



Fire Island National Seashore Draft White-tailed Deer Management Plan/Environmental Impact Statement Frequently Asked Questions 8/29/14

Background/Why is a plan needed?

White-tailed deer eat plants. Some of the plants deer prefer to eat are key species in various habitats on the island, like the Sunken Forest. The Sunken Forest is an example of a maritime holly forest, which is a rare type of forest found in very few places around the world. Its presence on Fire Island was an important impetus for the establishment of the Seashore.

In a well-developed, self-sustaining forest, we would see many layers – seedlings, saplings, young trees, mature trees—made up of trees in a whole range of ages and sizes. We would also see an herbaceous layer including a variety of wildflowers and an understory of native shrubs. Because deer eat the understory shrubs and forest floor vegetation, or lower layers, the Sunken Forest is missing the plants that are necessary to replace the older trees after they die. While the Sunken Forest may look healthy now, closer inspection reveals it is in trouble and unless we take action it is likely to disappear in the future.

The same thing is happening at the William Floyd Estate and other maritime forests on Fire Island. Deer browse has resulted in changes to the species composition, structure, abundance, and distribution of native plant communities.

And we humans are sometimes a part of the problem, too. On Fire Island, as in many suburban areas across the country, deer have learned that residential communities provide easy access to a consistently reliable food source, through ornamental plantings, gardens, unsecured garbage, and intentional feeding. Year-round access to these food sources can attract deer to into human spaces, lead to a high density of deer in these areas, and result in negative human-deer interactions such as overturned garbage and loss of garden plantings.

Safety concerns have also arisen. The built environment, particularly fenced corridors, can set the stage for encounters that trap deer with no way to escape without interacting with people. The way we normally design our built environment on Fire Island, often with fences and raised boardwalks, reduces the open space available to deer and increases the likelihood that such interactions will occur.

What is this plan about?

Developing a management plan/environmental impact statement is an in-depth process, one that requires and encourages public input. Through this process Fire Island National Seashore (Seashore) will develop a deer management strategy that: supports long-term preservation and restoration of native vegetation and the cultural landscape of the William Floyd Estate, reduce negative human-deer interactions, and maintain a viable population of white-tailed deer.

Decisions made on public lands affect those who use them. The National Environmental Policy Act (NEPA) process – the process by which the Draft Plan/EIS was developed – therefore requires public involvement. NEPA was designed to ensure that decisions made by federal agencies are environmentally sound and are made in an open manner with meaningful public participation.

Frequently Asked Questions (Planning Process)

How can I view the plan?

The Draft Deer Management Plan/Environment Impact Statement (Draft Deer Plan/EIS) may be found online at <http://parkplanning.nps.gov/fiis> by clicking on the project name, and "Open for Public Comments." An electronic copy on a CD can be mailed upon request by contacting Lindsay Ries at 631-687-4768 or Lindsay_Ries@nps.gov

How can I comment?

Comments may be submitted through <http://parkplanning.nps.gov/fiis> or mailed to: Superintendent, Fire Island National Seashore, 120 Laurel Street, Patchogue, NY 11772, Attention: Draft Deer Management Plan/EIS.

There were two public open house workshops where NPS staff was available to answer questions and assist with comment submission. The dates and times of these open house workshops were:

- Wednesday, August 20: 6:00 pm to 8:00 pm, Patchogue Ferry Terminal
- Friday, August 22: 2:00 pm to 4:00 pm, Gymnasium at Woodhull School (Ocean Beach)

How are you going to use public comments in finalizing the plan? Do my comments matter?

All comments received by October 10, 2014 will be addressed in the Final White-tailed Deer Management Plan/EIS (Final Plan/EIS). The Seashore's response to all comments will be documented in the Final Plan/EIS.

Do you think the alternatives in the Draft Deer Plan/EIS could be recombined or altered to better address the issues at hand? If so, please try to express how in your comments. Given your experience working, living, or playing on Fire Island, you can provide valuable insight and the potential environmental, social, and economic effects that proposed management actions may have on Fire Island's resources.

Please be sure to submit comments that are solution-oriented. Comments that provide specific examples will be more effective than those that simply oppose or support the proposed project. Comments that contribute to developing alternatives that address the purpose and need for the action are also effective.

Have you already decided on a management method for controlling the deer population?

A decision is not made until the end of the full EIS process. At this stage, only a draft EIS has been developed. We've just opened a 60-day public comment period in which we are reaching out to the public to hear what concerns and suggestions you may have regarding the draft deer management

alternatives and impacts, as well as any other information you may wish to share. The various alternatives may change based on information and ideas gathered during the comment period. . A preliminary suggestion for a preferred alternative, Alternative D, has been identified by the National Park Service – but that decision is not final until a final EIS document is created based upon input gained through the public comment process, and that final document is signed by the NPS’ Northeast Regional Director.

Who decides on the management alternative?

Once public comments have been addressed and the plan is finalized, the NPS’ Northeast Regional Director reviews and selects the most appropriate management alternative.

How long is this going to take? When do you expect to implement the Plan/EIS?

We expect the Final Plan/EIS to be completed by the end of summer 2015, with implementation in winter 2015/2016.

What are you going to do about the problem until the plan is implemented?

Continue existing management practices, and provide information to help people understand the issues and be part of the planning process.

Are you coordinating with the state?

Yes. The New York State Department of Environmental Conservation and the U.S. Department of Agriculture are both cooperating agencies in this plan.

Who is paying for this?

The federal government.

How can you afford this?

Everything we do is subject to available funds and the will of Congress.

Frequently Asked Questions (Background Info/Deer Population and Behavior)

How many deer are there?

Annual distance sampling surveys indicate there are approximately 300 deer on Fire Island and 140 deer at the William Floyd Estate. The number of deer per square mile (“deer density”) in the residential communities on Fire Island far exceeds the deer density in the eastern communities and within the Otis Pike Fire Island High Dune Wilderness.

What do you think is the right number of deer?

The “right” number of deer will be determined based on the ability of forests to regenerate naturally. Studies conducted in similar conditions in the northeast indicate that deer densities of 20 to 25 deer per square mile should allow for forest regeneration. This range was chosen as the initial deer density objective. However, this number may be modified (either up or down) based on the results of vegetation monitoring in forests on Fire Island and at the William Floyd Estate. In other words, if adequate regeneration is observed at higher deer densities, then deer population reduction may be

stopped or lowered. If adequate natural regeneration is not observed at 20-25 deer/square mile, deer densities may be further reduced.

Are Fire Island deer healthy? Do you monitor deer health?

The physical condition of the deer population on Fire Island has been assessed in the past. One indicator of deer health is productivity or how well they reproduce. Adult deer with twins or triplets is considered an indication of good health – twins are commonly found on Fire Island and at the William Floyd Estate. There is currently no evidence to suggest that deer in the park are not healthy.

How do deer become habituated and food conditioned?

Animals may learn that a particular behavior either brings a reward, such as food, or a punishment, such as a loud noise. On Fire Island, some deer have learned to associate people with a food reward and have become conditioned to approach people in general, even when food is not offered.

Habituation is different than food conditioning, in that it's defined as simply a loss of fear. When wildlife is more accustomed to the presence of non-threatening humans, they tend not to flee. A majority of the deer in Fire Island communities exhibit this behavior.

In our objectives, we are not focusing on habituated deer, but rather the few highly food conditioned deer which are increasing the likelihood of negative, risky, or unwanted human-deer interactions.

Fire Island National Seashore has clearly been manipulated by people in some places—how can you say you are trying to reach a “natural” environment?

The objectives in the different areas are different based on the purpose of that area in the enabling legislation. The objectives for the Sunken Forest, for example, are about maintaining a “natural” environment. The objectives for the William Floyd Estate focus on the type of forest desired as part of a cultural landscape. The objectives for the communities are not about a “natural” environment, but about reducing undesirable human-deer interactions.

Frequently Asked Questions (Management Methods and Impacts)

Why are you only focusing on managing deer? Why not take a more ecological approach to forest preservation?

Long-term monitoring of the Seashore's forests – particularly those on Fire Island - shows that deer density is the dominant force in the park, and that by browsing tree and shrub seedlings deer limit the growth and maturation of all of the forests managed within Seashore boundaries. Because deer are a dominant component of Fire Island's natural landscape, this is a critical first step to restoring ecological balance. We are looking at other related threats to the natural ecosystem on Fire Island as well, including the need for increased management of non-native invasive plants and reduction of deer attractants in the communities.

Why do plants take priority over animals – why remove animals to protect plants?

The NPS mission is to conserve natural and cultural resources in parks for current and future generations. We do this by protecting and preserving natural ecosystems and, if they are out of nature's balance, by intervening with active management. We are concerned with individual animal welfare when animals are directly impacted by human infrastructure, such as when deer get caught in a clothes line, although in general we manage wildlife at the population level.

How did you determine the level of adequate tree regeneration?

Adequate tree regeneration occurs when tree saplings in the understory are representative in type and distribution of trees in the canopy. We measure this by surveying vegetation in plots throughout the Sunken Forest, other maritime forests on Fire Island, and the William Floyd Estate. Using site-specific data and recommendations in the scientific literature we have established specific targets each forest needs to have in order to have adequate tree regeneration to maintain a healthy forest.

What do you think is so bad about food conditioned deer?

Highly food conditioned deer have learned to approach people over time because they continually receive a reward (food). Food conditioning creates a situation where deer may rely on human food sources and stop eating natural foods. This draws them into communities where human food sources are readily available and brings people and deer into closer contact, increasing the likelihood of negative, risky, or unwanted human-deer interactions.

Why do deer that approach people have to be removed in some of your alternatives?

Technical experts on the science team for the Deer Plan/EIS concluded that aversive conditioning would likely not be effective in stopping food conditioned deer from approaching people for food rewards. Unless the majority of their interactions with people are negative, deer that have learned to seek out food from people will continue to do so. Common to all action alternatives is the role of education and outreach in achieving our objectives in the Deer Plan/EIS. Best management practices for coexisting with wildlife should be a focus, which would include the importance of not feeding wildlife.

In alternative B, highly food conditioned deer would be identified and translocated to the Fire Island wilderness. There are less people in this undeveloped area of Fire Island, and it is less likely that food conditioned deer would interact as frequently with people. In alternative D, the NPS preferred alternative that's been identified, the wilderness is open to public hunting.

Who decides that a reproductive control agent is "acceptable"? What are the criteria for an "acceptable" reproductive control agent?

The interdisciplinary team that developed the Draft Plan/EIS established the criteria for an "acceptable" reproductive control agent at the Seashore in consultation with technical experts and considering the NPS and Seashore mission, laws, and policies. These criteria are:

1. There is a federally approved and state-registered fertility control agent for application to free-ranging populations;
2. The agent provides multiple year (more than three years) efficacy (80-100%) to minimize the cost and labor required to administer the drug to a large number of deer every year;;

3. The agent can be administered through remote injection to avoid capturing the animal on a regular basis and to increase the efficiency of distribution;
4. The agent would leave no harmful residual in the meat (meat would be safe for human and non-target animal consumption);
5. The agent would have minimal impact on deer behavior (e.g., reproductive behaviors, social behaviors, out of season estrous cycling)

Why is Porcine Zona Pellucida (PZP) not considered to be an “acceptable” reproductive control agent?

PZP is not considered an “acceptable” reproductive control agent because it does not meet criteria 1, 2, 4, or 5. First, it has not been federally approved and state-registered as a management tool for free-ranging deer populations. In addition, at this time, PZP vaccines do not provide more than three years efficacy with a single vaccination (Rutberg et al. 2013). Further, only the EPA, the current regulatory agency, can decide whether or not a product is appropriate for human consumption, and there is no regulatory approval at this time. And finally, PZP based vaccines often cause out of season breeding behavior in treated deer populations (Fraker et al. 2002; McShea and Rappole 1997), as treatment with PZP causes repeated estrous cycling in females, which can result in late pregnancies and behavioral changes.

An “acceptable” agent would be any reproductive control agent that meets all of the criteria identified by the interdisciplinary team.

Are there other reproductive control agents close to meeting all of the criteria?

There are other immunocontraceptive vaccines, as well as non-immunological reproductive control methods and agents, available. However, the agents and methods do not currently meet the criteria. GonaCon™, for example, meets criteria 4 and 5 but doesn't currently doesn't meet criteria 1, 2 or 3. GonaCon™ is federally approved by the EPA, however, it only meets part of criteria 1 because it is not state-registered. Other challenges to the use of GonaCon™ include potential health effects on treated deer (Kirkpatrick, Lyda, and Frank 2011), lack of information related to effectiveness at the population level in free-ranging deer, and the label requirement for hand injection. Please see Appendix D: Review of White-tailed Deer Fertility Control for further information on other reproductive control agents that are currently available.

The area of wildlife contraception is constantly evolving as new technologies are developed and tested. The expectation is that a reproductive control agent would be available in the next 10 years that meets the criteria.

What reproductive control agent did you base Alternative B on?

Since the expectation is that a reproductive control agent would be available in the next 10 years that meets the criteria, alternative B is based on a generic agent that meets all of the criteria.

Why don't you allow hunting in all areas of the Seashore?

Public hunting in all areas of the Seashore was considered, however it is not practical in all areas, especially in the residential communities on Fire Islands. In New York State, it is illegal to discharge a firearm, longbow, or crossbow within 500 feet (for a firearm), 250 feet (for a crossbow) or 150 feet

(for a longbow) of any school, playground, or an occupied factory or church, or of a dwelling, farm building or structure in occupation or use unless you own it, lease it, are an immediate member of the family, an employee, or have the owner's consent. This greatly reduces the area that could be considered for public hunting.

Fire Island's Wilderness area is the only Seashore land that is being considered for public hunting in this plan/EIS. Public hunting is proposed as a management tool in alternatives C and D. The Superintendent establishes hunting zones based on safety and consideration of the impacts public hunting would have on the site.

What are you doing to ensure public safety during deer reduction efforts?

Public safety is a priority and will be built into any implementation plan. For example, sharpshooters would operate during the time of year and time of day when they're least likely to encounter a visitor (winter months; nighttime/early morning hours). Equipment to minimize safety risks such as night-vision, scopes, and possibly spotlights would be used. Some areas of the park may need to be closed to the public. Park staff familiar with the landscape and park boundary would be present at all times.

What will you do with the meat?

If direct population reduction is chosen as a management alternative, venison would be donated to organizations such as local food banks, consistent with NPS public health guidelines. Older adult does that may have been treated with PZP (study ended in 2009) would be further tested to ensure its safety for human consumption. The park would coordinate with NYS-DEC on the use and disposition of any meat, antlers and hides.

If you use reproductive control in combination with hunting, what about contamination of the meat?

We will not use any reproductive control agent that does not meet the five criteria above, including that the agent would leave no harmful residual in the meat (meat would be safe for human and non-target animal consumption).

Will I still be able to see deer when I'm in the park?

The purpose of the plan is to maintain a viable population of deer while preserving and restoring vegetation and reducing negative human-deer interactions. Deer will still be present in the park.

If and when the deer population is reduced, will deer come into the park from outside bordering deer populations?

Deer population management requires a coordinated regional approach, which is why the NPS has partnered with New York State and the USDA in this plan. If nothing is done to remove attractants in the Fire Island communities, and if the population is lower in the park than outside, then yes, deer may move back into these areas (although there may be a delay). This plan requires a shared stewardship approach to be successful.

Why isn't Lyme disease addressed in this plan?

In the Northeast, larval deer ticks hatch and take a first blood meal in August, often from the

white-footed mouse – the carrier of the Lyme Disease bacterium. This is usually when deer ticks become infected with Lyme Disease. Fully engorged larvae drop to the ground then emerge as nymphs the following Spring. Nymphs (and in fall the adult ticks), then transfer to a larger host. Lyme Disease can be transmitted to humans if they encounter a tick at this time and become the secondary host. It is common for nymphal and adult ticks to attach to dogs, cats, birds, squirrels, raccoons, foxes, mice, deer, etc.

The primary role that deer and other wildlife such as birds play in the spread of Lyme Disease is in the transport of potentially infected ticks into the home environment. Additionally, abundant hosts may support a higher than normal tick population compared to areas with fewer host species. Although there may be some benefit to reducing the deer population to reducing actual ticks, it's unclear what effect that has on the prevalence of the disease. Even if there were no deer on Fire Island, there would still be an incidence of Lyme disease in humans.

We believe education and prevention from tick bites is the best way to address the issue of Lyme disease at the Seashore. Exercise caution when in grassy or wooded areas, dress appropriately, and check yourself, your family members and your pets when you come in from outdoors. The more quickly you remove a tick from your body, the better your chances of avoiding infection.

Literature Cited

- Rutberg, A., R. Naugle, J. Turner, M. Fraker and D. Flanagan. 2013. Field Testing of Single-administration Porcine Zona Pellucida Contraceptive Vaccines in White-Tailed Deer (*Odocoileus virginianus*). *Wildlife Research* 40: 281-288.
- Fraker, M, R. Brown, G. Gaunt, J. Kerr and B. Pohajdak. 2002. Long Lasting Single Dose Immunocontraception of Feral Fallow Deer in British Columbia. *Journal of Wildlife Management* 66 (4): 1141-1147.
- McShea, W. and J. Rappole. 1997. Herbivores and the Ecology of Forest Understory Birds." Pp. 298-309 in W.J. McShea, H.B. Underwood and J.H. Rappole (eds), *The Science of Overabundance, Deer Ecology and Population Management*. Washington, D.C.: Smithsonian Institution Press.