

## FINDING OF NO SIGNIFICANT IMPACT AND DECISION

TO

### Remove Feral Goats and White-tailed deer from Culebrita Island, Luis Peña Cay and Peninsula Flamenco at the Culebra National Wildlife Refuge, Culebra, Puerto Rico

June 7, 2023

**Proposed Action and Alternatives:** The U.S. Fish and Wildlife Service (Service) National Wildlife Refuge System will remove feral domestic Spanish goats (*Capra aegagrus hircus*) and White-tailed deer (*Odocoileus virginianus*) populations on Culebrita Island, Luis Peña Cay and Peninsula Flamenco, part of the Culebra National Wildlife Refuge (NWR). The removal of invasive species is part of the habitat management and dry forest restoration for resident and migratory birds, threatened and/or endangered species, as well as for other species of concern.

The proposed removal of goats and deer will be conducted by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service, Wildlife Services (WS) Program, as the lead federal agency responsible for managing conflicts between people and Wildlife (WS Directive 1.201). USDA APHIS is also part of the Island Restoration National Memorandum of Understanding (<https://ecos.fws.gov/ServCat/Reference/Profile/48715>) developed among federal agencies and non-government organizations to work together more strategically on restoring islands through invasive species removals.

The WS will be implementing removal through a variety of control and eradication techniques that may involve trapping and specialized removal techniques. Before allowing these actions, the Service must analyze the potential impacts of such removal activities on refuge resources. The Service has adopted the Environmental Assessment (EA), “Managing Damage Caused by Mammals and Reptiles Species in Puerto Rico,” prepared by the WS in consultation with the Puerto Rico Department of Natural and Environmental Resources. This EA analyzed the potential environmental effects caused by several alternative approaches to managing mammalian and reptilian damage (USDA 2021).

The WS-EA considered four alternative approaches based on the need for action and in response to requests for assistance that WS receives to manage damage and threats of damage caused by non-native mammal and reptile species in Puerto Rico (target species): (1) WS would continue the current integrated methods approach to managing damage caused by target species in Puerto Rico; (2) WS would continue the current integrated methods approach to managing damage caused by target species in Puerto Rico using only nonlethal methods; (3) WS would recommend an integrated methods approach to managing damage caused by target species in Puerto Rico through technical assistance only; and, (4) WS would not provide any assistance with managing damage caused by target species in Puerto Rico.

Alternative 1 serves as the baseline for the analysis and the comparison of expected impacts among alternative approaches. With Alternative 2, WS would continue the current integrated methods approach to managing damage caused by target species in Puerto Rico using only nonlethal methods. According to the EA, the use of nonlethal methods would have minimal effects on those species because animals would generally be unharmed. Nonlethal methods that disperse and/or exclude mammals and reptiles would not be employed over large geographical areas or applied at such intensity that essential resources (e.g., habitat, sources of food) would be unavailable for extended durations or over such a wide geographical scope that long-term adverse effects would occur to the population of a species. Alternative 3 recommended an integrated methods approach to managing damage caused by target species in Puerto Rico through technical assistance only. Technical assistance would provide those cooperators experiencing damage or threats of damage associated with target species with information, demonstrations, and recommendations on available and appropriate methods available. The implementation of methods and techniques to alleviate or prevent damage would be the responsibility of the requester with no direct involvement by WS. If WS implements Alternative 3, WS would have no direct effect on target species populations because WS's personnel would not provide direct operational assistance. The implementation of Alternative 4 would have no effect on the population of mammal or reptile species because WS would not provide any assistance when the request for assistance involved those mammal and reptile species addressed in the EA. WS would not conduct any activities in Puerto Rico involving those target species addressed in the EA.

The introduction of invasive species usually results in direct and indirect harm to island species by predation, competition, or alteration of habitat. At the Culebra NWR, other Alternatives especially Alternative 4, would likely result in adverse impacts to seabirds and dry forest habitat. Luis Peña Cay is a 307-acre island where a significant White-tailed tropicbird colony is located (approximately 16-20 nests/year). Red-billed tropicbirds and Audubon's shearwater have been observed on this cay as well. The introduction of goats has caused, as they graze the vegetation on the cliffs, soil erosion contributing to the sediment load in waters surrounding the cay, affecting coral reefs, seagrass and consequently inshore fish stocks that could provide foraging areas for seabirds. At the same time, dry forest habitat has been affected by the presence of these species in Culebrita Island and the implementation of various recovery actions for threatened/endangered species, as well as other habitat restoration activities have been detrimentally affected. On Flamenco Peninsula, goats and deer are on the list of the many invasive species that have been reported to affect nesting Sooty tern's reproductive success by trampling nests, killing young and adult birds, and/or causing colony abandonment.

**Selected Action:** Alternative 1 was the proposed and selected alternative approach. If WS implements Alternative 1, WS would be able to assist, as requested, when people experience damage or threats of damage associated with those target species addressed in the EA. Implementation of the selected alternative would allow WS to continue the current integrated methods approach to managing damage caused by target species in Puerto Rico. WS personnel have experience with managing animal damage and receive training in the use of methods, as

subject matter experts. If WS implements Alternative 1, WS staff would use the WS Decision Model to select the most appropriate methods to address damage caused by goats and deer and to reduce risks to nontarget animals. After carefully reviewing the final EA to meet the need for action and input resulting from the public involvement process, WS found Alternative 1 to be environmentally acceptable, addressing the issues and needs while balancing the environmental concerns of management agencies, landowners, advocacy groups, and the public. The analyses in the EA adequately address the identified issues, which reasonably confirm that no significant impact, individually or cumulatively, to animal populations or the quality of the human environment are likely to occur from implementing Alternative 1.

The Finding of No Significant Impact (USDA 2021) stated that the implementation of Alternative 1 would best address managing damages using a combination of the most effective methods and does not adversely impact the environment, property, human health and safety, target species, and/or nontarget species, including threatened or endangered species. The removal of feral goats and deer from these 3 units of the Culebra NWR will provide the opportunity for dry forest habitat species recruitment and restoration, protection of threatened and endangered species, increase nesting seabirds' reproduction success and implement restoration activities for federally and Commonwealth listed species.

### **Refuge Goals, Objectives, and Resources:**

The purpose of the refuge and the mission of the Refuge System are fundamental to determining the goals and objectives of the proposed management action for the Culebra NWR. Both Refuge System mission and the purposes of the refuge include habitat restoration by using several approved and proven management tools including invasive species treatment. The mission of the Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans" (National Wildlife Refuge System Improvement Act of 1997).

The Culebra NWR was established by Executive Order 1042, dated February 27, 1909. This document stated that the designated area provides "... a refuge and breeding ground for native birds." Additional purposes were identified when administration of the land was transferred to the Service because of its "...particular value in carrying out the national migratory bird management program." (Migratory Bird Conservation Act of 1929, 16 U.S.C. § 715d).

Management actions for the Culebra NWR are guided by the Comprehensive Conservation Plan (CCP) provides long-term guidance for management decisions; sets forth goals, objectives, and strategies needed to accomplish refuge purposes. This Plan, approved in 2012, proposed the development of an invasive control project to accomplish the habitat management goal. In this Plan, the need to intensify efforts at invasive species control and eradication and to pursue opportunities for habitat restoration and species recovery to maximize the potential for nesting success of native and migratory species on these islands is recognized (Objective 2.5). This

section mentions overall strategies, including the development of a control program when adverse impacts to species of management concern are identified. Objectives and Strategies linked to this project are 1.1.c, 1.4.c, 2.2.c, 2.3.a-b, 2.5.a-d.

In addition, management actions at the Culebra NWR of invasive species populations are guided by Executive Order (EO) 13112. This EO establishes guidance to federal agencies to prevent the introduction of invasive, provide for the control of invasive species, and to minimize the economic, ecological, and human health impacts that invasive species cause. The Order states that each federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law: (1) reduce invasion of exotic species and the associated damages, 2) monitor invasive species populations and provide for restoration of native species and habitats, 3) conduct research on invasive species and develop technologies to prevent introduction, and 4) provide for environmentally sound control and promote public education of invasive species. EO 13751 amended EO 13112 by clarifying the operations of the National Invasive Species Council and by expanding its membership. In addition, EO 13751 incorporated additional considerations into federal efforts to address invasive species and to strengthen coordinated, cost efficient federal actions.

Invasive species removal has been shown to have the highest potential for recovery of native species and has played an important role in the recovery of FWS trust resources, notably in Alaska, the Pacific, and Caribbean Islands. In 2022, FWS National Wildlife Refuge Headquarters and Regional Invasive Species and Integrated Management Coordinators created strategic lists of islands where invasive species removal would have conservation benefits to FWS trust resources. Culebrita Island and Luis Peña Cay were included among the 9 islands in the southeast US representing opportunities for recovery of high priority trust resources through the eradication/control of one or more invasive species.

After project completion and in collaboration with the USFWS, Division of Ecological Services, Caribbean Field Office, the Culebra NWR will implement recovery actions for threatened and/or endangered species that, due to the presence of invasive species on refuge units, cannot be performed. The Five-Year Review (FWS, 2021) for *Leptocereus grantianus* (federally listed endemic cactus in Culebra Island) states that propagated individuals were planted in Culebrita, Luis Peña Cay and Peninsula Flamenco, but that survival was low perhaps as a result of introduced mammals such as deer and goats. A recommended future action in the species recovery plan is the establishment of populations in protected areas (USFWS, 2019). As part of a currently funded Coastal Program Agreement with Island Conservation, Inc., Culebrita Island and Luis Peña Cay are currently being considered and studied for their potential to serve as a suitable reintroduction site for the Virgin Island tree boa once invasive animals are removed.

In addition, original Recovery Plans, and amendments for the Virgin Island tree boa (USFWS, 1986) and *Peperomia wheeleri* (USFWS, 1990) include actions to establish additional populations in protected areas. The Ecological Services Field Office and the Culebra NWR staff

have been coordinating the introduction of these species in refuge areas pending the removal of invasive species that would affect these efforts.

### **Summary of Effects of the Selected Action:**

An EA was prepared by WS in compliance with the National Environmental Policy Act (NEPA) to provide decision-making framework that 1) explored a reasonable range of alternatives to meet project objectives and documents, 2) the potential environmental effects associated with implementing those alternative approaches, and 3) identified mitigation measures to lessen the degree or extent of these impacts. The EA evaluated the effects associated with 4 alternatives/proposed action (if no alternatives). It is incorporated as part of this finding (USDA 2021).

WS identified several issues during the scoping process, associated with activities that WS could implement to meet the need for action. Issues are concerns regarding potential effects that may occur from proposed activities. Federal agencies must consider such issues during the decision-making process as required by NEPA. Section 2.1 of the EA discusses the issues that WS identified, which occur from the implementation of alternatives approaches to meet the need for action. Implementation of the agency's decision would be expected to result in the environmental, social, and economic effects.

Chapter 3 of the EA provides information needed for making informed decisions by comparing environmental consequences. Section 3.1 analyzes environmental consequences of the four alternative approaches in comparison to determine the extent of actual or potential direct, indirect, and cumulative effects on the identified issues which included the effects of damage management activities on populations of target species; effects on the populations of non-target species including threatened and endangered species; effects of damage management methods on human health and safety; and humanness and animal welfare concerns of methods. The analysis also takes into consideration mandates, directives, and the procedures of WS, DNER, the Puerto Rico Department of Agriculture and local agencies.

Issues of concern addressed in detail in the EA include the effects on target mammal and reptile populations which depending on the methodology used (nonlethal or lethal) could either reduce the presence of those species at the site and potentially the immediate area around the site where nonlethal methods are being used. The use of lethal methods could result in local populations reduction in the area where the damage or threats were occurring (depending on the number of assistances received, the number of individuals involved in the area where the damage or threat, and the efficacy of methods employed). Issues addressed in the EA also included the possible effects on non-target species, including threatened and endangered species. The use of nonlethal and lethal methods has the potential to inadvertently exclude, disperse, capture, or kill nontarget wildlife. Appendix B of the EA describes the methods available to use under the alternative approaches. As part of the scoping process for the EA, WS consulted with the USFWS and NOAA pursuant to the Endangered Species Act. This consultation process and findings, in

addition to are addressed in further detail in Section 3.1.2. Effects of management methods on human health and safety are addressed in Section 3.1.3. For example, WS' personnel would consider the location where activities occur. Risks to human safety from the use of methods would likely be greater in highly populated areas in comparison to rural areas that are less densely populated. Humaneness and animal welfare is a common issue often raised under the alternatives for resolving damage and threats. The goal of WS, as addressed in the EA, would be to use methods as humanely possible to resolve requests for assistance to reduce damage and threats to human safety. Methods and activities are continuously evaluated to mitigate any concerns.

In the WS EA analysis, mitigation and/or minimization of adverse effects on non-target species are incorporated into the selected action. WS employees use the WS Decision Model (WS EA, Directive 2.201) to evaluate damage occurring (including other affected elements and the dynamics of the damaging species) and to determine appropriate strategies to minimize effects on environmental elements. Additionally, WS personnel would employ methods in an adaptive approach that would reduce damage and threats of damage associated with target species. WS personnel would only target individuals or groups of invasive species that they identify as responsible for causing damage would be restricted to specific local sites. Any removal of Spanish goats and/or deer from the Culebra NWR units would provide benefits to the native environment.

Possible concerns related to effects on the populations of non-target wildlife species, including threatened and/or endangered species are discussed in Section 3.1.2 of the EA. Concerns could be related to the different methods used which could unintentionally live capture, disperse or kill nontarget animals. To minimize risks, WS personnel have experience and receive training in wildlife identification, which allows them to recognize individual species, be selective and to identify damage and threats associated with target species. In addition, personnel have knowledge in methods and behavior patterns which allows them to select the most appropriate method(s) to address animal damage and minimize impacts on nontarget species. Through the analysis and consultation with concerned resource agencies, WS does not anticipate the unintentional lethal removal of nontarget species to occur at such intensity that would affect the population of nontarget species.

WS operates in accordance with applicable federal and Commonwealth laws and regulations enacted to ensure species viability. Any reduction, displacement or disturbance of a local resident population is frequently temporary because migration from adjacent areas or natural reproduction replaces those species removed. WS would conduct special efforts to avoid jeopardizing threatened and/or endangered species through biological evaluations of the potential effects and the establishment of special restrictions or mitigation measures through consultation with the USFWS and the National Marine Fisheries Service. The evaluation took into consideration the direct effects and indirect effects of implementing Alternative 1. WS reviewed the status, critical habitat designations and current known locations of those species. As part of the review process, WS prepared and submitted a biological evaluation (2020) to the USFWS as

part of the consultation process. After the analysis, based on the use pattern of the methods and the locations where WS could implement damage management activities, the Alternative 1 would have no effect on those T&E in Puerto Rico under the jurisdiction of the National Marine Fisheries Service, including any designated critical habitat. NMFS and USFWS consultation process are discussed on Page 74. Additionally, USFWS concurred with the WS's determination that activities pursuant to the proposed action would not likely affect federally listed species under the jurisdiction of the USFWS in the Commonwealth of Puerto Rico. WS could continue to review the species listed as T&E by the USFWS and the NMFS and consult as appropriate.

Table C.3 of the EA (Appendix C) include species designated by DNER as Critically Endangered, Endangered, or Vulnerable within the Commonwealth of Puerto Rico. WS has reviewed the list and has determined that the proposed activities would have no effect on those species currently listed.

Potential risks to human health and safety associated with employing methods to manage damage caused by target species are minimized by using and recommending only those methods that are legally available, selective for target species, and are effective at resolving the damage associated with the target species. The potential for proposed methods to pose a risk to members of the public and employees of WS are discussed in Section 3.1.3 of the EA. As an example, WS personnel would consider the location where those activities could occur. Risks to human safety from the use of methods would be greater in higher populated urban areas in comparison to rural areas that are less densely populated. WS personnel receive training in the safe use of methods and would follow the safety and health guidelines required by WS Directives.

Humaneness and Animal Welfare concerns of methods are discussed in Section 3.1.4. As stated in the EA, given the multitude of attitudes on the meaning of humaneness and the varying perspectives on the most effective way to address damage and threats in a humane manner, the challenge for agencies is to conduct activities and employing methods that people perceive to be humane while assisting those requesting assistance to manage damage and threats associated with wildlife. The goal of the WS and the USFWS would be to use methods as humanely as possible to resolve the presence of invasive species in the Culebra NWR in the most humane way possible that minimizes stress and pain to the animal. WS' personnel would be experienced and professional in their use of management methods (see WS Directive 1.301). WS personnel would receive training for the implementation of the proper use of the latest and most humane methods.

Impacts on Cultural, Archeological, Historic, and Tribal Resources, and Unique characteristics of Geographic Areas (Section 3.2.4). Several different types of federal and Commonwealth lands occur within the analysis area, including national wildlife refuge and national forests. It may be of concern that actions implemented in those areas would adversely affect the aesthetic value and natural qualities of the area. Similarly, WS activities could occur within areas of cultural, archeological, historic, and/or tribal resources. The methodology to be used in the Culebra NWR would not cause major ground disturbance, any physical destruction of damage property, wildlife habitat or landscapes. The selected Alternative 1 would not have the potential

to affect the unique characteristics of the refuge or any cultural, archeological and/or historic resources.

While refuges, by their nature are unique areas protected for conservation of fish, wildlife and habitat, the proposed action will not have a significant impact on refuge uses for several reasons:

- The action will result in beneficial impacts to the human environment, including the biodiversity and ecological integrity of the refuge, as well as the wildlife-dependent recreational opportunities and socioeconomics of the local economy, with only negligible adverse impacts to the human environment as discussed above.
- The adverse direct and indirect effects of the proposed action on air, water, soil, habitat, wildlife, aesthetic/visual resources, and wilderness values are expected to be minor and short-term. The benefits to the long-term ecosystem health that these efforts will accomplish far outweigh any of the short-term adverse impacts discussed in this document.
- The NWRS uses an adaptive approach to all wildlife management on refuges, monitoring and re-evaluating different uses on the refuge to ensure that invasive removal species contributes to the biodiversity and ecosystem health of the refuge, and that these actions do not contribute to any cumulative impact to habitat or wildlife.
- The action, along with proposed mitigation measures implemented by WS and USFWS, will ensure that there is low danger to the health and safety of refuge and other federal and Commonwealth staff, organizations and/or visitors.
- The action is not likely to adversely affect any threatened or endangered species; or any Federally designated critical habitat (ESA Section 7 consultation, July 2018; May 2023).
- The action will have no effect on any cultural or historical resources; (NHPA, Section 106 consultation, May 2023).
- The action will not impact any wilderness areas.
- There is no scientific controversy over the impacts of this action and the impacts of the proposed action are relatively certain.
- The proposal is not expected to have any significant adverse effects on wetlands and floodplains, pursuant to Executive Orders 11990 and 11988 because no modifications will be performed on the limited areas (small lagoons) in Culebrita Island. No wetland areas occur in Luis Peña Cay or Peninsula Flamenco.

**Public Review:** The EA prepared by WS was made available to the public for review and comment through notices published in local media and through direct notification to the interested parties. The EA was made available in a legal notice published in the *San Juan Daily Star* newspaper from February 15, 2021, through February 17, 2021. WS made the EA available to the public for review and comment on the APHIS website and on the federal e-rulemaking portal at the regulations.gov website. WS also sent out direct mailings to local known stakeholders and electronic notification to stakeholders registered through the APHIS Stakeholders Registry. The public involvement process ended on March 19, 2021. During the public comment period, WS received one comment response on the draft EA. Appendix A of the



FONSI (decision document) provides a summary of the comment and WS' response to the comment.

In addition to the scoping and review process for the Environmental Assessment prepared by WS, the USFWS was notified and has continued close communication on the proposed action with other federal and Commonwealth agencies including the Puerto Rico Department of Natural and Environmental Resources, non-government organizations from Culebra and Para La Naturaleza (Puerto Rico Conservation Trust), Culebra municipality, private business owners including water taxis, marinas from Fajardo, Ceiba and U.S. Virgin Islands, among others including federal and Commonwealth law enforcement agencies. Communication with interested parties went through in-person or virtual meetings, phone calls, emails, webpage posting, and press release in a major circulation newspaper (*El Nuevo Dia*). Additionally, a fact sheet with a short summary of the proposed action and Questions and Answers were prepared and made available to the general public and interested parties. General comments were received mostly supporting the project and others that has presented concerns have been addressed through in person meetings and by phone calls.

Additionally, the Service will provide its own 14-day review and comment period for the draft FONSI along with the WS Environmental Assessment/FONSI. Copies of all relevant documents will be made available online at the (Refuge website). Interested parties and individuals will be informed on how to submit comments to the refuge's email address at: [idalmaris\\_tillmanmarquez@fws.gov](mailto:idalmaris_tillmanmarquez@fws.gov).

### **Finding of No Significant Impact:**

I have decided to authorize the USFWS National Wildlife Refuge System Culebra NWR to allow the removal of goats and deer from Culebrita Island, Luis Peña Cay and Peninsula Flamenco. I agree with this conclusion, and therefore find that an EIS does not need to be prepared. The reasons for my decision are:

- There are no known irreversible or irretrievable commitments of resources.
- The actions and effects that could occur on Culebrita Island, Luis Peña Cay and Peninsula Flamenco have been fully analyzed and are consistent with those in the EA.
- The analysis of the EA indicates there will not be significant impact individually or cumulatively, on the quality of the human environment.
- The proposed action will not jeopardize any federally-listed threatened or endangered species or their habitats.
- Invasive species eradication is consistent with the Service responsibility to manage and conserve migratory bird populations under the Migratory Bird Treaty Act and with the purpose of the Culebra NWR.
- The proposed action will not establish a precedent for any future action with significant effects.

This action is compatible with the purposes of the refuge and the mission of the National Wildlife Refuge System. The action is consistent with applicable laws and policies.

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Brett Hunter  
NWRS Deputy Assistant Regional Director

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Date

Supporting References:

U.S. Fish and Wildlife Service. 2012 Draft Comprehensive Conservation Plan and Environmental Assessment for Culebra National Wildlife Refuge, Culebra, Puerto Rico. U.S. Department of the Interior, Fish and Wildlife Service, Southeast Regional Office, Atlanta, Georgia. 154pp.

U.S. Fish and Wildlife Service. 2012. Comprehensive Conservation Plan for Culebra National Wildlife Refuge, Culebra, Puerto Rico. U.S. Department of the Interior, Fish and Wildlife Service. Southeast Regional Office, Atlanta, Georgia. 166pp.

U.S. Department of Agriculture Animal and Plant Health Inspection Service Wildlife Services, in consultation with Puerto Rico Department of Natural and Environmental Resources. 2021. Environmental Assessment (Final) Managing Damage Caused by Mammal and Reptile Species in Puerto Rico. 151pp.

U.S. Fish and Wildlife Service, National Wildlife Refuge System National Invasive Species and Integrated Pest Management Team. 2022. Priorities for Restoring U.S. Islands Through Invasive Species Management (fact sheet). 2pp.