

Pre-acquisition Compatibility Determination

Title

Pre-acquisition Compatibility Determination for Hunting on the Great Thicket National Wildlife Refuge (Pachaug-Ledyard Focus Area)

Refuge Use Category

Hunting

Refuge Use Type(s)

Hunt - Big Game, Hunt - Migratory Birds, Hunt - Upland Game, Hunt - Waterfowl

Refuge

Great Thicket National Wildlife Refuge Pachaug-Ledyard Focus Area

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

Purposes “for the development, advancement, management, conservation, and protection of fish and wildlife resources” (Fish and Wildlife Act) and the Endangered Species Act (16 U.S.C. 1531) states that it is the policy of Congress that all Federal departments and agencies shall seek to conserve endangered and threatened species.”

Great Thicket National Wildlife Refuge (NWR, refuge) is managed by the U.S. Fish and Wildlife Service (Service, USFWS) and the establishment and acquisition authorities for the refuge are: the Endangered Species Act of 1973 (16 U.S.C. 1534), as amended, and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended.

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as 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 (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

No

This pre-acquisition compatibility determination is being developed in accordance with Service policy found in the Service policy chapter 603 FW 2 Compatibility section 2.17 paragraph A. This paragraph states in part “When we add lands to the National Wildlife Refuge System, the refuge manager assigned management responsibility for the land to be acquired, will identify prior to acquisition, withdrawal, transfer, reclassification, or donation of those lands, existing wildlife-dependent recreational public uses (if any) determined to be compatible that we will permit to continue on an interim basis, pending completion of the comprehensive conservation plan. The purpose of this policy is to inform the public, prior to acquisition, which pre-existing wildlife-dependent recreational public uses will be allowed to continue on newly acquired lands. Such decisions must be based on the compatibility standards and procedures outlined in 603 FW 2.”

What is the use?

We propose to allow hunting in areas acquired to become part of the Great Thicket NWR in the Pachaug-Ledyard focus area (Figure 1) of Connecticut that are determined to be consistent with the land protection plan for the refuge and the stipulations found in this compatibility determination. Some important exceptions to State regulations would be put in place that are necessary to make this use compatible with the refuge mission. These are addressed below in the “When would the use be conducted?” and the “How would the use be conducted?” sections of this document.

Is the use a priority public use?

Yes

The use is hunting of big game, migratory birds, and upland game (referred to as small game in Connecticut). Hunting is a priority public use of the Refuge System under the Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57), when found to be compatible.

Where would the use be conducted?

Hunting would be allowed on the Great Thicket NWR, Pachaug-Ledyard focus area of Connecticut (encompassing up to 3,500 acres) as they are acquired for the refuge, except where the Service designates additional restrictions for safety or to ensure compatibility with the purposes of the refuge. See Figure 1 below for the focus area map.

When would the use be conducted?

Hunting will primarily be allowed during September through December only, with the exception of spring turkey season, for allowable species listed in a table that appears below. Hunters must refer to the current Connecticut Hunting and Trapping Guide, published by the Connecticut Department of Energy and Environmental Protection (DEEP), for specific dates for each allowable species.

Hunting seasons for species on lands within the Pachaug-Ledyard focus area of the Great Thicket NWR:

Game Birds

<u>SPECIES</u>	<u>SEASON</u>
Pheasant ⁺⁺	October – December*
Chukar and Hungarian Partridge ⁺⁺	October – December*
Ruffed Grouse ⁺⁺	October – November*
Quail ⁺⁺	October – December*
Crow ⁺⁺	October – November*
Woodcock – Snipe – Rail ⁺⁺	September – December*
Waterfowl (ducks, mergansers, geese, coot) ⁺	September – December*

⁺⁺specific Federal/State hunting stamps required

*see specific dates in current Connecticut Hunting and Trapping Guide

Small Game Mammals

<u>SPECIES</u>	<u>SEASON</u>
Gray Squirrel	September – December*
Woodchuck	September – November*
Raccoon & Opossum	September – December*

*see specific dates in current Connecticut Hunting and Trapping Guide

Furbearers

<u>SPECIES</u>	<u>SEASON</u>
Coyote	September – December*
Red and Gray Fox	October – December*

*see specific dates in current Connecticut Hunting and Trapping Guide

Big Game

<u>SPECIES</u>	<u>SEASON</u>
Wild Turkey	Spring and Fall*
White-tailed Deer	September – December*

*see specific dates in current Connecticut Hunting and Trapping Guide

During open seasons for the species listed above, hunting on the Pachaug-Ledyard focus area may occur from one ½-hour before sunrise to one ½-hour after sunset. Hunters could access the refuge 1 1/2 hours before sunrise to 1 1/2 hours after sunset.

How would the use be conducted?

All hunting on the Great Thicket NWR in the Pachaug-Ledyard focus area would follow applicable local, State, and Federal regulations, with added restrictions the Service designates to ensure compatibility with the purposes of the refuge. In addition to a spring turkey season, refuge lands would be open to hunting of big game, upland game (except for rabbit and hare) and migratory game birds during the fall, with no night hunting permitted during any season. Lands added to the Great Thicket NWR would have the following refuge-specific hunting restrictions:

- Hunters may access the refuge 1 1/2 hours before sunrise to 1 1/2 hours after sunset.
- No Sunday hunting is allowed.
- No night hunting is allowed.
- A signed refuge hunt brochure and map must be in your possession while hunting.
- We allow only non-toxic ammunition for the hunting of all species except big game.
- We encourage the voluntary use of non-toxic ammunition for big game hunting.
- We will evaluate and phase out the use of lead ammunition for big game within 5 years.
- We prohibit the hunting of rabbits and hares.
- We prohibit the use of electronic calls.
- No baiting is allowed on refuge lands.
- Tree stands, blinds and other hunting equipment must be removed from the refuge at the end of the hunt-day.

Hunters must review the current Connecticut Hunting and Trapping Guide issued by the DEEP for exact dates for each species and acceptable methods of take. Bag limits for the species listed above would be fully consistent with State regulations found in the guide. The refuge could restrict the type of hunting, method of take, and species hunted on a newly acquired parcel of land to match the hunting activity that was allowed, or occurred, on the property at the time of acquisition.

Hunt brochures/maps for all hunting opportunities would be updated regularly and made available to hunters on the Stewart B. McKinney NWR's website, in a specific

section related to Great Thicket NWR. Hunters must sign and carry the refuge-specific hunt brochure/map. At least initially, a fee would not be required for hunters to hunt on the refuge.

Infrastructure and amenities available to users on acquired lands would vary depending on the parcel. There may be existing, informal parking areas (pull-offs along roads) and access points available. In order to improve access to hunting activities in the future, parking lots or other support amenities may be developed on some sites to facilitate hunting activities.

Areas would be closed if there are unacceptable resource impacts such as soil erosion, repeated disturbance to wildlife, or unresolvable conflicts with management actions or other compatible priority public uses. Closed buffer zones around neighboring property may be established. The need for site closures would be considered by the refuge manager on a case-by-case basis.

The hunting program would be reviewed annually, or as needed, to assess its effectiveness and to ensure that wildlife populations and habitat quality are managed appropriately.

Why is this use being proposed or reevaluated?

Hunting is one of the priority public uses defined by Executive Order 12996 (March 25, 1996) and the Refuge System Administration Act of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57). Department of the Interior Secretarial Order 3356 (September 15, 2017) emphasized identifying opportunities to increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish. This legitimate and appropriate use of a national wildlife refuge is generally considered compatible, as long as it does not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge. Offering hunting on lands within the Pachaug-Ledyard focus area of the Great Thicket NWR would facilitate public enjoyment of refuge lands and waters and appreciation for the refuge, the Refuge System, and the Service mission. Allowing hunting on the refuge would allow the Service to partially meet one of the refuge's purposes.

Availability of Resources

The Great Thicket NWR Pachaug-Ledyard focus area of Connecticut is administered by staff from the Stewart B. McKinney NWR, which is part of the Silvio O. Conte National Fish and Wildlife Refuge Complex. Refuge staff time to administer the hunt program on the refuge would involve providing information to users, marking and maintaining boundaries, annual review of the program, and other related duties, with costs estimated in Table 1.

Table 1. Anticipated Annual Administrative Costs Associated with Hunting on Great Thicket NWR in the Pachaug-Ledyard focus area

Refuge Operations	One-time Cost	Recurring Annual Expenses
Refuge Staff Administration	\$0	\$4,000
Boundary Marking	\$0	\$3,000
Informational signs/brochures	\$0	\$2,000
Total one-time expenses	\$0	
Total recurring annual expenses		\$9,000
Offsetting revenues	-\$0	-\$0
Total expenses	\$0	\$9,000

Anticipated Impacts of the Use

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This pre-acquisition CD includes the written analyses of the environmental consequences on a resource only when the impacts to the resource could be more than negligible and therefore considered an “affected resource.” Habitat/Vegetation, Threatened and Endangered Species, Geology/Soils, Air Quality, Water Quality, Cultural resources, Socio-economic will not be more than negligibly impacted by the action and have been dismissed from further analyses.

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

Hunting outlined in this pre-acquisition CD is one of the six priority public uses outlined in the Refuge System Improvement Act. This use supports the mission of the Refuge System and the purposes for which the Great Thicket NWR was established. Under this pre-acquisition CD, hunting will be allowed if the use was occurring on the parcel prior to acquisition by the Service, provided the use meets the stipulations outlined in this CD as well.

Short-term impacts

This pre-acquisition CD continues hunting on parcels acquired by the Service provided the activity occurred at the time of acquisition. There could be some short-term impacts to wildlife.

Target Game Species

Small Game, Furbearers, and Game Birds: The following species are considered small game that would be open to hunting on the refuge per this CD: gray squirrel, woodchuck, raccoon, and opossum. Furbearers include fox and coyote, and game birds include Pheasant, chukar, Hungarian partridge, grouse, quail, and crow,

Refuge lands would be open to hunting all upland/small game, furbearers, and game birds listed above consistent with State regulations, except for eastern cottontail (which the State refers to as cottontail rabbit), snowshoe hare and European hare. One of the reasons for the creation of the Great Thicket NWR was to assist in the conservation of the New England cottontail. Eastern cottontail and New England cottontail can be very difficult to distinguish from one another. New England cottontail could also be confused with snowshoe or European hare, therefore, we would not allow the harvesting of any rabbit or hare on refuge lands.

Many small game species present in the Pachaug-Ledyard focus area on the refuge are strategist species, demonstrating high productivity and mortality rates, with population densities often tied to the quality of available habitat. Most of the small game species' populations are positively influenced by increasing percentages of younger forest age classes that provide the mix of cover and foods for these animals. Hunting mortality is generally not considered to be a factor affecting population size (Edwards et al. 2003). The number of hunters pursuing small game is predicted to be low and is not expected to have negative impacts on populations.

Migratory Birds: The following species are included in this category: woodcock, snipe, rails, and waterfowl.

Migratory birds are managed on a flyway basis and hunting regulations are established in each state based on flyway data. Hunting migratory birds on the refuge would reduce the total numbers of birds in the flyway, but harvest would be within allowable limits as determined by the Service annually. Hunting waterfowl on the refuge would make the birds more skittish and prone to disturbance, reduce the amount of time they spend foraging and resting, alter their habitat usage patterns (Raveling 1979, Owen 1973, White-Robinson 1982, Madsen 1985, Bartelt 1987). Overall, the effects on migratory birds are expected to be minimal due to the low number of hunters on refuge lands.

Big Game: This category includes turkey and deer.

Connecticut DEEP actively monitors the State's deer population and the overall

physical condition of the herd through the collection of harvest numbers and biological parameters. Deer harvest on the refuge is expected to be a small portion of the harvest for the area and within harvest goals set by the State. Hunting other game species (e.g., turkey or small game) would have a transient effect on deer as deer flush and move away from hunters. Deer would use energy and experience physiological stress when avoiding hunters and other refuge visitors.

Between 1975 and 1992, 356 wild turkeys were released at 18 sites throughout the State. These releases and subsequent population expansion have resulted in the successful restoration of wild turkeys to all 169 Connecticut towns (DEEP 2016). Around 1,500 wild turkeys are harvested each year in Connecticut, and turkeys have become a valuable game species in the State. Harvest of turkey on the refuge is expected to be relatively low but within the harvest goals set by the State for the area.

Other Wildlife: Hunting on the refuge would have some short-term adverse impacts to some wildlife species from allowing this use because projected levels of use are relatively low, and the use would only be allowed in designated areas. Disturbances to wildlife would vary by wildlife species involved and the type, level, frequency, duration, and the time of year activities occur.

Disturbance can cause shifts in habitat use, abandonment of habitat, and increased energy demands on affected wildlife (Knight and Cole 1991). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats. In this study, common species (e.g., American Robin) were found near trails and rare species (e.g., Blackburnian warbler) were found farther from trails. In some cases, there is a clear link between the extent of disturbance and either the survival or reproductive success of individuals (Schulz and Stock 1993), but in many cases disturbance acts in a more subtle way, by reducing access to resources such as food supplies or nesting sites (Gill et al. 1996).

Bird flight in response to disturbance can lower reproductive success by exposing individuals and nests to predators. Evidence suggests that species most likely to be adversely affected are those where available habitat is limited thus constraining them to stay in disturbed areas and suffer the costs of reduced survival or reproductive success (Gill et al. 2001). Species that are sensitive to human disturbance with specialized habitat requirements include bald eagles, peregrine falcons, and American black ducks (Buehler 2000, Longcore et al. 2000, and White et al. 2002). Limiting or closing recreational use within the vicinity of nest sites during the breeding season will mitigate impacts to these species. Hammitt and Cole (1998) found white-tailed deer females with young are more likely to flee from disturbance than those without young. Some species, like warblers, would be negatively affected by disturbance associated with bird watching particularly

during the breeding season. For songbirds, Gutzwiller et al. (1994) found that low levels of human intrusion altered the singing behavior of some species.

Disturbance may also affect the reproductive fitness of males by hampering territory defense, mate selection, and other reproductive functions of vocalizations (Arrese 1987). Disturbance, which leads to reduced singing activity, makes males rely more heavily on physical deterrents, which are time and energy consuming in defending territories (Ewald and Carpenter 1978).

Threatened and Endangered Species: Indiana bats, Northern long-eared bats, piping plover and roseate terns have been documented on or in the vicinity of the proposed Great Thicket NWR in the Pachaug-Ledyard focus area. Hunting is expected to have no impact or minimal adverse impacts on these species given the time of year, location, and closures which will be in place where these are conducted. Refuge staff would continue to monitor for the presence of threatened or endangered species on the refuge. If they are found on the refuge, closures or other restrictions may be implemented.

Long-term impacts

Visitor Use and Experience: The refuge would be open to other priority public uses of the Refuge System (wildlife observation, photography, interpretation, environmental education, etc.) where found compatible. Conflicts between hunters and persons engaged in wildlife observation, photography, interpretation, environmental education could occur, particularly where the uses previously occurred on the same parcel. A no-hunting safety zone would be established around trails to separate users and to keep the public safe. The refuge staff would monitor visitor use and, if circumstances warrant, modify public access such that conflicts are avoided (e.g., restricted hunting zones, enhanced outreach). Because hunting is generally a long-standing use in the area and is dispersed across a larger landscape, it is anticipated that there would be negligible impacts to those individuals participating in these other uses.

This pre-acquisition compatibility determination includes the written analysis of environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an affected resource.

Wildlife: Hunting can have direct and indirect impacts on both target and non-target species. These impacts include direct mortality of individuals, changes in wildlife behavior, changes in wildlife population structure, dynamics, and distribution patterns, and disturbance from noise and hunters walking on- and off-trail (Cole and Knight 1990, Cole 1990, Bell and Austin 1985). In many cases, hunting removes a portion of the wildlife population that would otherwise naturally succumb to predation, disease, or competition (Bartmann et al. 1992).

In general, refuge visitors engaged in hunting would be walking off-trail. General disturbance from recreational activities, including hunting, vary with the wildlife species involved and the activity's type, level, frequency, duration, and the time of year it occurs. The responses of wildlife to human activities, such as hunting, include avoidance or departure from the site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschen et al. 1985, Kahl 1991, Klein 1993, Whittaker and Knight 1998), the use of suboptimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior or habituation to human disturbance (Burger 1981, Korschen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993, Whittaker and Knight 1998), attraction (Whittaker and Knight 1998), and an increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). Burger (1986) found the level of disturbance in birds tends to increase when the distance is decreased between visitors and birds.

Some bird species flee from human disturbance, which can lower their nesting productivity and cause disease and death (Knight and Cole 1991). Miller et al. (1998) found bird abundance and nesting activities (including nest success) increased as distance from a recreational trail increased in both grassland and forested habitats.

We anticipate low impacts to nesting birds due to the low participation rate for spring turkey season. Impacts to wildlife other than those hunted will be minor.

Big Game

White-tailed Deer: The regulated hunting of deer in accordance with State regulations and refuge-specific hunting regulations outlined in this document would not compromise the persistence of deer on the refuge or surrounding lands. Deer populations are maintained in accordance with the available habitat through regulated hunting. High deer densities have been shown to negatively affect plant and animal communities. Therefore, a hunting program would help to facilitate ecological diversity by mitigating the effects of high deer densities. Deer densities, if maintained through regulated hunting, would sustain the native vegetation and forest regeneration associated with the natural communities in those regions. Regulated deer hunting would also maintain a deer herd in good physical condition that staves off malnutrition and disease.

Connecticut DEEP actively monitors the State's deer population and the overall physical condition of the herd through the collection of harvest numbers and biological parameters. The biological data from harvested deer, along with habitat data and other information, are used by State biologists to manage the deer herd throughout out the State. Deer harvested on the refuge would likely be replaced by other deer within a relatively short time. Hunting other game species (e.g., turkey or small game) would have a transient effect on deer as deer flush and move away

from hunters. Deer would use energy and experience physiological stress when avoiding hunters and other refuge visitors.

Wild Turkey: In Connecticut, from the 1950s through the early 1970s, attempts at wild turkey restoration through artificial propagation were largely unsuccessful. The major breakthrough in restoration efforts occurred when free-roaming wild turkeys were live-captured and translocated using a rocket net. Between 1975 and 1992, 356 wild turkeys were released at 18 sites throughout the State. These releases and subsequent population expansion have resulted in the successful restoration of wild turkeys to all 169 Connecticut towns (DEEP 2016). Around 1,500 wild turkeys are harvested each year in Connecticut, and turkeys have become a valuable game species in the State.

Populations of turkeys that exceed the biological carrying capacity of their habitat can be decimated by diseases (including Avian Pox that can spread to other bird species) and are capable of degrading their habitat. Populations that are allowed to exceed the cultural carrying capacity can cause extensive agricultural damage. U.S. Department of Agriculture Wildlife Services reports (2013) that farms within Connecticut sustain damage to their stored silage and corn crops from wild turkeys. Regulated hunting plays an important role in limiting the damage to agriculture from turkeys.

Small/Upland Game: Refuge lands would be open to hunting for all upland/small game species consistent with State regulations with some exceptions for eastern cottontail (which the State refers to as cottontail rabbit), snowshoe hare, and European hare, and seasonal and time of day restrictions for raccoon and opossum. The hunt would include coyote, fox, raccoon, opossum, gray squirrel, pheasant, quail, woodchuck, Hungarian partridge, crow, and ruffed grouse. One of the reasons for the creation of the Great Thicket NWR was to assist in the conservation of the New England cottontail. Eastern cottontail and New England cottontail can be very difficult to distinguish from one another. New England cottontail could also be confused with snowshoe or European hare; therefore, we would not allow the hunting of any rabbit or hare on refuge lands.

Many small game species present in the Pachaug-Ledyard focus area on the refuge are strategist species, demonstrating high productivity and mortality rates, with population densities often tied to the quality of available habitat. Most of the small game species' populations are positively influenced by increasing percentages of younger forest age classes that provide the mix of cover and foods for these animals. The Pachaug-Ledyard focus area has large amounts of early successional forestland. This provides a significant high quality habitat foundation to support higher densities of these species. Even so, population fluctuations can be driven by weather, changes in predator populations, and annual fluctuations in food supplies. Hunting mortality is compensatory and generally not considered to be a factor

affecting population size (Edwards et al. 2003). The number of hunters pursuing small game is predicted to be low and is not expected to have negative impacts on populations.

Migratory Birds: Migratory birds are managed on a flyway basis and hunting regulations are established in each state based on flyway data. Federal and State regulations would apply. Hunting migratory birds on the refuge would reduce the total numbers of birds in the flyway, but harvest would be within allowable limits as determined by the Service annually. Hunting waterfowl on the refuge would make the birds more skittish and prone to disturbance, reduce the amount of time they spend foraging and resting, alter their habitat usage patterns (Raveling 1979, Owen 1973, White-Robinson 1982, Madsen 1985, Bartelt 1987). Disturbance to non-target birds and resident wildlife would likely occur from hunting and associated hunter activity but would be short-term and temporary. Overall, the effects on migratory birds are expected to be minimal due to the low number of hunters on refuge lands.

Visitors and Users: The refuge may be open to other priority public uses of the Refuge System (such as wildlife observation, wildlife photography, environmental education and environmental interpretation or fishing) where found compatible. Conflicts between hunters and other refuge visitors could occur, particularly where there is concentrated use by both groups. If other uses are approved at the refuge, a no-hunting safety zone may be established around trails to separate the user groups for safety. The refuge staff would monitor visitor use and, if circumstances warrant, modify public access such that conflicts are avoided (e.g., restricted hunting zones, enhanced outreach). Because hunting is generally a long-standing use in the area and is dispersed across a larger landscape, it is anticipated that there would be negligible impacts to those individuals participating in fishing, wildlife observation, photography, environmental education, and interpretation. Overall, hunting can result in beneficial impacts. Hunting provides wildlife-dependent recreational opportunities that can foster a better appreciation and more complete understanding of wildlife and habitat, which can translate into stronger support for wildlife conservation, the refuge, the Refuge System, and the Service.

Public Review and Comment

The LPP/EA, upon which this pre-acquisition CD is predicated, was initially released for a 45-day public review and comment period from January 19 to March 4, 2016. In response to several requests, the public comment period was extended another 30 days.

This preacquisition CD was available for public review and comment for 14 days from February 10, to February 24, 2022. The public was made aware of the public review and comment period by a legal noticed published in *The Day* newspaper

which ran in the February 10, 2022 edition. Additionally, on February 8, 2022, refuge staff sent the First Selectmen of the towns of Stonington and North Stonington a copy of the pre-acquisition CD and requested that they post copies of the compatibility determination at the town halls and by other mediums which the towns use to reach their citizens. The Mayor of Ledyard and Town Manager of Groton were also sent copies of the pre-acquisition CD with a similar request. Refuge staff sent a copy of the pre-acquisition CD to the Trust the Public Land (TPL), which is currently heading a project to acquire land in Stonington for the refuge (known as the Brewster Tract which borders Al Harvey Road) with a request that TPL make the pre-acquisition CD available to any interested parties. A press release was sent to the following newspapers: *Norwich Bulletin*; *Willimantic Chronicle*; *Hartford Courant*; *The Day*, and to the *Westerly Sun* on February 9, 2022. The press release led to the publication of an article in *The Day*, published on February 10, 2022 and the *Westerly Sun*, on February 14, 2022. Both articles informed the readers how to access the draft pre-acquisition CD and how to submit comments. A hard copy of this document was made available through the refuge manager. Additionally, an electronic copy was posted on the Stewart B. McKinney NWR website, in a section designated for the Great Thicket NWR.

During the comment period, the refuge received 50 comments total. Some concerned mainly hunting, while other comments addressed non-consumptive refuge uses like wildlife observation, photography, interpretation, environmental education and trail walking. Most comments were submitted via e-mail and one came by United States Postal Service mail. One of the telephone commenters requested their phone comment be replaced by a more formal written response. We also received one additional phone comment. We have summarized all the comments received in Appendix A of this document.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

To ensure compatibility with refuge purpose(s) and Refuge System mission, hunting would occur at the Great Thicket NWR Pachaug-Ledyard focus area in accordance with State and Federal regulations, and refuge-specific restrictions to ensure that wildlife and habitat management goals are achieved, and that the program is providing a safe, high-quality hunting experience. We will evaluate this program annually and if monitoring indicates that this use, or any of its components, are not compatible (materially interferes with or detracts from fulfillment of the Refuge

System mission or the purposes of the refuge), we will curtail, modify, or eliminate the use or components of the use.

The following stipulations are necessary to ensure compatibility:

1. Hunting access to the refuge will occur from 1 ½ hours before legal sunrise to 1 ½ hours after legal sunset.
2. We require the use of non-toxic ammunition for all firearm hunting except big game.
3. We encourage the voluntary use of non-toxic ammunition for big game hunting.
4. We will evaluate and phase out the use of lead ammunition for big game within 5 years.
5. No night hunting is allowed.
6. No Sunday hunting is allowed.
7. Hunters must possess a signed refuge hunt brochure while engaged in hunting activities.
8. We prohibit the hunting of rabbits and hares.
9. We prohibit the use of electronic calls.
10. No baiting is allowed on refuge lands.
11. Tree stands, blinds, and other hunting equipment must be removed daily.

Detailed hunting information for specific tracts will be included, if necessary, will be found in the hunting brochure. Hunters would be required to carry a signed brochure while hunting

Justification

Hunting is one of the priority wildlife-dependent uses for the Refuge System through which the public can develop an appreciation for fish and wildlife (Executive Order 12996, Secretarial Order 3356, and the Refuge System Administration Act of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57)). The Service's policy is to provide expanded opportunities for these uses when compatible and consistent with sound fish and wildlife management and ensure that they receive enhanced attention during planning and management. Hunting should not materially interfere with or detract from the fulfillment of the Refuge System mission or refuge purposes.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

This pre-acquisition CD will be revisited by January 31, 2027.

Literature Cited/References

- Bartmann, R.M., White, G.C., and Carpenter, L.H. 1992. Compensatory mortality in a Colorado mule deer population. *Wildlife Monographs*, 121, 1-39.
- Bartelt, G.A. 1987. Effects of disturbance and hunting on the behavior of Canada geese family groups in East Central Wisconsin. *Journal of Wildlife Management*, 51, 517-522.
- Behrend, D.F., Mattfield, G.F., Tierson, W.C., and Wiley, J.E. 1970. Deer density control for comprehensive forest management. *Journal of Forestry*, 68, 695-700.
- Belanger, L. and Bedard, J. 1990. Energetic cost of man-induced disturbance to staging snow geese. *Journal of Wildlife Management*, 54, 36-41.
- Bell, D.V. and Austin, L.W. 1985. The game-fishing season and its effects on overwintering wildfowl. *Biological Conservation*, 33, 65-80.
- Burger, J. 1986. The effect of human activity on shorebirds in two coastal bays in northeastern United States. *Biological Conservation*, 13, 123-130.
- Burger, J. 1981. Effect of human activity on birds at a coastal bay. *Biological Conservation* 21, 231-241.
- Cole, D.N. and Knight, R.L. 1990. Impacts of recreation on biodiversity in wilderness. *Natural Resources and Environmental Issues*, 0, 33-40.

- Cole, D.N. 1990. Ecological impacts of wilderness recreation and their management. In J.C. Hendee, G.H. Stankey, and R.C. Lucas (Eds.), *Wilderness Management* (pp. 425-466). Golden, CO: North American Press.
- Cote, S.D., Rooney, T.P., Tremblay, J.P., Dussault, C., and D.M. Waller. 2004. Ecological Impacts of Deer Overabundance. *Annual Review of Ecology and Systematics* 35:113-147.
- Department of Environmental Protection. (2016) "Wild Turkey Fact Sheet." CHRO: Affirmative Action, www.ct.gov/deep/cwp/view.asp?A=2722723&Q=326110.
- Edwards, J., Ford, M., and Guynn, D. 2003. Fox and gray squirrels in *Wild Mammals of North America*. Pp 248-267. Johns Hopkins University Press.
- Erwin, R.M. 1980. Breeding habitat by colonially nesting water birds in two Mid-Atlantic U.S. regions under different regimes of human disturbance. *Biological Conservation*, 18, 39-51.
- Galatowitsch, S., Frelich, L., and Phillips-Mao, L. 2009. Regional climate change adaptation strategies for biodiversity conservation in a mid-continental region of North America. *Biological Conservation* 142:2012-2022.
- Havera, S.P., Boens, L.R., Georgi, M.M., and Shealy, R.T. (1992). Human disturbance of waterfowl on Keokuk Pool, Mississippi River. *Wildlife Society Bulletin*, 20, 290-298.
- Kahl, R. 1991. Boating disturbance of canvasbacks during migration at Lake Poygan, Wisconsin. *Wildlife Society Bulletin*, 19, 242-248.
- Kaiser, M.S. and Fritzell, E.K. 1984. Effects of river recreationists on green-backed heron behavior. *Journal of Wildlife Management*, 48, 561-567.
- Klein, M.L. 1993. Waterbird behavioral responses to human disturbance. *Wildlife Society Bulletin*, 21, 31-39.
- Knight, R.L. and Cole, D.N. 1991. Effects of recreational activity on wildlife in wildlands. *Transactions of the 56th North American Wildlife and Natural Resources Conference*, 238-247.
- Knight, T.M., Dunn, J.L., Smith, L.A., Davis, J., and Kalisz, S. 2009. Deer facilitate invasive plant success in a Pennsylvania forest understory. *Natural Areas Journal* 29(2):110-116.
- Korschen, C.E., George, L.S., and Green, W.L. 1985. Disturbance of diving ducks by boaters on a migrational staging area. *Wildlife Society Bulletin*, 13, 290-296.
- Madsen, J. 1985. Impact of disturbance on field utilization of pink-footed geese in West Jutland, Denmark. *Biological Conservation*, 33, 53-63.
- Marion, J. L. and Leung, Y.F. 2001 *Indicators and Protocols for Monitoring Impacts*

of Formal and Informal Trails in Protected Areas.217.

Miller S.G., Knight, R.L., and Miller, C.K. 1998. Influence of Recreational Trails on breeding bird communities. *Ecological Society of America*, 8(1), 162-169.

Morton, J.M., Fowler, A.C., and Kirkpatrick, R.L. 1989. Time and energy budgets of American black ducks in winter. *Journal of Wildlife Management*, 53, 401-410 (also see corrigendum in *Journal of Wildlife Management*, 54, 683.

Nuttle, T., Royo, A.A., Adams, M.B., and W.P. Carson. 2013. Historic disturbance regimes promote tree diversity only under low browsing regimes in eastern deciduous forest. *Ecological Monographs* 83(1):3-17.

Owen, M. 1973. The management of grassland areas for wintering geese. *Wildfowl*, 24,123-130.

Raveling, D.G. 1979. Traditional use of migration and winter roost sites by Canada geese. *Journal of Wildlife Management*, 43, 229-235.

Tierson, W.C., Patric, E.F., and Behrend, D.F. (1966). Influence of white-tailed deer on the logged northern hardwood forest. *Journal of Forestry*, 64, 804-805.

Tilghman, N.G. 1989. Impacts of white-tailed deer on forest regeneration in northwestern Pennsylvania. *Journal of Wildlife Management*, 53, 524-532.

Ward, D.H. and Stehn, R.A. 1989. Response of brant and other geese to aircraft disturbance at Izembek Lagoon, Alaska. Anchorage, AK: U.S. Fish and Wildlife Service, Alaska Fish and

Wildlife Research Center. Final report to the Minerals Management Service.

White, M.A. 2012. Long-term effects of deer browsing: composition, structure and productivity in a northeastern Minnesota old-growth forest. *Forest Ecology and Management* 269: 222-228.

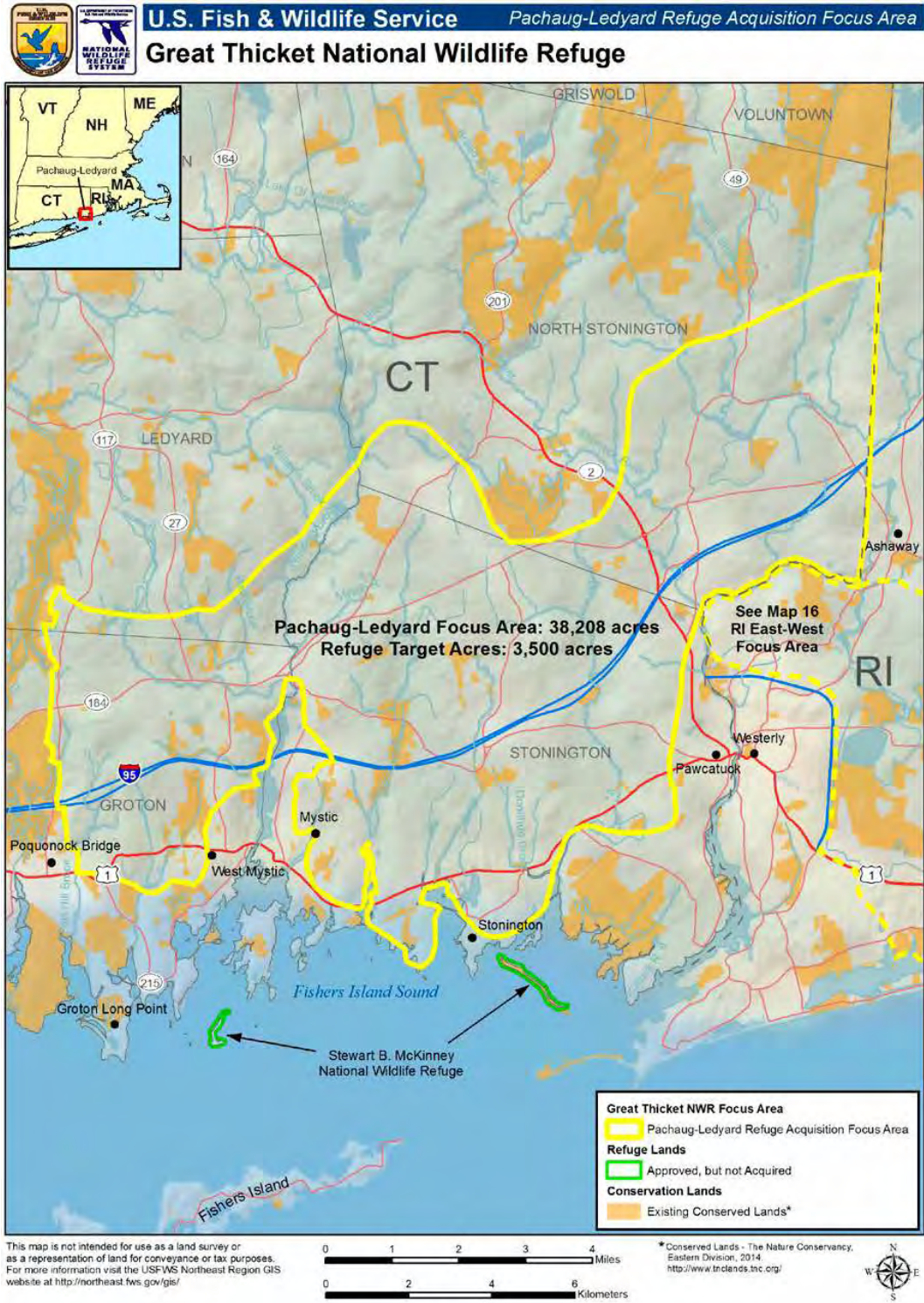
White-Robinson, R. 1982. Inland and saltmarsh feeding of wintering brent geese in Essex. *Wildfowl*, 33, 113-118.

Whittaker, D. and Knight, R. 1998. Understanding wildlife responses to humans. *Wildlife Society Bulletin*, 26(3), 312-317.

Williams, G.J. and Forbes, E. 1980. The habitat and dietary preferences of dark-bellied brant geese and widgeon in relation to agricultural management. *Wildfowl*, 31, 151-157.

United States Department of Agriculture 2013. Environmental Assessment Reducing Bird Damage in the State of Connecticut.

Figure (1)



Appendix A

Comments Received Concerning the Pre-acquisition CD for Hunting, and the Service Response

The table below shows the name of the commenter with an assigned comment number that is used to organize the Service response to each comment received. In the Service response to comments section below, the comment number is included in parenthesis to identify the author of the comment.

Comment: Number	Commenter Name
1	A. Roberts-Pierson
2	R. Polo
3	B. Littman
4	R. Newton
5	J. Friedlander
6	K. Worthington
7	S. Surova
8	T. Downie and D. Motycka Downie
9	M. Burton
10	H. Picazio
11	M. Urgo
12	K. Tomlinson
13	J. Cranfill
14	R. Hunter
15	J. Morris
16	P. McDonald
17	J. and J. Fingerut
18	J. Welch
19	B. Sullivan
20	B. Winholtz
21	S. Cook
22	L. Dunn
23	R. Taylor
24	B. DeMario
25	B. Tassias
26	J. Watson
27	T. Przybysz
28	A. Cravitz

29	N. Doherty
30	T. Albin
31	N. Hackin
32	D. Pollock
33	S. Pollock
34	K. and L. Cassidy
35	A. DeFreitas
36	S. Raffetto
37	J. Guarnaccia
38	J. Fitzpatrick
39	P. Burmahl
40	F. Wiehn
41	T. Pollock
42	F. Ball and M. Gruenfelder
43	J. Swenarton
44	A. Pollock
45	A. Alexander and K Costello
46	D. Janus
47	H. Hinkle
48	P Davis
49	T Phelps
50	CT Department of Energy and Environmental Protection

The purpose for this pre-acquisition CD for hunting is to establish a framework to allow a wildlife-dependent use that is occurring on property prior to acquisition by the Service to continue on the property after it is owned by the Service, until a management plan can be developed and authorized. All future lands acquired as part of the Great Thicket NWR in Southeast Connecticut (Pachaug-Ledyard focus area) will be evaluated by, and subject to, this pre-acquisition CD for hunting.

Numerous public comments were received concerning hunting on land with frontage along Al Harvey Road in Stonington, CT. Currently, there is a land conservation project being led by the Trust for Public Land to conserve 220 acres of forest habitat (known as the Brewster Tract). Approximately 120 acres would be purchased by the Town of Stonington and Aquarion Water Company and managed by Avalonia Land Conservancy. The remaining approximately 100 acres would be purchased and managed by the Service, as part of the Great Thicket NWR in Southeast Connecticut.

It should be understood that this pre-acquisition CD for hunting establishes an

overarching framework that will be applied to all future lands acquired by the refuge in the Pachaug-Ledyard focus area (Figure 1, above). Stipulations that are site-specific, such as for the 100 acres of the Brewster Tract with frontage along Al Harvey Road in Stonington, CT – would be laid out in a hunting brochure. A hunting brochure would be created for land within the focus area that the Service opens for hunting. It would contain site-specific regulations on safety, protecting biological resources, and it may stipulate such provisions as “archery only,” for example. The brochure would also show a map of areas open to hunting, hunting buffer zones, areas closed to hunting, etc. Hunters would be required to read, sign, and hold this brochure physically on their person before conducting any hunting activity.

Service Responses to Comments:

We received three comments which addressed hunting on all lands within the Pachaug-Ledyard focus area. Responses to those comments are found below.

1. Comment: (50) The Director of the Wildlife Division of Connecticut Department of Energy and Environmental Protection (DEEP) supports the Service’s plan to provide wildlife-dependent recreation on lands acquired for the refuge for the benefit of the citizens of Connecticut. DEEP further pointed out that “Providing, and retaining, hunting access is important in Connecticut. It builds on a rich recreational history and helps us achieve our goal for recruiting, retaining, and reactivating hunters. Hunting is highly regulated in Connecticut and mandatory safety training is provided for new hunters. Connecticut holds one of the top five hunting safety records in the country.”

Response: We thank the Department for their support of the Service’s goal of making refuge lands available for wildlife-dependent recreation to the American people.

2. Comment: (22) The commenter said they generally support managed hunting for wildlife management reasons. However, they do recommend hunting be restricted to areas north of Interstate-95 in the Pachaug-Ledyard focus area.

Response: As stated in this pre-acquisition CD, the Service is required to consider hunting opportunities on all lands acquired for inclusion in the Refuge System. However, each tract of land would be evaluated to ensure hunting activities could be conducted safely and to ensure that hunting is compatible with refuge purposes. If it is determined the tract of land can safely accommodate hunting activities while supporting the purpose of the refuge, hunting would be allowed to continue within the framework described in the pre-acquisition CD for hunting.

3. Comment: (1) The commenter supports the continuation of wildlife-dependent recreation other than hunting on the Pachaug-Ledyard focus area. The commenter was opposed to hunting because they perceive the anticipated annual administrative costs as too low and the hunting/killing of animals seems counter-intuitive in the conservation context through which Great Thicket NWR was created (i.e., wildlife in decline). It does not make sense on small parcels of land where wildlife species are in decline. The commenter further states that it was their opinion that “less mindless extermination of wildlife and more mindful appreciation of wildlife” was needed. The commenter did ask if bow hunting would be considered as a method of hunting.

Response: The amount of \$9,000 was determined by comparing the cost of similar activities which have been conducted on the Stewart B. McKinney NWR. Because this same type of activity occurs at the McKinney NWR, and due to the pace of land acquisition for the refuge, we believe this is a realistic cost estimate. The Service, as a Federal agency, receives budget allocations through an act of Congress.

The Service is required under the Refuge System Administration Act of 1966, as amended, and by the Refuge System Improvement Act of 1997 (Public Law 105 – 57) to consider providing hunting on units of the National Wildlife Refuge System. Service policy is to provide expanded opportunities for the “big six” wildlife-dependent recreational activities - including hunting - when they are compatible and consistent with sound fish and wildlife management, and to ensure they receive enhanced attention during planning and management. To that end, we have developed this pre-acquisition CD that creates a framework to allow hunting on parcels of land that could be included in the Great Thicket NWR, where such activity is compatible and safe. As described in the pre-acquisition CD we would consider all manners of hunting as described by the Connecticut DEEP to include bow hunting.

Note: The following comments concern the Brewster Tract with access along Harvey Road in Stonington, CT. The Brewster Tract is within the Pachaug-Ledyard focus area.

4. Comment: (5, 35, 36, 37, 38, 39, 40, 45,46) We received nine comments which expressed general support for the Service to obtain approximately 100 acres of the Brewster Tract with frontage along Al Harvey Road in Stonington, CT.

Response: As stated above, this pre-acquisition CD is for the entire focus area and not just for the Brewster Tract with access along Al Harvey Road in Stonington, CT. However, the document establishes the framework that the Service will utilize to continue wildlife-dependent recreation on the Brewster Tract after the Service

acquires the property. Site-specific information will be laid out in a hunting brochure. We appreciate the support shown in your comments and we believe the acquisition of the Brewster Tract will assist the Service in fulfilling the purposes of the Great Thicket NWR.

5. Comment: (11, 13, 14, 19, 21, 23, 24, 25, 26, 30, 48,49) We received 12 comments supporting hunting on the Brewster Tract with frontage along Al Harvey Road in Stonington, CT. All 12 comments expressed general support for hunting on the tract. Four elaborated on their support for the hunting on the tract. These comments included the following sentiments: hunting is an effective wildlife management tool; believe that the State and Service will be responsible in the management of hunting activities; the use of proper signage will help; and the posting of boundaries and buffer zones would contribute to safety. A commenter also noted the contribution of American sportswomen and sportsmen in support of wildlife conservation through the Federal Aid and Wildlife Restoration Act.

Response: As stated above, this pre-acquisition CD is for the entire focus area and not just for the Brewster Tract with access along Al Harvey Road in Stonington, CT. However, the document establishes the framework that the Service will utilize to continue wildlife-dependent recreation on the Brewster Tract after the Service acquires the property. Site-specific information will be laid out in a hunting brochure.

We appreciate your comments concerning hunting on the Brewster Tract with access along Al Harvey Road in Stonington, CT. As stated in this pre-acquisition CD, the Service is required to consider hunting opportunities on all lands acquired for inclusion in the Refuge System. However, each tract of land would be evaluated to ensure hunting activities could be conducted safely and are compatible with the purpose of the refuge. If it is determined the tract can safely accommodate hunting activities while supporting the purposes of the refuge, hunting would be allowed to continue within the framework described in the pre-acquisition CD for hunting. (Additionally, please see response to comment 7, below)

6. Comment: (4, 8, 43) We received three comments that supported hunting with some limitations on where hunting would be allowed on the Brewster Tract and the method of hunting. The commenters preferred archery hunting over firearms hunting, the need to develop a framework to allow hunting to coexist with other wildlife-dependent recreational activities, and suggested spatial restrictions, safety zones and buffer zones around neighbors' homes and yards.

Response: As stated above, this pre-acquisition CD is for the entire focus area and not just for the Brewster Tract with access along Al Harvey Road in Stonington, CT.

However, the document establishes the framework that the Service will utilize to continue wildlife-dependent recreation on the Brewster Tract after the Service acquires the property. Site-specific information will be laid out in a hunting brochure that we would create.

We appreciate your comments concerning hunting on the Brewster Tract with access along Al Harvey Road in Stonington, CT. As stated in this pre-acquisition CD, the Service is required to consider hunting opportunities on all lands acquired for inclusion in the Refuge System. Each tract of land acquired will be evaluated to ensure hunting activities could be conducted safely and are compatible with the purpose of the refuge. If it is determined hunting can be safely conducted on a newly acquired tract of land while supporting the purposes of the refuge, hunting would be allowed to continue within the framework described in the pre-acquisition CD for hunting. (Additionally, please see response to comment 7 below)

7. Comment: (3, 6, 7, 9, 10, 12, 15, 16, 17, 20, 28, 29, 32, 33, 34, 41, 42, 44) We received 18 comments which did not support hunting on the Brewster Tract with frontage on Al Harvey Road in Stonington, CT.

Two commenters stated that the current owners of the Brewster Tract do not allow hunting on the property. One commenter pointed out hunting is not currently allowed on the Brewster Tract and the pre-acquisition CD would only allow for the continuation of ongoing wildlife-dependent recreational uses; therefore, hunting should not be considered for the Brewster Tract. Of the 16 comments that do not support hunting on the Brewster Tract, 10 comments (3, 7, 15, 17, 28, 29, 32, 34, 41, 42) specifically addressed the use of firearms and related safety concerns. Commenters did not believe the tract was large enough to safely accommodate firearms for hunting. Examples provided by commenters included: the safety of adjacent landowners, the safety of people utilizing Al Harvey Road, and the safety of people engaging in other wildlife-dependent recreational activities. Two comments also stated that bow hunting would raise the same safety concerns as listed above. One commenter preferred bow hunting (archery), as compared to firearms hunting.

There were several commenters who believed the management techniques used in the past by the Service, and described in detail in the pre-acquisition CD, would not be adequate to ensure there would be no hunting accidents if hunting was permitted on the Brewster Tract. They further stated that visitors may ignore posted area signs and suggest the enforcement of closed areas could prove difficult. Also, one commenter believed posting the boundary with signs and or periodic closings would be “cruel and exclusionary”.

One commenter believed hunting on the Brewster Tract would disturb the peace and quiet of the residences along the road. The commenter pointed out there is enough disruption in the form a shooting coming from the Groton Sportsmen's Club, which abuts the portion of the Brewster Tract the Service would own and manage.

Three commenters provided descriptions of potentially unsafe hunting activities, which include the death of a jogger in Simsbury associated with hunting activities (the commenter noted this accident was many years ago). The three commenters had safety concerns associated with hunting on the Brewster Tract.

One commenter was concerned that hunting activity could cause damage to native species and promote the stocking of non-native species. Additionally, a commenter opposed the killing of animals to control animal populations. The commenter believed the use of the vaccine PVP will keep wildlife populations within the carrying capacity and human utilization of the area.

Response: As stated above, this pre-acquisition CD is for the entire focus area and not just for the Brewster Tract with access along Al Harvey Road in Stonington, CT. However, the document establishes the framework that the Service will utilize to continue wildlife-dependent recreation on the Brewster Tract after the Service acquires the property. Site-specific information will be laid out in a hunting brochure.

We appreciate your comments concerning hunting on the Brewster Tract with access along Al Harvey Road in Stonington, CT. The Service understands hunting can sometimes be a controversial issue in terms of the taking of wildlife species, conflicts with other users, and the concerns of abutting landowners.

The Service is required under the Refuge System Administration Act 1966, as amended, and by the Refuge System Improvement Act of 1997 (Public Law 105 – 57) to consider providing hunting on units the Refuge System. Service policy is to provide expanded opportunities for the “big six” wildlife-dependent recreational activities - including hunting - when they are compatible and consistent with sound fish and wildlife management, and to ensure they receive enhanced attention during planning and management.

To that end, we have developed this pre-acquisition CD that develops a framework to allow hunting on parcels of land that could be included in the Great Thicket NWR, where such activity is compatible and safe. We believe (as laid out in the pre-acquisition CD) that hunting can safely be allowed at the refuge where it has occurred in the past, under the framework described herein.

Regarding the two commenters who stated that the current owners of the Brewster Tract have not allowed hunting on the land during their ownership: this is inconsistent with information provided by the current owners of the property. The Trust for Public Land (TPL), the organization leading this conservation project and the acquisition of the Brewster Tract, report that the current owners of the Brewster Tract said that they have given permission for at least one hunter to use the property for hunting activity. The current owners also reported that they were aware other people were engaging in hunting activities on the property, and they took no action to either promote or discourage this activity. During an inspection of the property, Service personnel identified elevated stands which appeared to be used for hunting of white-tailed deer. During the 2021-22 hunting season, representatives from the TPL noted two stands they believed to be deer stands on the property. With the information provided by the owners, and observations by Service staff and TPL staff, we believe hunting is an ongoing activity on the Brewster Tract. Therefore, the framework described in this pre-acquisition CD would be applicable to evaluate whether hunting activities should continue on the Brewster Tract.

As seen in several comments, there are concerns the portion of the Brewster Tract the Service will manage is too small to allow hunting, particularly if firearms are permitted for hunting. Several commenters suggest hunting be limited to archery hunting.

The Service believes that it can utilize the framework of this pre-acquisition CD, as well as site-specific information laid out in a hunting brochure, to create a safe and effective hunting program on the Brewster Tract and other tracts of land that may be acquired in the future. The framework allows the Service to limit the method of take. An example would be to limit the method of take on the Brewster Tract to archery only. This restriction would be noted in the hunting brochure. (Please see the “Stipulations Necessary to Ensure Compatibility” section on page 13-14 of this document.

As seen in the comments, there are concerns that hunting poses safety risks to neighbors, neighbors’ property, and to persons engaged in other wildlife-dependent recreation as they utilize the Brewster Tract.

On any tract we acquire, the Service would likely establish safety zones and other buffers to separate people engaging in hunting from other visitors engaging in non-consumptive recreational pursuits. The use of closed areas to separate user groups for safety reasons is a common management practice utilized within the Refuge System, and on lands managed by the State of Connecticut.

On the 100-acre Brewster Tract, the Service is considering concentrating all hunting activity on the northern section only. This area abuts land that is currently being hunted. We are also considering designating the Brewster Tract as archery-only. Review of the tax maps for the Town of Stonington shows there are no occupied structures near the refuge boundary in this northern portion of the refuge tract that would be within range of an arrow. This information would be found in the hunting brochure.

There is only one trail which accesses the northern section of the parcel. The Service is considering closing this trail to all users, except hunters, from Monday through Saturday between September and December to allow bow hunting for the species described in the pre-acquisition CD. The Service would ensure the parcel is marked with boundary signs and the trail is closed with appropriate government signage. In addition, we would place signs on connecting trails at the property line between the refuge-managed portion of the tract and the portion of the tract managed by Avalonia. The signs would inform visitors they are entering Service-managed land, and they should follow all Service signage. We would also install appropriate signage at all other entry points to the Service-managed portion of the Brewster Tract.

To notify the public the area is open to archery hunting, the Service would develop a map of the parcel which would clearly identify the no-hunting and hunting areas on the property. Additionally, refuge hunting regulations and other rules specific to the property would be posted on the map and the refuge website. This information would be made available at all entry points to the Service-managed portion of the Brewster Tract. (This would be noted in the hunting brochure see the “Stipulations Necessary to Ensure Compatibility” section on pages 13-14 of this document for further information on how we would address this.)

Some commenters expressed concern that warning signs for closed areas could be ignored, which could lead to unsafe conditions.

The use of regulatory signage is a well-established practice to manage lands open to the public. The Service has Federal Wildlife Law Enforcement Officers on staff who can enforce refuge regulations, including closed areas. Additionally, Connecticut Environmental Police Officers are tasked with the enforcement of State hunting laws, which include laws for the protection of persons and property.

As described above, Federal Wildlife Officers would contact hunters if they are hunting in an area closed to hunting, and would contact other visitors not engaged in hunting but have entered an area that is only open to hunters. All persons engaging in hunting activities are required to pass a State-approved hunter safety

course which emphasizes the need for a hunter to clearly identify their target before firing. This is a fundamental practice of hunting, and it provides another layer of protection if an individual unknowingly enters a hunting area. It should be noted that Service law enforcement personnel can take enforcement action against persons who enter open hunting areas who do not intend to hunt.

As stated by the Connecticut DEEP in comment 1, the State currently enjoys the 5th safest hunting program in the nation. The use of maps, closed areas, signage, and refuge hunting regulations would be used to inform the public about the refuge's archery hunting program on the Brewster Tract until such time that a hunting management plan can be written.

We also received a comment stating the closure of certain areas of the refuge to non-hunters would be "crude and exclusionary".

The Service disagrees. As described above, the Service is contemplating giving hunters sole access to pursue hunting activity on the northern section of the Brewster Tract 6 out of 7 days a week, but only from September through December. Persons engaged in other wildlife-dependent recreational activities would be able to access and explore the northern section on Sundays year-round, and that would change to daily access from January 2 through the last day of August each year. Additionally, all trails on the non-hunting section of the property would be open to non-hunters all year. Access to the Brewster Tract for wildlife-dependent recreational activities other than hunting would far exceed access afforded to persons pursuing hunting. This schedule will be addressed in the hunting brochure.

Comments received concerning the detrimental noise generated by hunting activities would not exist on the Brewster Tract if, as the Service is considering, archery hunting becomes the sole method of take there.

We received a comment about the possible negative effects of hunting on the Brewster Tract.

The pre-acquisition CD describes both the negative and positive effects of hunting on the wildlife species and natural resources of the area. Currently, the Service generally believes there to be only positive impacts of hunting, if implemented under this pre-acquisition CD. However, the pre-acquisition CD allows the Service to change management strategy if we believe the hunting program is having negative effects.

8. Comment: (18, 30) We received two comments from business owners along Al

Harvey Road expressing concern about the effects hunting activities may have on their business. One business is a 150-acre beef cattle farm which abuts the Brewster Tract that would be managed by the Service. The other business is a daycare located in the 100 block of Al Harvey Road.

Response: As stated above, this pre-acquisition CD is for the entire focus area and not just for the Brewster Tract with access along Al Harvey Road in Stonington, CT. However, the document establishes the framework that the Service will utilize to continue wildlife-dependent recreation on the Brewster Tract after the Service acquires the property. Site-specific information will be laid out in a hunting brochure.

The Service would utilize the framework identified in this pre-acquisition CD to address safety concerns of surrounding property owners. Additionally, the State has also established hunting regulations to promote safe hunting practices.

Regarding the safety concerns expressed by the businesses along Al Harvey Road: The daycare is in the 100 block of Al Harvey Road. Using the Town of Stonington's tax maps, we identified the location of the daycare and the location on the Brewster Tract where the Service is considering allowing archery hunting. The distance between the two locations far exceeds the range an arrow used for hunting would travel. If the Service allows archery-only hunting there, it would not pose any safety risks to the daycare.

A 150-acre beef cattle farm abuts the Brewster Tract. The business owner is concerned for the safety of livestock and persons working with livestock adjacent to an area that would possibly be open to hunting. The cattle operator asked who would be responsible for any accidents resulting from hunting on Service property.

The Service is considering opening the northern section of the Brewster Tract to hunting. This land abuts the Groton Sportsmen's Club (which allows hunting) and the cattle farm. State-mandated hunter education training emphasizes that hunters must be sure of their targets before they fire, and ensure the area directly behind the target is clear, should the shot miss the target. This practice should greatly reduce the likelihood of accidents. Additionally, the refuge boundary would be clearly marked, making it easy for hunters to stay on refuge property, and to establish hunting stands that provide opportunities for safe shots and little risk of arrows entering adjacent properties.

In the State of Connecticut, the hunter is responsible for their actions while hunting. This includes actions that injure people or damage property. However, if an individual believes the actions, or inactions, of the Service contributed to a

“loss”, they can bring an action through the Federal Tort Claims Act (FTCA). The FTCA is Federal legislation enacted in 1946 that provides a legal means for compensating individuals who have suffered personal injury, death, or property loss or damage caused by the negligent or wrongful act or omission of an employee of the Federal government.

9. Comment: (34, 42, 43, 44) One comment received stated there have been automobile accidents along Al Harvey Road, and in one case that accident led to the loss of life. Additionally, the commenter indicated the operators of vehicles along Al Harvey Road “regularly and dangerously exceed the posted speed limit” and that our providing a parking area may further affect safety concerns along the roadway due to the possible increase in traffic flow. The commenter stated there is already heavy use of the road by bicyclists and pedestrians walking along the roadway, which adds to safety concerns. The commenter stated the pre-acquisition CD calls for persons engaging in wildlife-dependent recreational activities to use informal parking such as the shoulder of the road, which they believe is a safety concern. Also, there was a concern for the safety of wildlife crossing the road. The commenter questions what organization would field complaints regarding observed infractions and related safety concerns.

Response: Al Harvey Road in Stonington, CT is a major secondary road that connects State Highway CT-184 and State Highway CT-234. Both State Highways are primary roads allowing east west travel with intersections on interstate I-95. Responsibility for traffic enforcement on Al Harvey Road is within the authority and jurisdiction of the Town of Stonington and the State of Connecticut. If safety concerns caused by visitation to refuge land occurs, the refuge manager can be contacted. In coordination with local officials, the refuge manager will work to alleviate those safety concerns.

There is already an informal access point located along Al Harvey Road, which has been used by the public to access the Brewster Tract. The shoulder of the road in the immediate vicinity of the informal access site is wide enough to allow for the parking of vehicles where the vehicle is completely removed from the roadway onto the shoulder of the street. This informal parking area allows access to a well-developed trail system on the Brewster Tract. If any safety issue arises due to public use of this informal parking area, the refuge manager would work with local authorities to alleviate the safety concerns. To improve the site for all visitor access, the Service could construct a small, formal parking facility to accommodate off-street parking.

Because Al Harvey Road is a well-used secondary route within the Town of Stonington, we do not anticipate residents of the area would notice any increase of

traffic due to people visiting the refuge lands. Due to the location of the access point on Al Harvey Road, we do not anticipate refuge visitation to cause an increase in the use of the road by bicyclists or pedestrians.

One commenter's safety concern about Al Harvey Road access was attributed to their belief that Avalonia Land Conservancy would be the acting "refuge manager." This statement is incorrect. Lands added to Great Thicket NWR in southeast Connecticut would be managed by the Service, specifically the staff and the refuge manager of the Stewart B. McKinney NWR in Westbrook, Connecticut.

10. Comment: (42) The commenter was concerned about Avalonia Land Conservancy's responsibility for policing and enforcing the stipulations in the pre-acquisition CD.

Response: As stated above, the approximately 100 acres of the Brewster Tract purchased by the Service would be managed as a unit of the Refuge System, with local management provided by the refuge manager and staff stationed at Stewart B. McKinney NWR in Westbrook. The stipulations within this pre-acquisition CD do not apply to lands managed by Avalonia Land Conservancy.

11. Comment: (42) The commenter was concerned about the accuracy of the annual administrative costs associated with managing the activities outlined in the pre-acquisition CD and the availability of funding for refuge management purposes.

Response: See Response to comment 3 above.

12. Comment: (41) One commenter asked multiple questions or made additional comments using red text throughout an electronic version of the pre-acquisition CD.

Response: The following responses are provided to the comments and questions we received in the electronic version of the pre-acquisition CD. Several questions or comments were repeated multiple times throughout the document. We provide only one response to questions or comments that are duplicates.

a. Comment: There is currently no hunting allowed on this land and it has not been allowed for at least 50 years.

Response: See response to comment number 7 above.

b. Comment: There are currently no pre-existing wildlife-dependent recreational public uses allowed on this private property.

Response: Pre-existing uses are not defined as being uses on the land that were open to the general public. Pre-existing uses are defined as wildlife-dependent uses by the landowner, or acquaintances of the landowner, with either the permission from the landowner, or the landowner having knowledge of the uses occurring on the property.

c. Comment: Who determines and what regulations are applied to determine the restrictions for safety?

Response: Hunting on the refuge will be in accordance with state hunting regulations. These regulations will serve as an overarching framework for hunting regulations and hunting safety. Within this framework, the refuge manager will determine specific regulations which will address safety and components of the hunting program.

d. Comment: How is hunting compatible with the other two categories?

Response: Hunting is compatible with other forms of wildlife-dependent recreation through the use of refuge regulations such as zoning restrictions of refuge lands. Examples include: establishing “no hunting” safety zones, timing restrictions -such as closing an area to all uses except hunting from a specific date, Limiting methods of take (e.g. archery only, tree stands only). Also, see Responses to Comment 7 above.

e. Comment: These months are the most heavily trafficked months for wildlife observation and photography. This area attracts visitors from all over the country for fall viewing and hiking.

Response: The fall and winter seasons are also a time when much hunting occurs. Please see the previous response, and other areas of this document to better understand how user groups are separated to all a safe experience for visitors.

f. What are the added restrictions? What is the plan to police the area and enforce these regulations?

Response: This pre-acquisition CD provides an overarching framework to allow uses that were occurring on private lands to continue on newly acquired refuge lands until future management plans are developed. Within this framework and before any uses are allowed, each parcel will be evaluated by the refuge manager to determine which uses can occur at the site and how they will be administered. (Please see the “Stipulations

Necessary to Ensure Compatibility” section on pages 13-14 of this document for further information. Also, see the Response to comment 7 above.)

g. Comment: How is this going to be policed? Will there be a gate that is locked during non-access periods?

Response: Federal Wildlife Officers (FWOs) will regularly patrol refuge lands. In addition, FWOs work collaboratively with Connecticut Environmental Police Officers to enforce State hunting regulations. There are currently no plans to utilize gates to control hunting access.

h. Comment: This is currently private land which is closed to hunting.

Response: See response to comment a, above. Also, see response to comment 7, as it pertains to the Brewster Tract.

i. Comment: Al Harvey Road is a narrow scenic road with no shoulders and pull offs, and it would be dangerous and invasive to the local area to have people park there.

Response: See response to comment 9 above.

j. Comment: What is the size of these buffer zones?

Response: Closed buffer zones, or closed areas, will be site-specific and based on several factors, including State hunting regulations. The refuge manager can impose additional safety measures to separate user groups on refuge lands or by closing some areas to hunting. Please see response to comment 7, above.

k. Comment: How is the public able to access the refuge manager for this or any other issues? What is the availability of the refuge manager, and is it a full-time job? What is the expected response time?

Response: The Great Thicket NWR in Connecticut is managed by the Service, specifically by staff stationed at the Stewart B. McKinney NWR in Westbrook, CT. The public may contact the refuge manager by phone, email, or in person. We strive to respond to phone calls and email requests in a timely fashion. Matters concerning emergencies or urgent situations are handled as quickly as possible. However, the public should activate local emergency services for situations that threaten public safety and property protection.

l. Comment: How is the wildlife population determined, and how often?

Response: The State DEEP manages resident game species population trends through hunter harvest surveys, hunter reporting, and game checking stations. The refuge manager will collaborate with State game managers to determine if wildlife populations on refuge lands differ from those on non-refuge lands and what actions, if any, are needed. Generally, large, contiguous tracts of land are required for prescriptive game population management actions. Other methods used to get a general assessment of wildlife population levels include: frequent observation (sightings) of a species, an over-abundance of droppings or scat, a visible "browse line" in the vegetation, and the lack of any under-story vegetation. These observations, for example, may be an indication that the white-tailed deer population in an area is too large for existing habitat conditions. Migratory game bird populations are monitored by scientists at the Federal and State levels annually, with adjustments made to hunting regulations as necessary.

m. Comment: This budget seems inadequate for the administration of such a large-scale parcel. Where is the budget and funding for the initial set up of the boundaries, roads, parking lot, etc.?

Response: See the response to comment 3 above. This budget does not include roads or a parking lot.

n. Comment: Who, how often, what methods will police this?

Response: See response to comment g, above.

o. Comment: How has it been determined that numbers will be low? This area is easily accessible from Interstate-95 and its location and natural beauty and attraction as one of the most beautiful scenic roads in Stonington, and its prominent location en-route to the Groton Sportsman's Club, will naturally attract a large percentage of the hunters from a large portion of Southeast Connecticut.

Response: The number of active hunters has declined nationwide, particularly the number of hunters pursuing small game. A sportsman club located in the proximity that offers various shooting sports, including shotgun and rifle ranges, is unlikely to correlate with an increase in the number of hunters who visit the refuge to hunt small game. Most members visiting the sportsman club would not be hunting afterward.

p. Comment: Based on what? Turkeys are a critical part of the ecosystem in this area. Is this because turkey populations in this part of the State are

lower than other parts? Are there fewer turkey hunters in this area? Habitat is less suited for turkey? Expect light pressure because of access, lack of parking, or lack of suitable areas?

Response: Harvest of turkey on the refuge is expected to be relatively low based on the demand for turkey hunting at the Stewart B. McKinney NWR. The State of Connecticut sets the harvest for turkeys using a number of factors to set a harvest quota, including the animal's importance to the ecosystem.

q. Comment: Hunting on the refuge would have some short-term adverse (Are there any examples these adverse affects?) impacts to some wildlife species from allowing this use because projected levels of use are relatively low, (Why is it assumed the use level would be low?) and the use would only be allowed in designated areas”.

Response: The affect hunting has on wildlife as well as plant communities is described in the pre-acquisition CD. An example of a short-term adverse impact to other wildlife (i.e., non-game species not being hunted) could be the additional energy expenditure by the animal to flee from a hunter, or the additional danger to the animal when it is exposed to predators after being flushed by the hunter. The level of hunter use of the refuge is expected to be low because the number of people participating in hunting has declined in recent years. A large number of hunters are “aging out” of the activity and fewer younger hunters are being recruited. Additionally, see response comments to comments above.

r. Comment: How, who, how often will visitor use be monitored?

Response: Refuge staff will monitor the use of refuge properties during routine refuge patrols or through site-specific, visitor use monitoring. Data collected outside of the hunting season can be contrasted with data collected during the hunting seasons to assess the level of use that could be attributed to hunters. Counting the number of vehicles in the parking lot or pull-off, using trail counters to record the number of visitors, and visitor surveys are all methods that could be employed to assess visitor use on refuge properties. Work assignments and schedules for refuge personnel to monitor visitor use will not be established until the refuge acquires property and there is a need to conduct this work.

s. Comment: What is meant by enhanced outreach in this case?

Response: Enhanced outreach could also be called targeted outreach that would be provided to specific user groups to avoid conflicts with other user groups. As an example, signage could be included in a parking lot kiosk to alert non-hunting users of hunting seasons dates and to alert them which areas on the refuge are open to hunting. Hunt brochure/maps, which hunters would have to read and sign, would clearly state (and show on a map) that non-hunting visitors would be present in certain areas.

t. Comment: This area has not had hunting for at least 50 years, so the ecosystem is in balance naturally. There are enough coyotes to manage the herd population. Coyote killing of deer can be heard frequently on this land. High quality video from February 2022 shows a large bobcat on this land which also has a hand in maintaining the food chain cycle on this land.

Response: See response to comment 7, above. It is very unlikely the coyotes and bobcat are sufficiently controlling the deer population. Even if a property is closed to hunting, deer have a home range of one mile or more and frequently cross property lines where they may be subject to hunting pressure and vehicle crashes. An easy way to determine if the deer population is out of balance is to look at the vegetation for a browse line (all vegetation is eaten as high as the deer can reach) and presence of understory vegetation. Excessive deer browsing prevents re-forestation and removes all palatable, low growing, understory vegetation. Service staff have observed that this is the current condition of the Brewster Tract.

u. Comment: (It is not in this area.) Because hunting is generally a long-standing use in the area

Response: There are a number of public lands open to hunting in Southeast Connecticut, including lands managed by the State of Connecticut (Barn Island WMA, Assekonnk Swamp WMA, etc.) as well as private lands.

v. Comment: However, similar refuge areas within a 3-mile radius of the area do not allow hunting and, based on the magnitude and prominence of this particular area, public use for big game hunting for the 3 to 4 months of the fall season does not seem to be compatible for this area.

Response: This pre-acquisition CD is not confined to a local property but includes all future land acquisition within the entire Pachaug-Ledyard Focus Area for the Great Thicket NWR. This pre-acquisition CD provides an overarching framework to allow uses that were occurring on private lands to continue on newly acquired refuge lands until future management plans can

be developed. Within this framework and before any uses are allowed, each parcel will be evaluated by the refuge manager to determine which uses can occur on a tract of land and how they will be administered. Hunting is one of the priority public uses defined by Executive Order 12996 (March 25, 1996) and the Refuge System Administration Act of 1966, as amended by the Refuge System Improvement Act of 1997 (Public Law 105-57). Department of the Interior Secretarial Order 3356 (September 15, 2017) emphasized identifying opportunities to increase outdoor recreation opportunities for all Americans, including opportunities to hunt and fish.

w. Comment: What about Saturdays which are also prime family hiking days? No Sunday hunting is allowed.

Response: For refuge lands that are determined by the refuge manager to be suitable for hunting, Saturday hunting within the established hunting seasons would be permitted. Sunday hunting is not allowed on public hunting areas managed by the State of Connecticut, and refuge lands would be closed to Sunday hunting. The weekends are prime days for the American public to recreate on their national wildlife refuges, engaging in many forms of wildlife-dependent recreation. (Please see the “Stipulations Necessary to Ensure Compatibility” section on pages 13-14 of this document for further information. Also, see the Response to comment 7, above.)

13. Comment: (7, 29) Some commenters pointed out that the Service did not hold a public meeting to discuss hunting on lands to be acquired for the Great Thicket NWR.

Response: The Service did not hold a public meeting; however, we did make the pre-acquisition CDs available to the public to view, and we provided an opportunity for the public to comment on the documents. We advertised the public review opportunity in local newspapers and sent a press release to local media outlets, subsequently at least two articles were written to inform the public of their ability to comment on the draft hunting pre-acquisition CD. Through this effort, we received 49 comments from the public and 1 from the State of Connecticut. Service responses appear throughout this Appendix. In addition, because most of the comments we received were directed towards the management of the Brewster Tract, we have provided specific details outlining how hunting could safely be permitted on the Brewster Tract. (Please see the “Stipulations Necessary to Ensure Compatibility” section on pages 13-14 of this document for further information. Also, see the Response to comment 7 above.)

14. Comment: (27) We received an email from a local individual who stated that they

have worked on the Brewster Tract and will be willing to share information concerning the tract with the service.

Response: We appreciate the offer to assist the Service in gaining a full understanding of the natural resources and public uses occurring on the Brewster Tract.

15. Comment: (2, 7, 12, 47) We received several requests for additional information concerning hunting.

Response: We have provided the requested information directly to the commenters.

Concluding Note: The public comments we received regarding refuge land management, public uses and safety concerns were very informative and helpful in our consideration of allowing hunting and other wildlife-dependent recreation to take place on the refuge. As stated above, this pre-acquisition CD is for the entire Pachaug-Ledyard focus area (Figure 1), and it establishes the framework the Service will use to continue wildlife-dependent recreation on future lands acquired. Because there is an active land conservation project (i.e., Brewster Tract) being led by the Trust for Public Land that includes the Service acquiring approximately 100 acres, most of the comments we received (47 out of 50) were specific to this site.

After reviewing public comments and input specific to the Brewster Tract, the Service has made the decision to permit hunting on this tract if acquired, but with additional restrictions. Hunting regulations for this tract would be listed in the hunting brochure.