

**SAFE HARBOR AGREEMENT
FOR THE INTRODUCTION OF THE NENE
TO PIIHOLO RANCH, MAUI**

1. INTRODUCTION

This Safe Harbor Agreement (Agreement) is entered into on _____ by and among Piiholo Ranch, LLC (Ranch), the U. S. Department of Interior, Fish and Wildlife Service (Service), and the State of Hawaii, Department of Land and Natural Resources (DLNR), by its Board of Land and Natural Resources, hereinafter collectively called the "Parties". This Agreement follows the Service's Safe Harbor Policy (64 FR 32717) and regulations (64 FR 32706), and implements the intent of the Parties to follow the procedural and substantive requirements of section 10(a)(1)(A) of the Endangered Species Act (ESA) of 1973, as amended, and Hawaii Revised Statutes (HRS) ' 195D-4 and ' 195D-22.

The purpose of this Agreement is to establish a population of the endangered nene, or Hawaiian goose, (*Branta sandvicensis*) on Piiholo Ranch, Maui. Under this Agreement, the Ranch will maintain or improve approximately 600 acres of habitat that may be suitable for nene on the Ranch for a period of 10 years by continuing cattle ranching operations in a manner sensitive to the presence of nene, thereby maintaining open, short-grass habitat; establish and maintain a nene release pen; control predators around breeding and release sites; and outplant native plant species known to be nene food sources. This Agreement will increase the likelihood that nene will recover by allowing the release of nene into suitable habitat on Maui currently unoccupied by nene. The biological goal of this Agreement is to establish a self-sustaining nene population, thereby expanding the species' range onto the Ranch and adjacent private and public lands containing suitable nene habitat. DLNR Division of Forestry and Wildlife (DOFAW) and Service biologists familiar with nene biology anticipate that the available habitat on the Ranch will provide the core areas for nene to become established with a long-term recovery goal of 75 nene on the Ranch.

At present, conservation efforts have succeeded in establishing populations of nene on the islands of Hawaii, Kauai, and Maui with an estimated statewide population of approximately 1,300 individuals (DOFAW, unpublished data, 2003). DOFAW and the Service in cooperation with Puu O Hoku Ranch have recently initiated nene reintroduction efforts on the island of Molokai. Currently, the primary threats to nene are predation by introduced predators, lack of suitable lowland habitats, and degraded habitat. This species cannot be recovered until its numbers and distribution are expanded throughout the State. On Maui, nene have been established in West Maui at Hanaula and in Haleakala National Park. One goal of the draft nene recovery plan is to reintroduce or introduce nene to new locations with suitable habitat and a successful approach for nene reintroduction has been to establish predator-resistant breeding/release pens in suitable habitat where there is sufficient food and ongoing predator control efforts (USFWS 1999). The pens are used for initial releases of goslings and are available in subsequent years as predator-protected areas for future generations to raise young. These efforts cannot be achieved by conservation agencies alone because it is believed there is some good nene habitat on private lands state-wide. A major step in the restoration of nene on Maui, therefore, is to encourage the presence of nene on private lands and participation of private landowners in recovery efforts. This Agreement provides assurances to the Ranch that additional conservation measures will not be required for the nene that will occur on the enrolled property as a result of the Ranch's voluntary efforts.

When signed, this Agreement will serve as the basis for the Service and DLNR to issue permits under ESA section 10(a)(1)(A) (Federal permit) and HRS §195D-4 (State license) for the incidental take of nene on the enrolled property. The Federal and State permits will authorize the Ranch to take all nene that have increased above the baseline established in this Agreement as a result of the Ranch's voluntary conservation activities. Permit issuance for take will not preclude the need for the Ranch to abide by all other applicable Federal, State, and local laws and regulations that may apply.

2. LIST OF COVERED SPECIES

This Agreement covers the endangered nene, or Hawaiian goose. Background information on nene is provided in Appendix I – Nene Species Description.

3. DESCRIPTION OF ENROLLED LANDS

The lands enrolled under this Agreement include two parcels located on the northern slopes of Haleakala, on the island of Maui, Hawaii, and is hereafter referred to as the “enrolled property” (Appendix II – Piiholo Ranch Safe Harbor Agreement Enrolled Property). The first parcel consists of approximately 686 acres and is designated as Maui Tax Map Key No. 2-7-15:13 and the second is approximately 87 acres, commonly known as the “Waiahiwi Property”, designated as Maui Tax Map Key No. 2-4-12:9. There are approximately 600 acres of non-native grassland habitat suitable for nene within the enrolled property and the Parties expect that nene may occupy all or a portion of that habitat. The land elevation ranges from 1,800 to 2,260 feet. Piiholo Hill is a significant location on the property with an elevation of 2,260 at its peak. The Soil Survey of Maui has identified the following soils on Piiholo Ranch, Makawao silty clay, 3 to 15 percent slopes, Rough broken land and Rock land. The dominant grass is kikuyu grass (*Pennisetum clandestinum*) and other grasses present are pangola grass (*Digitaria pentzii*), California grass (*Brachiaria mutica*), *Paspalum* spp., and broomsedge (*Andropogon virginicus*). The dominant legume is Spanish clover (*Desmodium incanum*) with minimal presence of trefoil (*Lotus uliginosus*). Cloverbush (*Tibouchina* spp.), fireweed (*Senecio madagascariensis*), and gorse (*Ulex europaeus*) are present but recent brush management efforts have reduced the populations of these invasive species on the Ranch. Guava (*Psidium* spp.), Christmas berry (*Schinus terebinthifolius*) and rose apple (*Syzygium jambos*) are present within the gulches. Several of these species are problematic invasive species and Ranch management activities are being conducted to control their spread.

The enrolled property is classified by the State Land Use Commission as Agricultural District land and was timbered beginning in 1860 and managed for grazing since 1918. Present operations include running a small cattle herd (175 cows) and eco-tourism (horseback tours 6 days per week; 2 to 3 tours per day.) Potential future uses include additional eco-tourism activities including, but not limited to, hiking, overnight camping in tents and/or cabins, and stagecoach rides. Non-native tree species may also be harvested and processed into lumber on the Ranch.

4. BASELINE DETERMINATION

The Parties agree that the baseline condition applicable to this Agreement is the number of nene currently found on the Ranch premises. Nene probably were extirpated on Maui by the end of the nineteenth century and today are found primarily within the boundaries of Haleakala National Park where reintroduction efforts began in 1962 (USFWS 1999). In addition, DOFAW is establishing a population in West Maui through a reintroduction program at Hanaula which began in 1995 (DOFAW 2000). There have been no known sightings of wild nene whatsoever on Ranch premises by either the local DOFAW biologist (J. Medieros, pers. comm. 2003) or Ranch staff (P. Baldwin, pers. comm. 2003). Therefore, the baseline for this Agreement is zero (0).

5. MANAGEMENT ACTIVITIES

Under this Agreement, the Ranch will construct and maintain a nene release pen and water source, control predators around breeding and release sites, and maintain or improve approximately 600 acres of nene habitat for a period of 10 years by continuing cattle ranching operations in a manner sensitive to the presence of nene, thereby maintaining open, short grass habitat. The Ranch will maintain or improve the ranch premises, which are considered to provide a significant amount of habitat that may be suitable for nene, throughout the duration of the Agreement, except in the event of a natural disaster such as a hurricane or severe drought. The Ranch will also assist DOFAW, whenever possible and to the extent resources are available, in carrying out its nene management activities on the Ranch. A reintroduction plan detailing release and monitoring strategies for nene at Piiholo Ranch is attached as Appendix III.

The Ranch agrees to carry out the following management activities during the term of the Agreement:

1. Construct a 200 x 200 foot, two-celled release pen and water source in coordination with DOFAW at the designated location within the first year of this Agreement and prior to any release of nene;
2. Maintain the release pen and water source throughout the term of the Agreement;
3. Allow the release of nene into the release pen, and, having sole and absolute discretion, consent to additional nene release and reintroduction activities at other areas on the Ranch premises during the term of this Agreement;
4. Feed (using food provided by DLNR), water, and monitor nene (as per instructions from DLNR) when they are in the pens (see Appendix III - Plan for the Reintroduction of Nene to Piiholo Ranch);
5. Fence and maintain an area of several acres surrounding the release pen for outplanting of recommended native plant species known to be nene food plants. Future management regime for this area may include the use of grazing and mechanical means to control vegetation;

6. Plant and maintain native plant species within the release pen using plants known to be nene food plants recommended by DLNR and the Service, and in the surrounding fenced area using species known to have existed in the area and reviewed by DLNR and the Service;
7. Conduct predator control in and around the release pen, and once nene become established outside of the pen, conduct predator control operations in and around breeding areas within Ranch premises (see Predator Control Methods section in Appendix III - Plan for the Reintroduction of Nene to Piiholo Ranch);
8. Avoid disturbance to nene nests until after the birds have hatched their eggs and adults have left the nest with their young to the maximum extent possible;
9. Prohibit game bird hunting within the enrolled property;
10. Refrain from feeding nene outside of the release pen; and
11. Prevent participants in eco-tourism activities from feeding nene or from approaching within 50 feet of the release pen when nene are present, and with the exception of the developed portions of the Ranch, within 50 feet of any active nene nests outside of the pen, or within 25 feet of non-nesting nene outside the pen.

6. OTHER RESPONSIBILITIES OF THE PARTIES

A. In addition to carrying out the management activities set forth in Section 5, the Ranch shall:

1. Report to DLNR and the Service within 10 days any nene mortalities, and as soon as possible any nene injuries, or disease observed on the Ranch premises throughout the term of the DLNR Incidental Take License and the Service Enhancement of Survival Permit. A plan to address injured nene and nene carcasses is attached as Appendix IV - Guidelines for Handling Injured Nene and Nene Carcasses;
2. Provide to DOFAW Maui Branch office a quarterly list of locations of nene sightings including the band numbers of banded individuals, if possible, and the number of unbanded individuals;
3. Assist DLNR with the annual count of nene on the Ranch premises;
4. Assist DLNR in responding to requests for assistance from immediate neighbors with reports of nuisance nene, or cases requiring nene rescue;
5. Notify DLNR and the Service within 30 days in advance of any planned land use practice (e.g., controlled burn, fencing, construction, tilling, hay operation, invasive plant control, etc.) which the Ranch reasonably anticipates will result in the incidental take of nene on the enrolled lands throughout the term of the DLNR Incidental Take License and Service

Enhancement of Survival Permit. The Ranch will also provide DLNR, possibly with the assistance of the Service, the opportunity to capture and/or relocate any potentially affected nene;

6. Notify DLNR and the Service at least 10 days prior to any planned activity occurring during nene breeding season (approximately October through March) that the Ranch reasonably anticipates will adversely affect any adult, nest or gosling throughout the term of the DLNR Incidental Take License and the Service Enhancement of Survival Permit, in order to allow DLNR personnel, possibly with the assistance of the Service, an opportunity to collect eggs and/or goslings in the area;
7. Prepare annual reports as per a format agreed to by the parties to cover the period from July 1st to June 30th every succeeding year and submit the report to the Parties by September 30th of each year the Agreement is in effect. The report will describe reintroduction and predator control efforts, any occurrences of take, the number and species of any outplantings completed, and monitoring efforts. The report should also include any recommended adaptive management strategies;
8. Provide a report on the status of the Ranch nene population to DLNR and the Service every 5 years after the Agreement terminates and throughout the term of the DLNR Incidental Take License and the Service Enhancement of Survival Permit;
9. Allow access to the enrolled property upon reasonable notice by DLNR and the Service for the purposes related to this Agreement, including any activities for which the party is responsible, including, but not limited to, monitoring, capture and relocation of nene, and predator control;
10. Work with DLNR and the Service in developing and implementing adaptive management strategies as appropriate; and
11. Notify potential buyers of the enrolled property of the Agreement and notify DLNR and the Service of any transfer of ownership as soon as possible, so they may contact the new owner and explain the habitat management and baseline responsibilities applicable to the enrolled property, and seek the interest of the new owner in signing the existing Agreement or developing a new Agreement to benefit listed species on the enrolled property;
12. Seek technical assistance from DLNR and the Service if considering habitat improvements for nene.

B. In consideration of the foregoing, DLNR agrees to:

1. Upon execution of the Agreement and satisfaction of all other applicable legal requirements, issue an Incidental Take License to the Ranch in accordance with HRS §195D-4 authorizing incidental take of the covered species as a result of lawful activities within the

enrolled property. The term of the license will be 50 years except as otherwise provided by this Agreement;

2. Assist Ranch with the construction and maintenance of a nene release pen and water source;
3. Assist Ranch with the provision of food and ensure there is an adequate supply of water for all nene within the release pen;
4. Provide physical examinations and necessary medical care for nene (see Appendix III - Plan for the Reintroduction of Nene to Piiholo Ranch, and Appendix IV - Guidelines for Handling Injured Nene and Nene Carcasses);
5. Release cohorts of banded nene in numbers necessary to establish a viable population in the area (see Appendix III - Plan for the Reintroduction of Nene to Piiholo Ranch);
6. Prior to release, band all nene released with an aluminum USFWS band and a uniquely coded color plastic band;
7. Assist Ranch with predator control activities within the limits of staff and funding resources;
8. Provide technical assistance, including recommendations regarding native plant species for outplanting, nene habitat improvements, etc., to the Ranch when requested throughout the term of the Incidental Take License, within limits of staff and funding resources;
9. Respond to requests for assistance from immediate neighbors with reports of nuisance nene, or cases requiring nene rescue;
10. Conduct an annual survey of Ranch premises, possibly with the assistance of the Service (see Appendix III - Plan for the Reintroduction of Nene to Piiholo Ranch);
11. Conduct monitoring and management activities in a manner not to interfere with the everyday operation of the Ranch;
12. Work with the Ranch and the Service in developing and implementing adaptive management strategies as appropriate;
13. Provide information to the Ranch for annual reports summarizing release and monitoring efforts; and
14. Review annual reports for compliance with the terms of this Agreement, including the results of biological monitoring data, adaptive management for subsequent years as appropriate, and track the increase of nene above baseline conditions and any authorized take of nene.

C. In consideration of the foregoing, the Service agrees to:

1. Upon execution of the Agreement and satisfaction of all other applicable legal requirements, issue an Enhancement of Survival Permit to the Ranch in accordance with ESA section 10(a)(1)(A), authorizing incidental take of the covered species as a result of lawful activities within the enrolled property. The term of the permit will be 50 years except as otherwise provided by this Agreement;
2. Provide the Ranch and DLNR technical assistance, including recommendations regarding native plant species for outplanting, nene habitat improvements, etc., to the maximum extent practicable, when requested throughout the term of the permit; and provide information on federal funding;
3. Assist the Ranch and DLNR with monitoring and management activities as needed;
4. Work with the Ranch and DLNR in developing and implementing adaptive management strategies as appropriate; and
5. Review annual reports for compliance with the terms of this Agreement including the results of biological monitoring data, adaptive management for subsequent years as appropriate, and track the increase of nene above baseline conditions and any authorized take of nene.

7. NET CONSERVATION BENEFIT

Based on the results from similar releases on Kauai and in West Maui, the duration of this Agreement is considered sufficient to establish an additional nene population on Piiholo Ranch. After an initial release of 32 birds in 1995 in the Kalalau Valley on Kauai, that population grew to a population of 70 as of 2002, and following an initial release of 22 nene in Hanaula in 1995 and supplemented with further releases, the population has also grown to just over 70 birds (DOFAW, unpublished data, 2003), therefore it is expected that the population on Piiholo Ranch should reach 75 birds over the 10-year Agreement period. It is expected that some percentage of the nene released under the Agreement, and their progeny, will survive upon expiration or termination of the Agreement and that a percentage of nene will remain on the property for the permit term and beyond. Adult birds may be able to seek out suitable habitat on their own outside the release area, while young birds may be available for translocation to other locations on Maui, if needed. The Parties reasonably expect this Agreement will result in an increase in the number of nene on Maui and an increase in the total area of suitable habitat on private lands utilized by nene. Without this cooperative government/private landowner effort, these lands would not otherwise be utilized by nene in the foreseeable future. It will also provide an example of a mutually beneficial relationship between government agencies and a private landowner to the benefit of an endangered species, and evidence that nene can coexist with current land use practices. Therefore, the cumulative impact of this Agreement and the activities it covers, which are facilitated by the allowable incidental take, will provide a net benefit to the species.

By extending the term of the Incidental Take License and Enhancement of Survival Permit beyond the terms of the Agreement, the Ranch may defer returning the property/species to baseline conditions when the Agreement expires. Nene will therefore, continue to benefit from any ongoing or residual conservation advantages for an additional 40 years. Furthermore, it offers flexibility to the Ranch who may be pleased with the results of managing for nene on their property, have no immediate need to return to baseline, and will be, therefore, interested in having nene on the Ranch premises for a longer period of time. The Ranch will notify DLNR and the Service in advance of conducting any activities which it anticipates will adversely affect any nene and also report any dead, injured or diseased birds during the term of the license and permit, as well as provide a report on the status of the population every 5 years after the Agreement expires for the term of the license and permit. DLNR and the Service will provide technical and other management assistance, within limits of funding, throughout the term of the license and permit.

8. AGREEMENT DURATION

This Agreement, including obligations of the Parties and any commitments related to the funding, become effective upon issuance by the Service of the Section 10(a)(1)(A) Permit and the State HRS ' 195D-4 Incidental Take License described in part 6 hereof, and will be in effect for 10 years following its approval and signing by the Parties. The Incidental Take License and Enhancement of Survival Permit will have terms of 50 years from their effective dates. The rights and obligations under this Agreement shall run with the ownership of Piiholo Ranch premises and are transferable to subsequent property owners in accordance with Code of Federal Regulations (CFR) 50 CFR 13.25 and HRS §195D-22(d).

The Agreement and permits may be extended beyond their specified durations by renewal prior to expiration without renegotiating the terms of the Agreement or through amendment, if the permits expire, with concurrence of the Parties.

9. ASSURANCES TO THE RANCH REGARDING TAKE OF COVERED SPECIES

Provided that such take is consistent with maintaining the baseline conditions identified in Part 4 hereof, the Section 10(a)(1)(A) Permit and HRS §195D-4 License referenced in Part 6 shall authorize the Ranch to take the covered species incidental to otherwise lawful activities in the following circumstances:

1. Implementing the management activities identified in Part 5 hereof.
2. Carrying out any lawful activity on or adjacent to the enrolled property after management activities identified in Part 5 have been initiated. The Ranch may continue current land use practices, undertake new ones, or make any other lawful use of the property, even if such use incidentally results in the loss of nene or their habitat covered under this Agreement so long as the terms of this Agreement are being properly implemented.
3. Authorize all take above the baseline when returning to baseline prior to license and permit expiration.

Without any limitation on the general nature of the incidental take authorized under this Agreement, Piiholo Ranch shall not be held responsible for any death or injury of nene resulting from a *force majeure* event. The term *force majeure* means events that are beyond the reasonable control of, and did not occur through the fault of negligence of, Piiholo Ranch, including but not limited to: "acts of God" or sudden actions of the elements, including fire, excessive rainfall, and drought. Should a *force majeure* event occur that results in injury or death of nene on the enrolled lands and the principals of the Ranch have actual knowledge of the event, then Piiholo Ranch shall report such an event to the Service and DLNR within 10 days of the occurrence.

In the event that the Ranch decides to transfer ownership of the enrolled property to another party(ies), the Ranch shall notify the Service and DLNR at least 30 days prior to the intended ownership transfer to allow the agencies the opportunity to contact the intended new property owner(s). Actions taken by the new property owner(s) that result in incidental take of species covered by the Agreement would be authorized, so long as the new property owner signs on to the Agreement and complies with the management actions identified in the Agreement and maintains baseline conditions.

10. MODIFICATIONS

After execution of this Agreement, DLNR and the Service may not impose any new requirements or conditions on, or modify any existing requirements or conditions applicable to, a landowner or successor in interest to the landowner except as stipulated in 50 CFR 17.22(c)(5) and 17.32(c)(5), and HRS §195D-22(c) and §195D-23(a).

A. Modification of the Agreement. Any Party may propose modifications or amendments to this Agreement as provided by 50 CFR 13.23 and HRS §195D-23, by providing written notice and obtaining the written concurrence of the other Parties. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The Parties will make their best efforts to respond to proposed modifications within 60 calendar days of receiving the notice. Proposed modifications will become effective upon the other Parties' written concurrence.

B. Amendment of the License and Permit. The license and permit may be amended to accommodate changed circumstances in accordance with all applicable legal requirements, including but not limited to the ESA, the National Environmental Policy Act, the Service's permit regulations at 50 CFR 13 and 50 CFR 17, and the State of Hawaii's regulations at HRS §195D-23. Any Party may propose amendments to the license and permit by providing written notice to the other Parties. Such notice shall include a statement of the proposed amendment, the reason for it, and its expected results. The Parties will make their best efforts to respond to proposed modifications within 90 calendar days of receiving the notice. Proposed amendments will become effective upon fulfillment of the legal requirements stated above.

C. Suspension or Revocation of the License and Permit. The Service may suspend or revoke the Federal permit for cause in accordance with the laws and regulations in force at the time of such suspension or revocation. The Service also, as a last resort, may revoke the Federal permit if continuation of permitted activities would likely result in jeopardy to covered species (50 CFR 13.28(a)). Prior to revocation, the

Service will exercise all possible measures to remedy the situation. The Board of Land and Natural Resources may suspend or revoke the State license for cause pursuant to HRS §195D-4(h).

D. Termination of the Agreement. As provided for in Part 12 of the Service's Safe Harbor Agreement Policy (64 FR 32717) and HRS §195D-22(b)(3) and HRS §195D-22(d), the Ranch may terminate implementation of the Agreement only after 5 years and before its expiration date for circumstances beyond the Ranch's control. In such circumstances, the Ranch may return the enrolled property to baseline conditions even if the management activities identified in Section 5 have not been fully implemented, provided that the Ranch gives DLNR and the Service the notification required by Part 6.A.5 above prior to carrying out any activity likely to result in the taking of covered species. If the Ranch terminates this Agreement for any other reason, or prior to its fifth anniversary, the license and permit referenced in Parts 6.B.1 and 6.C.1 above shall immediately cease to be in effect and extinguish the Ranch's authority to take the covered species. Thus, the Ranch must relinquish the license and permit to DLNR and the Service.

DLNR and the Service may suspend or rescind the Agreement if:

1. Any parties to the plan, or their successors, have breached their obligations under the plan or under any agreement implementing the plan and have failed to cure the breach in a timely manner, and the effect of the breach is to diminish the likelihood that the plan will achieve its goals within the time frames or in the manner set forth in the plan;
2. The plan no longer has the funding source specified in Section 11D or another sufficient funding source to ensure the measures or actions specified in Section 5 are undertaken;
or
3. Continuation of the permitted activity would appreciably reduce the likelihood of survival or recovery of any threatened or endangered species in the wild.

11. OTHER MEASURES

A. Remedies. Each party shall have all remedies otherwise available to enforce the terms of the Agreement, license and permit, except that no party shall be liable in damages for any breach of this Agreement, any performance or failure to perform an obligation under this Agreement, or any other cause of action arising from this Agreement.

B. Dispute Resolution. The Parties agree to work together in good faith to resolve any disputes, using dispute resolution procedures agreed upon by all Parties.

C. Succession and Transfer. If the Ranch transfers interest in the enrolled property to a non-Federal entity, DLNR will regard the new owner as having the same rights and responsibilities with respect to the enrolled property as the Ranch. Following receipt of an application by the Service from the new owner for a permit transfer, and provided that the new owner commits in writing to become a party to this Agreement and permit referenced in Section 6.C.1 above in place of the Ranch, the Service will transfer the permit and

regard the new owner as having the same rights and responsibilities with respect to the enrolled property as the Ranch.

D. Availability of Funding. DLNR's activities associated with the release and management of nene on the Piiholo Ranch will be funded by DLNR. The development costs of the initial nene pen and water source, and the predator control program will be covered by a Landowner Incentive Program (LIP) Grant, grant I-2-1 from the Service. Future maintenance, e.g., salaries, will be covered by State of Hawaii General Fund LNR 402 Appropriations and possibly from Federal funds from either Section 6 or Pittman-Robertson grants. Salaries and operating funds for Ranch personnel for maintenance and nene management activities will be provided by the Ranch.

Implementation of this Agreement is subject to the requirements of the Federal Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury or the State of Hawaii. The Parties acknowledge that the Service and DLNR will not be required under this Agreement to expend any Federal or State agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

E. Relationship to Other Agreements. The development costs of the initial nene pen and water source, and the predator control program will be covered by a Landowner Incentive Program Grant, grant I-2-1 from the Service.

F. No Third-party Beneficiaries. This Agreement does not create any new right or interest in any member of the public as a third-party beneficiary, nor shall it authorize anyone not a party to this Agreement to maintain a suit for personal injuries, damages, injunctive or other relief pursuant to the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third parties shall remain as imposed under existing law.

G. Other Listed Species, Candidate Species, and Species of Concern. Although the Service and DLNR regards it as unlikely, the possibility exists that other listed, proposed, or candidate species, or species of concern may occur in the future on the enrolled property as a direct result of the management activities specified in Section 5 above. If that occurs and the Ranch so requests, the Parties may agree to amend the Agreement and associated license and permit to cover additional species and to establish appropriate baseline conditions for such other species.

H. Notices and Reports. Any notices and reports, including monitoring and annual reports, required by this Agreement shall be delivered to the persons listed below, as appropriate. Names and addresses may be changed by written notice to all Parties.

Peter Baldwin
Piiholo Ranch, LLC
55 South Wakea Ave.

Kahului, HI 96732-1303

Field Supervisor
Pacific Islands Fish and Wildlife Office
U.S. Fish and Wildlife Service
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Honolulu, Hawaii 96850

Michael Buck
Administrator
Hawaii Department of Land and Natural Resources
Division of Forestry and Wildlife
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David Allen
Regional Director
U.S. Fish and Wildlife Service
911 NE 11th Avenue
Portland, OR 97232-4181

12. REFERENCES CITED

Division of Forestry and Wildlife (DOFAW). 2000. Survey of the nene population on Maui. *Elepaio* 60:25-28.

U.S. Fish and Wildlife Service. 1999. Draft Revised Recovery Plan for Nene or Hawaiian Goose (*Branta sandvicensis*). U.S. Fish and Wildlife Service, Portland, OR. 60 pp.

IN WITNESS WHEREOF, the Parties hereto have executed this Safe Harbor Agreement as of the first date above written.

PIIHOLO RANCH, LLC

By: _____

Date: _____

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

By: _____

Peter T. Young, Chairperson
Board of Land & Natural Resources

Date: _____

**U. S. DEPARTMENT OF INTERIOR, FISH
AND WILDLIFE SERVICE**

By: _____

David Allen, Regional Director, Portland,
Oregon

Date: _____

APPROVED AS TO FORM

Deputy Attorney General
State of Hawaii

List of Appendices:

- Appendix I. Nene Species Description.
- Appendix II. Piiholo Ranch Safe Harbor Agreement Enrolled Property
- Appendix III. Plan for the Reintroduction of Nene to Piiholo Ranch
- Appendix IV Guidelines for Handling Injured Nene and Nene Carcasses.

Appendix I. Nene Species Description

The nene, or Hawaiian goose (*Branta sandvicensis*), is a medium-sized goose that is closely related to the Canada goose (*Branta canadensis*) (Quinn et al. 1991). It is the only remaining native resident goose in the Hawaiian Islands (Banko et al. 1999, Olson and James 1991). The plumage of both sexes is similar, though it is possible to distinguish between males and females, in part because females are smaller than males (Kear and Berger 1980). The nene is one of the most threatened and isolated and also one of the most sedentary and terrestrial of waterfowl species in the world (Banko et al. 1999, Weller 1980). This endemic goose is the state bird of Hawaii.

Distribution

Fossil evidence indicates that before and during Polynesian colonization (around 1,600 years before present), nene occurred on all of the main Hawaiian Islands, with the exceptions of Oahu and possibly Niihau (Banko et al. 1999, Kirch 1985, Olson and James 1991). At the time of the arrival of Europeans in 1778, nene were known with certainty only from the island of Hawaii, though they may have still occurred on Maui and Kauai (Baldwin 1945, Henshaw 1902, Wilson and Evans 1893). A decline of the species on the island of Hawaii was noted by observers in the early 1800s as birds were extirpated from lowland habitats (Baldwin 1945, Fisher et al. 1969) and by 1952, the wild population was estimated to be 30 birds (Smith 1952). Populations on the higher islands (>1,600 m in elevation) probably persisted longer than on lower islands because of the availability of larger tracts of habitat and remote rugged upland areas that made hunting and predation by introduced species less intense (Banko et al. 1999, Olson and James 1991).

Conservation measures emphasizing captive breeding were begun around 1949 and birds have been released into the wild since 1960 (Banko et al. 1999). Early release efforts were not very successful due to high mortality rates and low nesting success of the released nene (Banko 1992, Black et al. 1997). Since then, efforts to manage habitat at release and breeding sites, including predator control, supplemental food in drought years, native habitat restoration, etc., in addition to public education and continued releases, have aided the nene recovery program (Banko et al. 1999). Populations of nene currently exist on the islands of Hawaii, Kauai, and Maui with an estimated statewide population of 1,300, with around 525 found on Kauai, 315 on Maui, 400 on Hawaii, and 55 on Molokai (DOFAW, unpublished data 2003.) All nene populations have been supplemented by captive-bred birds.

On Maui, nene probably were extirpated by the end of the nineteenth century and today are found primarily within the boundaries of Haleakala National Park at elevations of 6,300-7,700 feet (Banko et al. 1999, Henshaw 1902, USFWS 1999). Captive-bred birds were first released on East Maui in 1962, and the Haleakala population has apparently been stable at about 200-250 birds for the last 8-10 years; the total population on Maui is about 270-320 birds (USFWS 1999). Wild nene populations outside of the park have been observed in the Kula, Olinda, Wailuku, Kihei, and Kahikinui areas on the outer slopes of Haleakala Crater. The State of Hawaii Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW) is attempting to establish a second nene population on West Maui by releasing captive-bred birds at Hanaula. Today, nene on West Maui number about 70, and nene are occasionally observed in areas around Lahaina and Wailuku (DOFAW, unpublished data, 2003).

According to the Service's draft nene recovery plan (U.S. Fish and Wildlife Service 2002a), actions needed for recovery include predator control, identification and protection of habitat within the species' historic

range, management of existing populations, and establishment and management of new populations for maximum productivity, survival, and behavioral and genetic diversity. Self-sustaining populations will be needed on Hawaii Island, Maui Nui (including the islands of Maui, Molokai, and Lanai), and Kauai. To downlist nene to threatened status, Service objectives include establishing a population of 600-800 on Maui Nui, with one large population of about 300 on East Maui and subsidiary populations on Molokai, Lanai, and West Maui. The recovery plan recognizes some of these populations will need to be established and managed on private lands.

Threats

The nene was listed as a Federally endangered species in 1967 (32 FR 4001) and is considered one of the most endangered goose species in the world (Black 1998, Green 1994). Critical habitat was not designated for this species. A nene restoration program was initiated in 1949 and captive-bred birds have been released into the wild since 1960 (Kear and Berger 1980, USFWS 1999). The Zoological Society of San Diego currently manages the nene captive propagation program in Hawaii. All current populations of nene are partly maintained through releases of captive-bred birds (Black and Banko 1994).

Human activity has impacted nene since settlers first landed on the Hawaiian islands. Hunting nene for food probably caused a substantial decline of birds in lowland habitats while extensive burning and agricultural activities changed habitat conditions for nene, introduced plants and non-native ungulates altered and often degraded the habitat, and introduced mammalian predators (mongooses, dogs, cats, rats, and pigs) preyed on nene, their eggs or goslings (Banko and Elder 1990, Henshaw 1902, Baldwin 1945, Wilson and Evans 1893). These activities also had indirect negative effects including driving nene to marginal upland areas and changing migration patterns, flocking behaviors, and utilization of food items. Currently, the primary threats to nene are introduced predators, lack of lowland habitats, and degraded habitat.

Habitat Types

Nene are reported to utilize a variety of habitats from sea level to 8,000 feet above mean sea level including coastal dunes and non-native grasslands (such as golf courses, pastures and rural areas), sparsely vegetated low and high elevation lava flows, cinder deserts, native alpine grasslands and shrublands, open native and non-native alpine shrubland-woodland, as well as mid-elevation native and non-native shrublands and early successional cinderfall (USFWS 1999). However, their present distribution was highly influenced by the location of release sites for captive-bred nene and nesting generally occurs in areas associated with release sites (Banko 1988, Banko et al. 1999, USFWS 1999). It is unlikely that nene used native grasslands, grassy shrublands and dryland forest prehistorically (Banko et al. 1999).

Little is known about the vegetation structure, dynamics, and composition of Hawaiian habitats, especially in the lowlands, prior to human contact. However, more recent archaeological work is improving our understanding of the environmental history of Hawaii, including species composition and this is likely to aid in habitat restoration efforts for all native species, including nene (Banko et al. 1999, Burney et al. 2001, Cuddihy and Stone 1990). Nene have shown flexibility in the utilization of alien plants and readily forage on introduced grasses and other plant species, however, low productivity is believed a problem in nene populations due to insufficient protein intake in their diet and there are also concerns about whether adequate nutrition is available for goslings (Baker and Baker 1995, Banko et al. 1999, Black et al. 1994). Recent studies of habitat use and on the nutritional value of various food items eaten by nene, including

native and non-native plants, will aid in determining methods for converting predominantly non-native plant communities into habitats dominated by native plants that are capable of sustaining nene populations in appropriate areas agreed on by nene managers and stakeholders (Banko et al. 1999, Black et al. 1994, Hu 2000, USFWS 1999, Woog 2000).

Breeding Habitat

Early accounts of nene biology suggest that they nested primarily in uplands (Dole 1869, 1879, Peale 1848). Nene nested primarily in leeward lowland habitats (under 700 meters) during the rainy season when winter rains caused new growth of food plants and it is thought that the warmer low elevation areas improved nesting success and gosling survival (Baldwin 1947, Banko 1988, Henshaw 1902, Munro 1944, Perkins 1903).

Nesting typically occurs between October and March although eggs have been laid from August to April (USFWS 1999). Nene nests are constructed on the ground and are typically a shallow scrape, lined with a variety of plant material and feather down, and are well hidden under vegetation. Mostly native species are available and used to nest under on Maui and Hawaii, but on Kauai mostly non-native species are available and used (Banko et al. 1999). The presence of open or flowing water is not necessary for successful breeding, although nene will readily utilize water when available (USFWS 1999).

Diet

Although nene don't migrate long distances as many other geese do, historically, they exhibited altitudinal migration in response to seasonal changes in food availability. As noted above, nene nested in lowland areas during the rainy season. In the summer, after the goslings had fledged and could fly, nene moved to upland areas around the time when some foods (berries and some grasses) were more abundant there than in the lowlands (Baldwin 1947, Banko et al. 1999, Henshaw 1902).

Nene are browsing grazers and forage on a variety of over 50 native and introduced plants. The majority of food items nene graze on include various fruits of several species of shrub, leaves and seeds of grasses and sedges, and leaves and flowers of various herbaceous composites (Baldwin 1947, Banko et al. 1999, Black et al. 1994, USFWS 1999). Nene are opportunistic in their choice of food plants and the composition of their diet depends largely on the composition of the vegetation in the habitat and since most habitats in Hawaii are highly altered, there is a high proportion of non-native foods to which nene have apparently adapted to foraging on (Banko et al. 1999, Black et al. 1994, USFWS 1999, Woog 2000). It seems apparent that this adaptability has allowed nene to survive in marginal habitats to which they were pushed as their traditional habitats were lost (Banko et al. 1999, Black et al. 1994). However, observers have expressed concern regarding whether the modified habitats are truly providing adequate nutrition for breeding females and for goslings and it is hoped that work on a nene food database and other research efforts will be useful in developing habitat restoration techniques and management efforts for nene recovery work (Baker and Baker 1995, Banko 1992, Banko et al. 1999, Black et al. 1994, Hu 2000, USFWS 1999, Woog 2000).

Some native foods that have been shown to have a high occurrence in nene droppings include ohelo (*Vaccinium reticulatum*) and pukiawe (*Styphelia tameiameia*) berries, and hair grass (*Deschampsia nubigena*) (Baldwin 1947, Black et al. 1994). Some non-native plants that are frequently used as forage

by nene include Kikuya grass (*Pennisetum clandestinum*), Yorkshire fog or mesquite grass (*Holcus lanatus*), rattail grass (*Sporobolus africanus*), and gosmore (*Hypochoeris radicata*) (Black et al. 1994).

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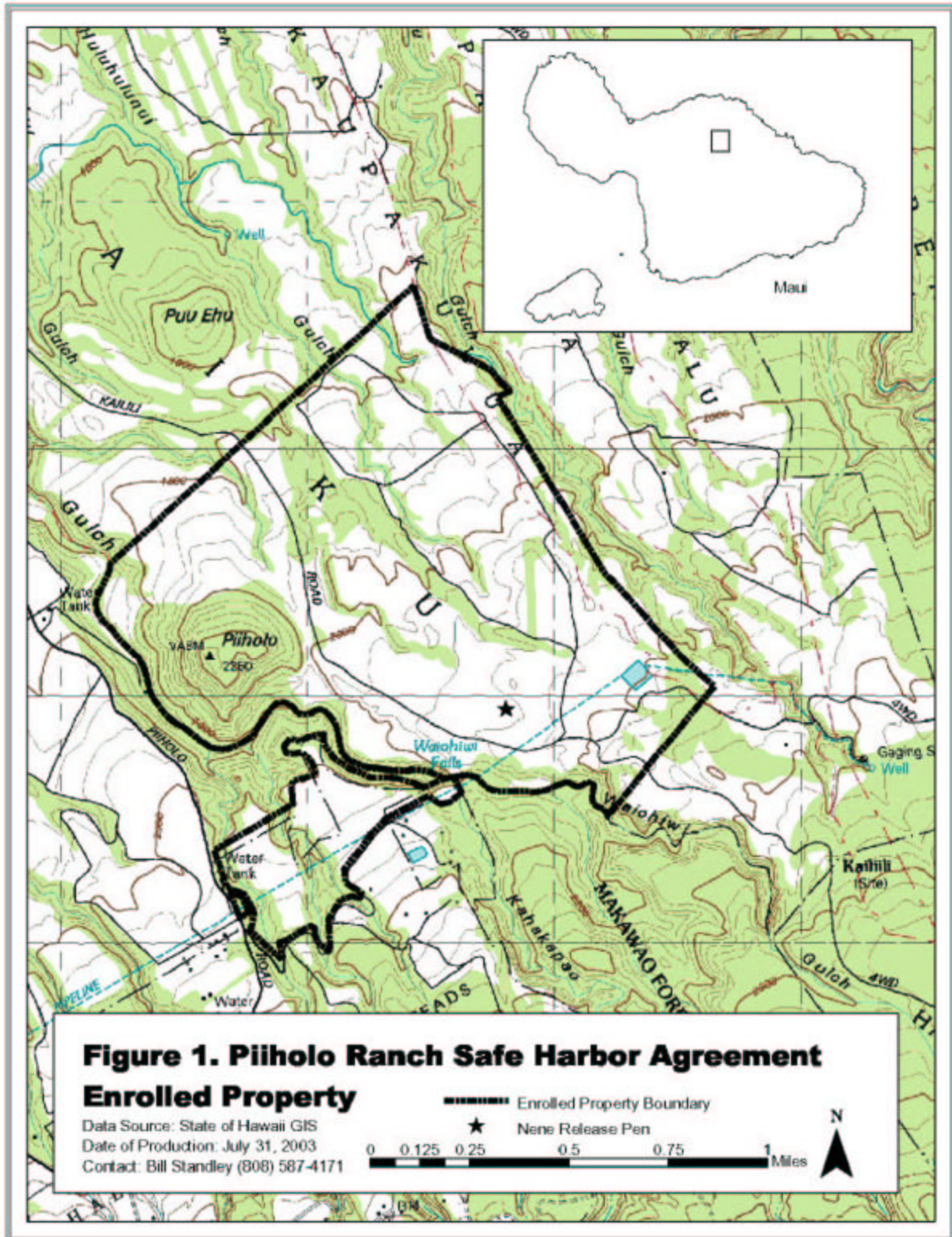
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Appendix II. Piiholo Ranch Safe Harbor Agreement Enrolled Property



Appendix III. A Plan for the Reintroduction of Nene to Piiholo Ranch

I. Introduction

Nene, or Hawaiian goose, (*Branta sandvicensis*) currently inhabit upland scrub and grass pastures in Hawaii on the islands of Kauai, Maui, and Hawaii. On March 11, 1967, the nene was federally listed as endangered due to its low numbers and lack of self-sustaining populations. Predation and commercial hunting were major contributors to the historic decline of nene.

Between 1960 and 1980, approximately 2,000 nene were released into upland habitats on Hawaii and Maui. These releases failed to produce self-sustaining populations. Since then, research has indicated that predation from mongooses, feral dogs, and rats is a primary reason for the lack of recovery of nene. On the mongoose-free island of Kauai, the rapid expansion of nene into lowland pastures following a release in 1982 provided further evidence on the import of mongooses in limiting the recovery of nene.

Since the early 1990's, the approach to nene recovery in Hawaii has been to increase the range of nene by releasing goslings with "foster parents" in suitable nene habitat where predator control can be implemented. In keeping with this recovery strategy, nene have been released at Kilauea Point National Wildlife Refuge and on the Na Pali Coast on Kauai, creating two additional population centers on that island. A new population has also been established on West Maui and at Hakalau National Wildlife Refuge on Mauna Kea. Since 2001, the State Division of Forestry and Wildlife (DOFAW) has been reintroducing nene to Molokai at Puu O Hoku Ranch. This project intends to establish an additional population on Piiholo Ranch. Observations from Kauai indicate that actively managed cattle ranches provide suitable conditions for nene: well-managed pasture promotes the growth of young grass shoots—an important food resource for nene (Woog 2000); and feral dogs, a major predator on adult and juvenile nene, are actively controlled on cattle ranches.

II. Reintroduction Strategy for Piiholo Ranch

Releases will be conducted by DOFAW personnel in coordination with Ranch personnel and Ranch activities. When birds are in the release pens, monitoring of the pens and adjacent areas will be conducted weekly, concurrent with feeding and predator control activities. Following fledging, survival of released birds will be monitored twice monthly for at least 3 months. During the breeding season (typically October to March or April), monthly surveys will be conducted to locate and monitor nesting sites. An annual survey of the Ranch premises will be conducted between May and August with the assistance of the Ranch and possibly with the assistance of the Service. Telemetry will be used to locate nene and track their movements. Radio-transmitters will be attached to one or two nene of each group released once known pairs are established. Transmitters will be attached using the standard "backpack" developed by DOFAW biologists for use on nene in Hawaii. In order to permanently identify nene, prior to their release, goslings will receive microchips inserted by the DOFAW endangered species avian veterinarian.

III. Procedure for Releases

1. Foster parents and captive-reared goslings will be given a physical examination by DOFAW's avian veterinarian prior to release. Each released bird will be individually marked with an aluminum USFWS

band, a uniquely coded color plastic band, and an imbedded microchip inserted by DOFAW's avian veterinarian. The following information will be recorded for each of the captive bred released birds:

Current Status - Vital Statistics (sex, age);

Origin of parental stock;

Source - Captive or wild, birth location, rearing history, sire ID, and dam ID;

Transaction History - Hatch date, Transfer date, Release date;

Special Data and Comments - Tag/Band no. (both State and Federal), Weight at release, and Microchip No.

2. Captive-reared goslings will be placed in release pens at least 2 to 3 weeks prior to fledging. This is needed to establish site fidelity. If the release is delayed and goslings are flighted, the goslings will still remain in the release pen for at least 2 to 3 weeks. This will be accomplished by either clipping their flight feathers or covering the release pen with netting.

3. Foster parents will be maintained in the release pen. These birds will have had some flight feathers clipped so they are rendered flightless until they molt the following March. At that time, nene may be allowed to fly free or kept flightless by clipping their flight feathers.

4. As long as nene are in the release pens, pens will be monitored at least once a week to ensure the integrity of the pen fence, ensure that food and an adequate supply of water are available, and monitor for disease or injury to the penned birds. Poultry feed will be provided on a continuous basis via an automatic feeder. Water will be provided from a water trough that is safe for goslings and a small portable pond. Efforts will be made to prevent nene from acclimating to human presence to the maximum extent practicable.

5. Eight to fifteen goslings, the optimum number for foster parents to handle, will be released at a time.

6. Ten to twenty goslings will be released each year for the first 3 years. Prior to the fourth year, the situation will be assessed to determine whether the schedule of aggressive releases should be continued at Piiholo Ranch. This decision will be based on the level of dispersion of released goslings, survival, and nesting success rates.

IV. Genetic Considerations

Genetic diversity has been a major consideration in all of the releases conducted by DOFAW since the 1990s (USFWS 1999). Although the history of current populations of wild nene and captive flocks are fairly well known, very little actual research into the genetic diversity and relatedness of nene in Hawaii has been conducted. By the 1950s the nene in Hawaii had experienced an extreme genetic bottleneck, with only approximately 30 wild nene remaining by 1951 (Smith 1952). The initial birds maintained at Pohakuloa, Hawaii and Slimbridge, England came from the remaining 11 members of a flock that Herbert Shipman had reared in 1918 from 2 pairs of nene. A few wild birds were added to the Pohakuloa and Slimbridge flocks within the next 20 years.

The wild nene in Hawaii today consist of progeny of the wild birds remaining on Hawaii in the 1950's; birds released from Pohakuloa and Slimbridge in the 1960's through 1980's and their progeny; and more recently, birds released from the Maui Bird Conservation Center (MBCC) facility and their progeny. Maintaining a captive flock is the best way to manage genetic diversity of birds raised for release.

The source of birds for release on Piiholo Ranch is the MBCC facility and they are the most diverse mixture of genetic stock of captive birds available, based on the little genetic information that is known.

V. Predator Control Methods

Predator control methods will be developed in coordination with the Ranch throughout the term of the Agreement. The Ranch will conduct predator control in and around the release pen, and nene nesting areas outside of the pen, and DOFAW personnel will assist when available. Any domestic or licensed animals will be returned to the owner, if known, or turned over to the Animal Shelter for proper disposal. Wild and feral predators will be destroyed in a humane manner.

Trapping at release pens will be initiated after the perimeter of the release pen is constructed and secure. Initial trapping will be conducted in the pen to ensure that it is predator free. Prior to the first release of nene, intensive trapping will be conducted around the exterior of the pen to a distance of approximately 30 feet. Traps used will be of a design intended to primarily capture mongooses and rats, but are also capable of capturing cats.

During breeding season, traplines will extend around the perimeter of the release pen and at known nesting areas outside the pen. These traplines will run for at least 2 months, to include the period from egg-laying through fledging, and will be extended to cover any additional breeding activity. All trapping data will be reported on a trapping form which will be completed every week by Ranch personnel. These forms will be evaluated semiannually to determine effectiveness of the trapline using the corrected trap success formula (Nelson and Clark, 1973): $\text{corrected trap success} = \frac{\text{captures}}{(\# \text{traps set} - \text{half } \# \text{traps sprung}) \times \text{ nights set}} \times 100$. Numbers of predators trapped will also be assessed over time. However, this may not be a reasonable estimate of effectiveness due to the influx of rats and mongooses from outside the trapping area. If other predators (e.g., feral dogs) are found to be preying on nene on the Ranch, additional control methods will be conducted as appropriate and agreed to by the Parties. Any use of licensed toxicants will be conducted according to label restrictions.

VI. Monitoring Protocols

Survival of Released Birds - All released birds will be banded with aluminum USFWS band and a color-coded plastic band prior to release, and will be carrying an inserted microchip to track movements and survival rates. These marking systems will allow us to identify live nene at a distance and nene carcasses. Of each group of nene released, one or two (preferably males) will be fitted with transmitters to easily track movements. The radio-transmitters will be attached once known pairs are established. Ranch personnel will monitor released nene twice per week during the 2-week period immediately following release. Thereafter, monitoring of the pen and adjacent areas will be conducted on a weekly basis by Ranch personnel. DOFAW personnel will monitor released nene twice per month during the 3-month period

following each release. The Ranch will provide DOFAW a monthly list of nene sightings which will include the band numbers, if possible, and the number of unbanded individuals. Handling of injured and dead nene will be done in accordance with Appendix IV of the Piholo Ranch Safe Harbor Agreement, "Guidelines for Handling Injured Nene and Nene Carcasses.

Annual Survey - An annual survey will be conducted between July and August of each year by Piholo Ranch and DOFAW personnel, possibly with the assistance of the Service, on the 600 acres of maintained nene habitat on the Ranch and any other areas nene have been observed on the Ranch. Information will be analyzed to determine movements, nest success and distributions. Annual surveys will also be utilized to determine population estimates.

Condition of Habitat - Sample photo plots will be established in the vicinity of the release pen as a means of monitoring conditions of the habitat and outplantings. The plots will be marked by a 5' iron pin with an arrow indicating the direction of the photo plot. Photos of the plots will be taken annually.

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Woog, F. 2000. Ecology and behavior of reintroduced Hawaiian geese. Ph.D. dissertation, Universität Hannover, Germany.

Appendix IV. Guidelines for Handling Injured Nene and Nene Carcasses

The purpose of these guidelines is to provide Piiholo Ranch personnel with sufficient information to correctly determine the disposition of injured nene and carcasses that they encounter on lands owned by the Ranch. The Maui District Wildlife Manager, Hawaii Division of Forestry and Wildlife (DOFAW), should be contacted for assistance at 808-984-8100. If DOFAW personnel on Maui are unavailable, the State Wildlife Program Manager in Honolulu should be contacted at 808-587-4176. Ranch personnel also may contact the Service's Pacific Islands Fish and Wildlife Office, Conservation Planning and Permits Program, at 808-792-9400. All injured or dead birds found on the ranch must be noted in the Ranch's annual report.

Criteria for Handling Injured or Ill Birds

If the bird can fly, do not remove it from the field. Notify DOFAW personnel as soon as possible. Continue to monitor the bird if possible. Record the following information, and photograph the bird (if possible):

- Date
- Location
- Band numbers (if banded)
- Condition of bird (e.g., type of injury). Be specific in describing injury (left vs. right, where exactly on bird is the injury.) Also indicate if a predator is evident in the vicinity and all measures to eliminate the predator should be taken.
- Additional comments
- Name, address, and telephone number of observer

If an injured or ill bird cannot fly, do not remove it from the field. Notify DOFAW personnel as soon as possible. Mark the area and monitor the bird if possible until DOFAW personnel arrive.

Injured nene may be captured only by personnel trained and authorized for the capture and collection of live birds.

Criteria for Collecting Nene Carcasses

All nene carcasses will be collected for necropsy in order to determine cause of death, where possible, and to provide information about the species' general movements.

If a dead bird is found and determined to be fresh (within 48 hours of death), put the carcass in a sealed plastic bag and place that sealed bag inside another plastic bag (*i.e.*, double bag), place in a freezer or on ice, and contact DOFAW personnel. If unable to contact DOFAW within 48 hours, keep the double-bagged specimen in a freezer or on ice until it can be collected for necropsy.

If a carcass is obviously in a state of decay place the bird in a sealed plastic bag in freezer and notify DOFAW personnel as soon as possible. Birds will be collected by DOFAW personnel.

Record the following information for all dead birds:

- Date
- Location (collection site)
- Band numbers (if banded)
- Condition of bird (e.g., type of injury)
- Whether the bird was found dead or died subsequently
- Additional comments
- Name, address, and telephone number of observer