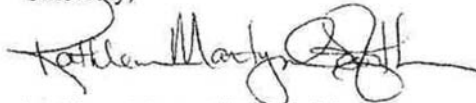
EPA applauds the minimization of impacts to the environment which were developed after informal consultation with the United States Fish and Wildlife Service, (p. 55-58). Specifically, EPA supports the use of design and placement strategies for fencing that will reduce impacts to bats/birds and avoid sensitive nesting areas. Similarly, we encourage the National Park Service (NPS) to utilize mitigation practices as proposed in chapter 2 that would avoid endangered or rare species of vegetation near fence lines by limiting impacts to a four foot corridor along the fence line and only removing trees less than six inches in diameter.

EPA appreciates the NPS plan to "pursue opportunities to salvage and donate meat," (p. 235). We suggest the Final Environmental Impact Statement (FEIS) identify specific communities that would benefit from these practices and include a plan to coordinate with these communities to facilitate the most practicable plan to maximize opportunities for donation.

We appreciate the opportunity to review the DEIS. When the FEIS is released, please send one hard copy and one electronic copy to the address above (mail code: CED-2). If you have any

questions, please contact me at (415) 972-3521, or have your staff contact James Munson, the lead reviewer for this project. James can be reached at (415) 972-3800 or munson.james@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kathleen Martyn Goforth', with a stylized flourish at the end.

Kathleen Martyn Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures:
Summary of EPA Rating Definitions

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL ST., ROOM 325
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TEL (808) 587-0166 FAX (808) 587-0160

WILLIAM J. AILA, JR.
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BOARD OF LAND AND NATURAL RESOURCES
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WILLIAM M. TAM
DEPUTY DIRECTOR - WATER
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

January 10, 2012

Cindy Orlando
Superintendent, Hawaii Volcanoes National Park
RE: Protecting and Restoring Native Ecosystems by Managing Non-Native Ungulates Plan/EIS
P.O. Box 52
Hawaii National Park, HI 96718-0052

Dear Ms. Orlando,

Thank you for the opportunity to comment on the draft plan and environmental impact statement to address the long-term management of non-native ungulates within Hawaii Volcanoes National Park. The Division of Forestry and Wildlife applauds the National Park's efforts to protect and restore the unique native ecosystems of this world heritage site. The Department of Land and Natural Resources (DLNR) has recently released a plan entitled "The Rain Follows the Forest" (available online at Hawaii.gov/dlnr) that seeks to dramatically increase protection of Hawaii's watersheds, which includes many thousands of acres within the National Park. Alternatives B-E proposed to protect native ecosystems through boundary fencing are consistent with the DLNR's action plan for long-term removal of ungulates within these priority watershed areas.

Our Division supports the increased management proposed in the draft plan/EIS and hopes to continue partnering with the National Park to manage non-native species across these priority watershed areas.

If you have any questions or comments please contact me at (808) 587-0166 or Paul.J.Conry@hawaii.gov.

Sincerely,

A handwritten signature in black ink that reads "Paul J. Conry".

Paul J. Conry, Administrator
Division of Forestry and Wildlife



10/10

RECEIVED

JAN 30 2012

Hawai'i Volcanoes National Park

January 20, 2012

Cindy Orlando, Superintendent
Hawai'i Volcanoes National Park
PO Box 52
Hawaii National Park, HI 96718

Re: Draft Plan and DEIS to Protect and Restore Native Ecosystems by
Managing Non-Native Ungulates

Dear Ms. Orlando:

Safari Club International ("SCI") submits these comments in support of the use of volunteers in the lethal management of non-native ungulates in Volcanoes National Park ("Volcanoes Ungulate Plan"). SCI prefers Alternative A to the preferred Alternative D, but only because Alternative A allows volunteers to keep at least some portion of their take resulting from their volunteer service. SCI is pleased to learn that the National Park Service ("NPS") has, for several decades, operated a successful and safe program using the assistance of volunteers from the hunting community to assist in game management on NPS lands and sees no reason for the Park to modify that program. SCI has been advocating for similar programs at other National Parks, including elk management in Rocky Mountain National Park.

SCI agrees with the NPS that the volunteer activity in this management effort does not qualify as hunting and therefore is in keeping with NPS regulations and policy. SCI does not agree with NPS policy (and regulations) that, barring specific statutory authorization, National Parks should be closed to hunting. Nevertheless, for the purposes of these comments, SCI supports the continuation of the Volcanoes National Park

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volunteer ungulate removal program as a proven means for the public to play a significant role in park wildlife management.

Safari Club International

Safari Club International, a nonprofit IRC § 501(c)(4) corporation, has approximately 53,000 members worldwide, including many who live in and hunt in Hawaii and throughout the United States and in many countries around the world. SCI's missions include the conservation of wildlife, protection of the hunter, and education of the public concerning hunting and its use as a conservation tool. SCI carries out its missions with the assistance of its sister organization, Safari Club International Foundation (SCIF). SCIF is a nonprofit IRC § 501(c)(3) corporation. Its missions are to fund and manage worldwide programs dedicated to wildlife conservation, outdoor education and humanitarian services.

SCI has actively engaged in litigation involving National Park Service wildlife management and in particular, is currently participating in litigation in federal district court in the Tenth Circuit Court of Appeals to defend a challenge to Rocky Mountain National Park's use of volunteers to manage their elk overpopulation.

SCI has frequently commented in support of the use of volunteers in ungulate management in National Parks including for Rocky Mountain National Park, Theodore Roosevelt National Park, and Wind Cave National Park.

Volcanoes National Park Should Continue Its Longstanding Program of Using Volunteers in Lethal Removal of Non-Native Ungulates

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SCI was pleasantly surprised to learn that Volcanoes National Park has utilized volunteers for the lethal removal of non-native ungulates since the early 1970s. We find it ironic that the NPS did not offer a discussion of Volcanoes National Park's program, including its merits and successes, during the period of time in which the NPS was considering whether to institute a similar kind of volunteer program for elk management at Rocky Mountain National Park. There is no mention of Volcanoes National Park's program anywhere in the Final Elk and Vegetation Plan for Rocky Mountain National Park.

Volcanoes' Ungulate Plan itself offers relatively little data about the park's past experiences with the program. However, the Final Environmental Statement for the National Resources Management Plan for Hawaii Volcanoes National Park ("NRM Plan") offers greater detail. In the NRM Plan, the NPS explained its use of local citizen participation for the removal of non-native goats and pigs. For example, the NRM Plan explains that data from use of volunteers in 1970-71 showed the program to be "popular and effective" in areas where the goat populations were high. NRM Plan at 11.

Data collected for the NRM Plan also showed how the park utilized the volunteers and that the "Deputy Ranger Control Program" operated in a safe and effective manner:

Direct shooting as a control measure for goats and pigs has not been a safety hazard to visitors to date. Year-round open seasons on pigs and goats in the Deputy Ranger Control Program assure that there are no unsafe "opening day" crowds or "firing line" situations. As a result, our average number of deputies per day is only six—spread over 140,000 acres open on any given day to deputy control efforts. At an average density of one deputy per 22,500 acres there is little opportunity for conflict between deputies and park visitors. The maximum number of

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deputy rangers that participated on any given day during the last 6 months was 41.

NRM Plan at 49. With a history of operating a safe and effective program for the removal of ungulates since 1971, Volcanoes National Park has more experience and knowledge than any other National Park about the means of utilizing and encouraging volunteers to the Park's greatest advantage. The data offered in the plan suggests no concrete reason for changing that successful operation. For that reason alone, SCI recommends that the Park maintain that aspect of the status quo by adopting Alternative A or D with modifications.

Perhaps the most valuable piece of information included in the Volcanoes' Ungulate Plan is the brief description of the benefits, other than the removal of unwanted ungulates, that both the park and the volunteers achieve from the program:

The majority of volunteers are from the Island of Hawai'i, while some are from communities adjacent to the park. This program allows these local residents access to the park for recreation; provides interaction with the park staff, which supports social connectedness and public-federal relations; promotes communications among landowners of the region; and also allows local residents to assist in helping protect park resources (i.e., park stewardship)

Volcanoes' Ungulate Plan at 153. These are very kinds of experiences that National Parks were designed to offer. Regardless of any "cost" to a park of running a volunteer program, the fact that the park is able to provide these types of experiences in a safe manner, should outweigh any criticism or suggestion to modify or discontinue this program.

The Park Has No Reason to Modify Its Program So That Volunteers Cannot Keep a Portion of the Meat From the Animals They Take

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The NPS offers only a single reason for the modification of its existing Deputy Ranger Control Program – to make the program consistent with NPS policy. This solution seems rather ironic. Why should Volcanoes National Park modify its long-standing practice of allowing volunteers to keep some portion of their take, solely because the NPS has adopted a relatively new practice in two other parks, of disallowing volunteers to keep any portion of the animal taken? The irony deepens where the evidence (or lack thereof) suggests that the newer policy – applied to Rocky Mountain National Park and Theodore Roosevelt National Park was developed without consideration of the successes achieved over the last four decades with Volcanoes National Park's program. It would make more sense to modify the programs at RMNP and TRNP to match the policy established by Volcanoes National Park, long before these other parks initiated their more recent volunteer programs.

Volcanoes' Ungulate Plan suggests that a program that allows the volunteer to keep the animal he or she takes appears more like "hunting" than "culling." (Volcanoes' Ungulate Plan at 78). However the stigma associated with keeping the meat from one's personal take of an animal does not truly apply to the volunteer program as it is operated on National Parks. In a true fair-chase hunt, the hunter normally gets to choose the animal he or she wishes to take. That is generally not the case for volunteer programs operated on a National Park where an NPS official (or in some cases a state game and fish officer) identifies the animal to be taken and instructs the volunteer to take the shot. Consequently, the volunteer is not selecting a particular animal to hunt and take home.

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Instead, he or she is removing an unwanted animal from the park and is making use of that unwanted animal's meat, and possibly its hide and other parts.

Volcanoes NP should at least give volunteers the opportunity to share some portion of the general meat taken by the full volunteer contingent. If the NPS finds it absolutely necessary to prohibit each volunteer from taking a portion of the animal that he or she shot, park personnel could certainly distribute equally divided portions of the general take by volunteers and park personnel to each volunteer participant.

At the very least, NPS personnel could allow volunteers to participate in a general raffle for portions of the meat in the cull. This is the option currently being used at Rocky Mountain National Park. However, under this scenario, a volunteer stands the chance of not being selected and this seems a rather extreme method distinguishing "culling" from "hunting."

Volunteers should not be penalized for offering to participate in Volcanoes National Park's ungulate management effort. True "hunting" required fair chase, which is not a part of the cull of Volcanoes NP's ungulate removal. The ability to use the meat from a take does not convert a legitimate cull into a hunt.

Volcanoes National Park Needs to Produce Better Data to Demonstrate the Efficacy and Cost of the Volunteer Program

Volcanoes' Ungulate Plan suggests that the use of volunteers is more costly than exclusive utilization of park personnel. The data upon which the NPS offers this premise is far from complete and lacks details about which if any restrictions are placed upon the volunteers' ability to take ungulates during their participation in the program that could

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potentially increase the cost of the program. It is quite likely that the cost of the program may be inflated by the choice of methods employed by park personnel. For example, the Park assigns one NPS officer for only two volunteers. Volcanoes' Ungulate Plan at 60. Perhaps a 1 to 6 ratio of park employees to volunteers would be more efficient and cost effective than the 1 to 2 ratio being employed. The Volcanoes Ungulate Plan also suggests that park officials are more efficient at removing mouflon sheep than qualified volunteers, noting that for the closely directed volunteer program at Kahuku, NPS staff took 5.2 sheep per day as compared to a 4.6 per day take for volunteers during the period between March 2004 and February 2007. *Id.* at 62. This information is too limited to give an accurate picture of the comparison between volunteer and staff-only effort. The program has been in operation since 1971, so an accurate picture would require data from before March 2004 and after February 2007. In addition, the plan mentions a comparison of staff-only to staff/volunteer removal effort for a single day in September of 2009. Since there is no data to indicate the conditions affecting the take on either day, or any other disparities that might affect the success of staff vs. volunteers, this comparison offers very little to help determine the efficacy or cost of a program that has been in effect for over 40 years.

Regardless of what the additional data might show, the cost issue should not be considered a valid factor in deciding whether or how to continue the volunteer program. The visitor experience and stewardship opportunity discussed above in this letter should outweigh any suggestion that volunteer participation has a cost that outweighs its benefits.

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Thank you for the opportunity to comment on this important volunteer wildlife management program. If you should have any questions about these comments, please contact Anna M. Seidman, Director of Litigation, Safari Club International, 202-543-8733 or aseidman@safariclub.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin Anderson", written in a cursive style.

Kevin Anderson
President,
Safari Club International

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GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

ALBERT "ALAPAKI" NAHALE-A
CHAIRMAN
HAWAIIAN HOMES COMMISSION
MICHELLE K. KAUIHANE
DEPUTY TO THE CHAIRMAN
M. WAIKALEALE SARSONA
EXECUTIVE ASSISTANT

cc
Rhonda

December 23, 2011

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JAN 20 2012
Initial: _____

Cindy Orlando
Superintendent, Hawai'i Volcanoes National Park
P.O. Box 52
Hawaii National Park, HI 96718-0052

RE: Protecting & Restoring Native Ecosystems by Managing Non-
Native Ungulates Plan/EIS

Aloha Ms. Orlando,

Mahalo for the opportunity to provide comment on the draft
plan/DEIS for protecting and restoring native ecosystems by
managing non-native ungulates at Hawai'i Volcanoes National
Park.

The Department of Hawaiian Home Lands understands the
importance of developing a comprehensive and systematic
framework for managing non-native ungulates that supports
long-term ecosystem protection; supports natural ecosystem
recovery and provides desirable conditions for active
ecosystem restoration; and supports protection and
preservation of cultural resources.

The Department of Hawaiian Home Lands (DHHL) owns over 11,000
acres in the ahupua'a of Kama'oa-Pu'ueo (also known as "South
Point" or "Kalae"), located south of the Kahuku portion of the
National Park.

The Department has the following comments related to the draft
plan/DEIS:

1. As stated, alternative D is the preferred alternative
of the NPS and would provide the greatest flexibility

Ms. Cindy Orlando
December 23, 2011
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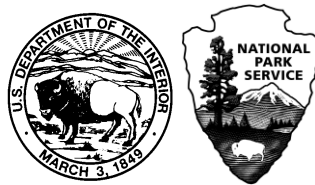
of management techniques, including non-lethal actions such as relocation, as well as perimeter fencing. With a large landholding near the Kahuku area of the park and with limited resources to manage that track of land, please be sure that any action that you are taking to relocate and prohibit ungulates from the National Park does not result in ungulates inhabiting or being displaced to our lands near South Point.

If there are any questions, please contact Kaleo Manuel in our Planning Office at (808)620-9485 or Kaleo.L.Manuel@hawaii.gov.

Me ke aloha,



Albert "Alapaki" Nahale'a, Chairman
Hawaiian Homes Commission



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

(2013)

United States Department of the Interior · National Park Service