

## Appendix C



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*Northern parula warbler.*

## Draft Wilderness Review



## Introduction

As part of the Comprehensive Conservation Plan (CCP) process, the U.S. Fish and Wildlife Service (Service, we, our) conducted this wilderness review of Sunkhaze Meadows National Wildlife Refuge (NWR) and Carlton Pond Waterfowl Production Area (WPA). The purpose of a wilderness review is to identify and recommend to Congress lands and waters of the National Wildlife Refuge System (Refuge System) that merit inclusion in the National Wilderness Preservation System (NWPS). Wilderness areas are untrammeled, roadless, undeveloped, and natural. They also offer outstanding opportunities for solitude and primitive recreation. Only Federal lands can be considered for wilderness designation. Wilderness reviews are required elements of CCPs, are conducted in accordance with the refuge planning process outlined in the U.S. Fish and Wildlife Service (Service) Manual (602 FW 1 and 3), and comply with the National Environmental Policy Act (NEPA) of 1969, including offering opportunities for public involvement.

## Wilderness Review Process

The wilderness review process has three phases:

1. Inventory phase
2. Study phase
3. Recommendation phase

During the inventory phase, the wilderness review team identifies lands and waters that meet the minimum criteria for wilderness. These areas are called wilderness study areas. During the study phase, the team further evaluates each wilderness study area to determine whether or not to recommend it for wilderness designation. In particular, team members analyze the quality of the area's values (e.g., ecological, cultural, and spiritual), resources (e.g., wildlife, water, vegetation, minerals, and soils), and uses (e.g., habitat management and public use). They also evaluate the manageability of the area as wilderness and conduct a minimum requirements/tools analysis. During the final phase, the team decides whether or not to recommend any wilderness study areas to Congress for wilderness designation. If the team decides that any wilderness study areas merit wilderness designation, they report their recommendations to Congress in a wilderness study report. The wilderness study report is prepared after the final CCP has been signed. Any areas that are recommended for wilderness designation would be managed to maintain wilderness character, in accordance with management goals, objectives, and strategies outlined in the final CCP, until Congress makes a decision or the CCP is amended to modify or remove the wilderness proposal.

## Phase I. Wilderness Inventory

### Introduction

The wilderness inventory takes a broad look at the planning area to identify wilderness study areas. A wilderness study area is an area of undeveloped Federal land that retains its primeval character and influence, is without permanent improvements or human habitation, and also meets the minimum criteria for wilderness as identified in section 2(c) of the Wilderness Act of 1964 (16 U.S.C. 1131-1136, 78 Stat. 890; Public Law 88-577).

We began this phase by considering all of the lands and waters on Sunkhaze Meadows NWR and Carlton Pond WPA owned in fee by the Federal government. We identified five, separate contiguous blocks on Sunkhaze Meadows NWR and Carlton Pond WPA. We subdivided one block on the refuge's Sunkhaze Meadows Unit into two separate areas along a section of McLaughlin Road (which is used by refuge staff and hunters) and a powerline right-of-way.

Based on this analysis, we identified the following six blocks (maps C.1, C.2, and C.3):

1. Sunkhaze Meadows NWR—Sunkhaze Meadows Unit, area A
2. Sunkhaze Meadows NWR—Sunkhaze Meadows Unit, area B
3. Sunkhaze Meadows NWR—Sunkhaze Meadows Unit, area C
4. Sunkhaze Meadows NWR— Benton Unit
5. Sunkhaze Meadows NWR—Sandy Stream Unit
6. Carlton Pond WPA

### Minimum Wilderness Criteria

Our next step was to identify wilderness study areas by evaluating each of the six blocks to see if they meet the following minimum wilderness criteria:

- Appear *natural*.
- Provide for *solitude or primitive recreation*.
- Are either a *roadless* area that meets the *size* criteria or a roadless island of any size.

Below we provide more detailed descriptions of each these criteria and table C.1 presents our evaluation of each of the six blocks against the minimum wilderness criteria based on the Wilderness Act and Service policy (610 FW 4).

*Naturalness*—The Wilderness Act, section 2(c), defines wilderness as an area that “generally appears to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable.” The area must appear natural to the average visitor, rather than “pristine.” The presence of historic landscape conditions is not required.

An area may include some human impacts provided they are substantially unnoticeable in the unit as a whole. Significant hazards caused by humans, such as the presence of unexploded ordnance from military activity and the physical impacts of refuge management facilities and activities are also considered in evaluating the naturalness criteria.

An area may not be considered unnatural in appearance solely on the basis of the sights and sounds of human impacts and activities outside the boundary of the unit. The cumulative effects of these factors in conjunction with land base size, and physiographic and vegetative characteristics were considered in the evaluation of naturalness.

The following factors were the primary considerations in evaluating naturalness:

- A. Does the area appear to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable?

- B. If present, are human impacts substantially unnoticeable in the unit as a whole?
- C. Does the area contain significant hazards caused by humans, such as the presence of unexploded ordnance from military activity?
- D. What are the physical impacts of refuge management facilities and activities?

*Solitude or Primitive and Unconfined Recreation*—A wilderness study area must provide outstanding opportunities for solitude or primitive and unconfined recreation. The area does not have to possess outstanding opportunities for both solitude and primitive and unconfined recreation, and does not need to have outstanding opportunities on every acre. Further, an area does not have to be open to public use and access to qualify under this criteria; Congress has designated a number of wilderness areas in the Refuge System that are closed to public access to protect resource values.

Opportunities for solitude refer to the ability of a visitor to be alone and secluded from other visitors in the area. Primitive and unconfined recreation means non-motorized, dispersed outdoor recreation activities that are compatible and do not require developed facilities or mechanical transport. These primitive recreation activities may provide opportunities to experience challenge and risk, self reliance, and adventure. Solitude and primitive unconfined recreation are not well defined by the Wilderness Act, but can be expected to occur together in most cases. However, an outstanding opportunity for solitude may be present in an area offering only limited primitive recreation potential. Conversely, an area may be so attractive for recreation use that experiencing solitude is not an option.

The following factors were the primary considerations in evaluating outstanding opportunities for solitude or primitive, unconfined recreation:

- A. The area offers the opportunity to avoid sights, sounds, and evidence of other people. A visitor to the area should be able to feel alone or isolated.
- B. The area offers non-motorized, dispersed outdoor recreation activities that are compatible and do not require developed facilities or mechanical transport.

*Roadless*—Roadless refers to the absence of improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use. A route maintained solely by the passage of vehicles does not constitute a road.

The following factors were the primary considerations in evaluating the roadless criteria:

- A. The area does not contain improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use.
- B. The area is an island, or contains an island, that does not have improved roads suitable and maintained for public travel by means of motorized vehicles primarily intended for highway use.
- C. The area is in Federal fee title ownership.

*Size*—The size criteria can be satisfied if an area has at least 5,000 acres of contiguous roadless public land, or is sufficiently large that its preservation and use in an unimpaired condition is practicable.

The following factors were the primary considerations in evaluating the size criteria:

- A. An area of more than 5,000 contiguous acres. State and private lands are not included in making this acreage determination.
- B. A roadless island of any size. A roadless island is defined as an area surrounded by permanent waters or that is markedly distinguished from the surrounding lands by topographical or ecological features.
- C. An area of less than 5,000 contiguous Federal acres that is of sufficient size as to make practicable its preservation and use in an unimpaired condition, and of a size suitable for wilderness management.
- D. An area of less than 5,000 contiguous acres that is contiguous with a designated wilderness, recommended wilderness, or area under wilderness review by another Federal wilderness managing agency such as the U.S. Department of Agriculture - Forest Service, National Park Service, or Bureau of Land Management.

*Supplemental Value*—The Wilderness Act states that an area of wilderness may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. Supplemental values of the area are optional, but the degree to which their presence enhances the area’s suitability for wilderness designation should be considered. The evaluation should be based on an assessment of the estimated abundance or importance of each of the features.

### **Summary of Wilderness Inventory Findings**

Out of the six blocks we evaluated, only the Sunkhaze Meadows Unit, area A met all of the minimum wilderness criteria and qualified as a wilderness study area. The remaining five areas did not meet one or more of the minimum wilderness criteria and, therefore, did not qualify as wilderness study areas. We eliminated these blocks from further consideration for wilderness designation in this CCP. Please see chapter 2 of the Sunkhaze Meadows NWR and Carlton Pond WPA Draft Comprehensive Conservation Plan and Environmental Assessment (draft CCP/EA) for detailed descriptions of habitats and facilities at Sunkhaze Meadows NWR and Carlton Pond WPA (USFWS 2012).

### **Phase II. Wilderness Study**

In this phase, we further evaluated the Sunkhaze Meadows Unit, area A wilderness study area to determine its suitability for designation, management, and preservation as wilderness. This evaluation considered the following:

- The area’s quality of wilderness values
- The refuge’s capability for managing the refuge as wilderness (“manageability”)

Table C.1. Wilderness Inventory for Sunkhaze Meadows NWR and Carlton Pond WPA

	Size in acres	Minimum Wilderness Criteria				Qualifies as a Wilderness Study Area by meeting all minimum wilderness criteria?
		(1) Has at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unconfined condition, or is a roadless island?	(2) Generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticed?	(3) Has outstanding opportunities for solitude or for a primitive and unconfined type of recreation?	(4) Contains ecological, geological or other features of scientific, scenic, or historical value?	
Sunkhaze Meadows Unit, Area A	9,897 acres	Yes	Yes	Yes	Yes Has exemplary natural communities (domed bog, northern white cedar woodland fen, unpatterned fen, and silver maple floodplain forest) and is in an area with a high likelihood for containing cultural resources.	Yes
Sunkhaze Meadows Unit, Area B	1,566 acres	No	Yes	No	Yes - in an area with a high likelihood for containing cultural resources.	No
Sunkhaze Meadows Unit, Area C	20 acres	No	No	No	Yes - in an area with a high likelihood for containing cultural resources.	No
Benton Unit	334 acres	No	No	No	No	No
Sandy Stream Unit	58 acres	No	No	No	No	No
Carlton Pond WPA	1,068 acres	No	No	Yes	No	No

## Quality of Wilderness Values

### Size

The 9,897-acre Sunkhaze Meadows Unit, area A wilderness study area exceeds the size criteria of 5,000 contiguous acres.

### Roadless

The wilderness study area meets the roadless criteria as it does not contain any improved roads. However, the study area is bounded by improved roads along all sides. It is bounded to the west by McLaughlin Road and a powerline right-of-way, to the south and east by County Road, and to the north by Stud Mill Road. McLaughlin Road is a one-lane, dirt road that is only used by refuge staff and hunters. County Road is a two-lane, public road that is partially paved and partially dirt. Stud Mill Road is a wide, two-lane, gravel road that is well maintained. Stud Mill Road is privately owned, but open to the public except for some storm events and during mud season (usually March through May).

### Naturalness

The wilderness study area generally appears natural, is mostly free of human impacts, and does not contain any significant hazards caused by humans. Nearly all of the wilderness study area is covered by natural vegetation. The Sunkhaze Stream runs through the middle of the study area and is surrounded by wet grassland habitat. The rest of the study area is mostly forested wetlands, forested uplands, and peat bog habitat. There are also some scattered smaller ponds, bogs, and beaver marshes.

However, the study area does have some human impacts which may somewhat detract from the study area's "naturalness." These include the following:

1. There are a variety of public use facilities located in the study area, including several refuge trails, informational kiosks, and signs. The Johnson Brook Trail includes sections of boardwalk. There is also a raised wildlife viewing platform located on the Carter Meadows Trail which is visible from the bog and Sunkhaze Stream. Currently, all of the trails allow hiking, snowshoeing, and cross-country skiing.
2. The refuge currently allows two forms of motorized recreational uses in the study area, which are generally prohibited in wilderness areas:
  - Motorized boating on Sunkhaze Stream
  - Snowmobiling along the ITS 84 Trail (a portion of this trail runs along the western border and through the southwest corner of the study area).
3. There are several buildings in the study area that are used by refuge staff and the refuge Friends Group to store equipment and supplies. There is also one private cabin, which predates refuge establishment, on leased refuge land. These buildings currently use electricity.
4. There are a few sites in the wilderness study area that were previously actively managed as early successional habitat. Although these few areas have clear and obvious signs of human impact, they are scattered and small. Additionally, we do not anticipate

management for early successional habitat in these areas and over time they are expected to naturally convert to forest.

### ***Outstanding Opportunities for Solitude and Primitive Recreation***

The wilderness study area has outstanding opportunities for primitive recreation. The refuge currently offers a variety of non-motorized, dispersed outdoor recreation activities that do not require developed facilities or mechanical transport in the wilderness study area. These activities include nature photography, walking and hiking, snowshoeing, cross-country skiing, non-motorized boating (canoeing and kayaking), hunting, trapping, and fishing. In particular, the wilderness study area offers excellent opportunities for unconfined non-motorized boating, fishing, hunting, and snowshoeing.

Although the wilderness study area does offer some opportunity for solitude, these opportunities are relatively limited and not outstanding. It is generally difficult to avoid sights, sounds, and evidence of other people in the wilderness area for several reasons. First, much of the wilderness area's interior is forested wetlands, stream habitat, and peat bog. Because these habitats are difficult to hike through, the majority of hiking opportunities are located along the periphery of the wilderness area. Since the wilderness area is bounded by roads and adjacent to residential developments, it would be difficult for hikers to avoid the sights and sounds of humans. Second, snowmobiling and motorized boating are currently allowed in designated areas of the wilderness study and may be seen or heard by other users. Lastly, the refuge is located less than 20 miles from Bangor International Airport and there is some discussion of turning the Stud Mill Road (along the northern boundary of the refuge) into a major State highway. While not within the wilderness study area, these sights and sounds would be apparent from the wilderness study area, and could affect the sense of solitude and wilderness characteristics.

The only potentially outstanding opportunity for solitude in the wilderness study area is non-motorized boating (including fishing from non-motorized boats). Since Sunkhaze Stream runs through the center of the wilderness area, non-motorized boaters on the stream have a greater chance of feeling alone and isolated. However, along the edges of the wilderness area, non-motorized boaters would be close to roads and human development. Also, motorized boating currently occurs on Sunkhaze Stream. For non-motorized boaters to experience outstanding solitude, motorized boating would need to be eliminated.

### ***Supplemental Values***

The wilderness study area has several important ecological and cultural values. It contains four exemplary natural communities: domed bogs, northern white cedar woodland fen, unpatterned fen, and silver maple floodplain forest. It also contains portions of a deer overwintering area, as mapped by the Maine Department of Inland Fisheries and Wildlife. According to the Maine Historic Preservation Commission, the region around the refuge has a high potential for pre-European Native American archaeological sites (pers. comm., Arthur Speiss, MHPC, 2011). Archaeological excavations near the refuge have found evidence of human occupation from 8,500 to 5,000 years ago (Robinson 2012). Although there have been no systematic cultural resource surveys of Sunkhaze Meadows NWR, it is likely that the study area contains archaeological and historical sites.

## **Manageability Analysis**

Being able to manage an area as wilderness is one of the criteria we evaluate when determining whether all or part of a wilderness study area is suitable for wilderness designation. We must be reasonably certain that we can manage the study area to maintain wilderness character over the long term before designating it as wilderness. In order to analyze the manageability of the Sunkhaze Meadows Unit, area A wilderness study area, we considered the following:

- Existing private rights, including the type, extent, and validity of private rights in the wilderness study area.
- Land status and Service jurisdiction, including whether or not the Service has adequate jurisdiction over the wilderness study area to ensure maintenance of its wilderness character.
- Current and planned refuge management activities and refuge uses, including
  - ◆ if these activities and uses involve or require the use of generally prohibited uses;
  - ◆ how the continuation or implementation of these activities and uses affect our ability to manage the area as wilderness; and
  - ◆ if we could modify or eliminate these activities and uses to improve our ability to manage the area as wilderness while still accomplishing refuge purposes.

### ***Existing Private Rights***

According to our records, the Service owns all existing rights in the study area, there should be no conflicts with third part rights.

### ***Land Status and Service Jurisdiction***

The refuge owns all of the wilderness study area in fee title.

### ***Current and Planned Refuge Management Activities and Refuge Uses***

Some of our current and proposed management activities and recreational opportunities are prohibited in wilderness areas or may require the use of mechanized tools. If the wilderness study area were designated as wilderness, we would need to eliminate these activities and uses or redraw the boundary for the wilderness area to exclude the areas where these activities and uses take place.

### ***Motorized Boating and Snowmobiling***

We currently permit motorized boating and snowmobiling on designated portions of the refuge. Both of these uses are usually prohibited in wilderness areas because they involve motorized transport. Snowmobiling is specifically mentioned as being permitted on the refuge at appropriate times or in places where no conflict would occur with the objectives of the Refuge System in the 1988 Environmental Assessment establishing the refuge (USFWS 1988). Because of this, we do not believe it should be eliminated from the entire wilderness study area. Since snowmobiling only occurs on a small portion of the wilderness study area, the boundary of the wilderness study area could be adjusted to eliminate the snowmobile trail.

It would be difficult to completely eliminate motorized boating. There are no natural landmarks that could be used to denote the boundary of the proposed wilderness study area. The stream cannot be used as the boundary marker because it floods extensively, particularly in the spring. Based on comments from refuge visitors, spring is also the time when most motorized boating

occurs on the refuge. In spring, the stream floods sections of peat bog and forested wetlands which creates a large lake. During flooding, the stream channel is not visible. It is difficult to place and maintain boundary signs within these flooded areas for a variety of reasons. First, the peatland consists of poorly drained organic soils of peat and muck (Thompson and Born 1986). Each year the peat freezes and thaws. In just a few years, this would cause sign posts to lean and eventually fall over, causing them to be submerged when the stream is flooded. To avoid this, post holes would need to be more than 10 feet deep since the peat thickness ranges from 10 to 15 feet deep (USFWS 2001). We estimate that we would need to post and maintain signs along up to 4.5 miles within the peatland soils. This would be logistically difficult and would divert limited resources away from managing refuge habitat and priority public uses. Without posted signs, it would be difficult to enforce a ban on motorized boating in the wilderness study area because motorized boating would still occur on the portion of the stream outside of the refuge. Since the wilderness boundary and refuge boundary would be difficult to post, it would be nearly impossible for boaters to know when they are within or outside a wilderness area. Because boaters can legally access Sunkhaze Stream off the refuge, we do not believe that adjusting the wilderness boundary would address this issue.

#### *Maintaining Refuge Trail System and Other Public Use Facilities*

We currently use mechanized tools to maintain refuge trails, boardwalks, the observation platform, and other public use facilities in the wilderness study area. It would be difficult to manage these facilities using non-mechanized tools since Sunkhaze Meadows NWR is unstaffed and currently managed by staff from the Maine Coastal Islands NWR Complex, as time and resources permit. Boardwalks are important for providing access and protecting sensitive wetland habitats on the refuge. We do not believe we could completely eliminate the refuge trail system and other public use facilities in the entire wilderness study area because they are important to achieving refuge purposes and goals related to providing wildlife-oriented recreational opportunities. It is possible to adjust the wilderness study area boundary to exclude most of these areas.

#### *Maintaining Storage Buildings*

We currently maintain several buildings in the wilderness study area. The refuge's Friends Group and staff use these buildings for storage and they require the use of electricity. We believe these buildings are important to achieving refuge purposes because they store materials and equipment for our habitat management and public use programs, and help support activities (including interpretive programs) of the refuge's Friends group. There is also a privately owned cabin within the study area. The previous property owner authorized the use of the cabin, prior to Service acquisition. We have continued to allow the cabin owners to remain, for a fee, provided they meet certain stipulations. Given that Sunkhaze Meadows NWR is unstaffed, it would be difficult to maintain and operate these buildings without the use of mechanized tools and electricity. However, we could adjust the wilderness study area boundary to avoid the areas where these buildings are located.

#### *Habitat Management*

Designating wilderness would also reduce our flexibility to actively manage habitats in the study area. Although we currently conduct little active management in the study area, we are proposing to evaluate how to best manage several rare natural communities and a deer overwintering area

in the study area. Our analysis may determine that these habitats require active management using mechanized tools in order to help achieve the refuge's purposes and goals. Additionally, designating the study area as wilderness would reduce our flexibility to use mechanized tools to control invasive plant species. As mentioned above, since the refuge is managed by offsite staff from the Maine Coastal Islands NWR Complex, it would be difficult to actively manage large areas of habitat and control invasive species without the use of mechanized tools. Eliminating active habitat management in the entire wilderness study area may negatively impact our ability to achieve refuge purposes and goals related to habitat and wildlife management. Active habitat management could also conflict with the intent of the Wilderness Act to primarily allow natural processes to influence designated wilderness. At this time, we do not know which management actions might be best for maintaining or improving the rare natural communities within the study area. We may need to conduct experimental treatments and use adaptive management. Wilderness designation could impede or prevent us from implementing these treatments. However, it is possible to adjust the wilderness study area boundary to avoid most of the habitats that may require active management.

Overall, we believe it would be difficult to effectively manage the entire 9,897-acre Sunkhaze Meadows Unit, area A wilderness study area to maintain the wilderness character while achieving refuge purposes and the Refuge System mission.

### **Evaluation of Management Alternatives**

Based on our manageability analysis, we developed three management alternatives: no wilderness, all wilderness, and partial wilderness. First we provide a brief description of the three alternatives. We then compare and contrast how the alternatives impact a variety of topics, including refuge purposes, the Refuge System mission, the purposes of the Wilderness Act (table C.2).

#### *Description of the Management Alternatives*

##### *No Wilderness Alternative*

Under this alternative, we would not recommend any portions of Sunkhaze Meadows NWR and Carlton Pond WPA for wilderness designation. We would manage both the refuge and waterfowl production area as described in the Service-preferred alternative in the draft CCP/EA.

##### *All Wilderness Alternative*

Under this alternative, we would recommend the entire 9,897-acre Sunkhaze Meadows Unit, area A wilderness study area (map C.1) to Congress for wilderness designation and inclusion in the NWPS. We would manage this area to preserve its wilderness values.

##### *Partial Wilderness Alternative*

Under this alternative, we would recommend about 7,090 acres of Sunkhaze Meadows Unit, area A wilderness study area (map C.4) to Congress for wilderness designation and inclusion in the NWPS. We would manage this area to preserve its wilderness values. For reasons described above under "Current and Planned Refuge Management Activities and Refuge Uses," this 7,090-acre section would exclude the following sections of the original Sunkhaze Meadows Unit, area A wilderness study area:

- The ITS 84 Snowmobile Trail and the area south of the trail in the southwest of the study area.
- The deer overwintering area, as mapped by the Maine Department of Inland Fisheries and Wildlife, in the northeast of the study area.
- The silver maple floodplain forest exemplary natural community, adjacent to the deer overwintering area.
- The Carter Meadows Trail (including observation platform), the Johnson Brook Trail, the Oak Point Trail, and the Ash Landing Trail.
- Several buildings, including storage buildings, located near the Carter Meadows Trail.

## Summary of Wilderness Study Findings

After analyzing all three alternatives, we determined that the Sunkhaze Meadows Unit, area A wilderness study area is not currently suitable for wilderness designation under either the “All Wilderness” or “Partial Wilderness” alternatives. Our determination was based on the following major factors:

- 1. It would be difficult to denote the boundary of the wilderness area, and therefore hard for visitors to know where the wilderness area is, to enforce restricted uses, and manage the area as wilderness.** Because of seasonal flooding of Sunkhaze Stream and the lack of other natural landmarks, it would be difficult to denote the boundary under both the “All Wilderness Alternative” and the “Partial Wilderness Alternative.”
- 2. It would be difficult to manage and maintain the trails, boardwalks, and buildings in the wilderness study area without the use of mechanized tools.** The refuge is currently unstaffed and is administered by staff from the Maine Coastal Islands National Wildlife Refuge Complex, located about 2 hours away. It would be difficult for staff members to maintain all of the refuge trails, boardwalks, and buildings without the use of mechanized tools. Under the “Partial Wilderness Alternative,” this would be less of an issue because the potential wilderness area would exclude most of the buildings, trails, boardwalks, and other public use infrastructure.
- 3. It may be difficult to achieve management objectives for rare habitat types in the wilderness study area.** Botanical inventories and rare plant surveys conducted by refuge staff and the Maine Natural Heritage Program (MNHP) have documented several exemplary communities and rare plants within the wilderness study area. One of the exemplary natural communities is the northern white cedar seepage forest. The best management techniques to maintain or improve the biological diversity, integrity, and environmental health for this habitat are currently unknown. This habitat may require active management, including experimental methods and adaptive management. This would be difficult to implement under the “All Wilderness” alternative. Under the “Partial Wilderness Alternative,” this would be less of an issue because the potential wilderness area would exclude most of the northern white cedar seepage forest. It could become a problem if this habitat expanded into the partial wilderness area.

Table C.2. Comparison of the Management Alternatives

<i>Impacts of Each Alternative on...</i>	<b>No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>Partial Wilderness Alternative</b>
<b>Wilderness values<sup>1</sup></b>	Maintains existing wilderness values.	May enhance wilderness values on 9,897 acres by eliminating motorized boating and snowmobiling, and forgoing active management of habitats and recreational facilities.	May enhance wilderness values on 7,090 acres by eliminating motorized boating.
<b>Refuge resources</b>	Retains flexibility to actively manage.	Reduces flexibility to enhance habitats and public use facilities on 9,897 acres including the deer overwintering area, the silver maple floodplain forest exemplary natural community, and refuge trail system.	Reduces flexibility to enhance habitats and public use facilities on 7,090 acres, but retains the flexibility for active management in the deer overwintering area, the silver maple floodplain forest exemplary natural community, and refuge trail system.
<b>Achieving the purposes of the Wilderness Act and National Wilderness Preservation System<sup>2</sup></b>	None of the refuge would be specifically managed to achieve the purposes of the Wilderness Act. However, we would manage the wilderness study area in a way that would likely maintain much, if not all, of the area's existing level of wilderness character.	Most likely to achieve the purposes of the Wilderness Act by managing 9,897 acres to protect, preserve, and enhance wilderness character.	Likely to achieve the purposes of the Wilderness Act by managing 7,090 acres to protect, preserve, and enhance wilderness character.
<b>Achieving refuge or unit purposes</b>	Most likely to achieve the purposes of the refuge by allowing the flexibility to actively manage habitats and maintain public use facilities and trails.	Reduces flexibility to enhance habitats and public use facilities on 9,897 acres including the deer overwintering area, the silver maple floodplain forest exemplary natural community, and refuge trail system.	Reduces flexibility to enhance habitats and public use facilities on 7,090 acres, but retains the flexibility for active management in the deer overwintering area, the silver maple floodplain forest exemplary natural community, and refuge trail system.
<b>Contributing to the Refuge System Mission</b>	Most likely to contribute to the Refuge System mission by allowing the flexibility to actively manage habitats and maintain public use facilities and trails.	Reduces flexibility to enhance habitats and public use facilities on 9,897 acres including the deer overwintering area, the silver maple floodplain forest exemplary natural community, and refuge trail system.	Reduces flexibility to enhance habitats and public use facilities on 7,090 acres, but retains the flexibility for active management in the deer overwintering area, the silver maple floodplain forest exemplary natural community, and refuge trail system.

<i>Impacts of Each Alternative on...</i>	<b>No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>Partial Wilderness Alternative</b>
<b>Maintaining and, where appropriate, restoring biological integrity, diversity, and environmental health</b>	Retains the flexibility to actively manage and restore biological integrity, diversity, and environmental health, if deemed necessary.	Reduces our flexibility to actively manage and restore biological integrity, diversity, and environmental health on 9,897 acres, if deemed necessary.	Reduces our flexibility to actively manage and restore biological integrity, diversity, and environmental health on 7,090 acres, if deemed necessary, especially for identified rare natural communities.
<b>Meeting other legal and policy mandates and prior refuge NEPA documents</b>	Continues to allow snowmobiling, which was specifically mentioned as being permitted on the refuge in the 1988 Environmental Assessment establishing the refuge.	Prohibit snowmobiling, which was specifically mentioned as being permitted on the refuge, where compatible, in the 1988 Environmental Assessment establishing the refuge.	Continues to allow snowmobiling, which was specifically mentioned as being permitted on the refuge in the 1988 Environmental Assessment establishing the refuge.  Difficult to manage different public uses at the potential border because of seasonal flooding, lack of natural landmarks, and difficulty in posting boundary.

<sup>1</sup> Wilderness values include biophysical (e.g., ecosystems, scenery, and natural processes), psychological (e.g., opportunity for solitude or primitive and unconfined recreation), symbolic (e.g., national and natural remnants of American cultural and evolutionary heritage), and spiritual (e.g., sense of connection with nature and values beyond one’s self) values (601 FW 1.5JJ).

<sup>2</sup> The purposes of the Wilderness Act are: secure an enduring resource of wilderness; protect and preserve the wilderness character of areas within the National Wilderness Preservation System; administer the National Wilderness Preservation System for the use and enjoyment of the American people in a way that will leave these areas unimpaired for future use and enjoyment as wilderness; and gather and disseminate information regarding the use and enjoyment of wilderness areas (601 FW 1.8). Wilderness character is defined as: (1) maintaining the natural, scenic condition of the land; (2) providing environments for native plants and animals, including those threatened or endangered; (3) maintaining watersheds and airsheds in a healthy condition; (4) maintaining natural night skies and soundscapes; (5) retaining the primeval character of and influence on the land; (6) serving as a benchmark for ecological studies; and (7) providing opportunities for solitude, primitive and unconfined outdoor recreation, risk, adventure, education, personal growth experiences, a sense of connection with nature and values beyond one’s self, a link to our American cultural heritage, and mental and spiritual restoration in the absence of urban pressures (601 FW 1.13).

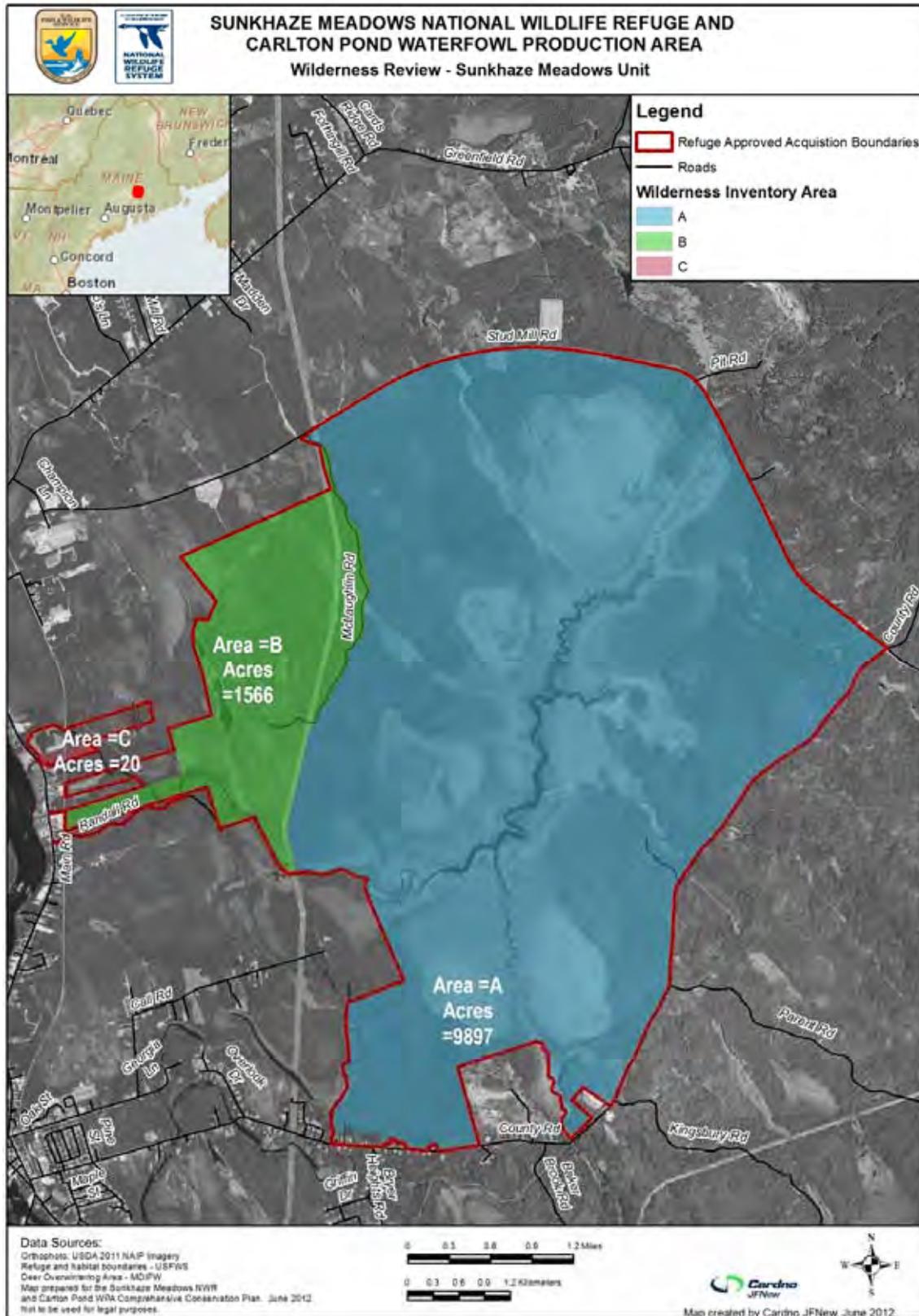
4. **The 1988 Environmental Assessment establishing the refuge specifically mentions providing opportunities for snowmobiling, if compatible.** Snowmobiling is an existing use on the refuge and the 1988 Environmental Assessment explicitly states that snowmobiling would be permitted on the refuge at appropriate times or in places where it would not conflict with the objectives of the Refuge System. However, snowmobiling is usually prohibited in wilderness areas. We do not wish to discontinue offering snowmobiling along the ITS 84 Snowmobile Trail. Under the “Partial Wilderness Alternative,” this would not be an issue because the potential wilderness area would exclude the snowmobile trail, as well as areas south of the trail.
  
5. **The comments we received during the public comment period were not supportive of designating wilderness on Sunkhaze Meadows NWR.** On February 9, 2012, we held a public meeting about the wilderness review process for Sunkhaze Meadows NWR. At the meeting, we solicited comments on the 7,090-acre partial wilderness study area considered under the “Partial Wilderness Alternative.” The comments we received were generally unsupportive of proposing wilderness on the refuge.

We have finished the wilderness study process and will not recommend any refuge or waterfowl production area lands to Congress for inclusion in the NWPS at this time. We will reassess this determination during development of the next CCP in 15 years, or sooner if deemed appropriate.

## Literature Cited

- Robinson, B. 2012. Cultural Resources of Sunkhaze Meadows National Wildlife Refuge, Penobscot County, Maine. Prepared for U.S. Fish and Wildlife Service, Region 5. Draft Report. March 2012. 114 pp.
- U.S. Fish and Wildlife Service (USFWS). 1988. Final Environmental Assessment, Proposal to Establish Sunkhaze Meadows National Wildlife Refuge, Penobscot County, Maine. U.S. Fish and Wildlife Service Region 5. 56 pp.
- . 2013. Sunkhaze Meadows National Wildlife Refuge and Carlton Pond Waterfowl Production Area Draft Comprehensive Conservation Plan and Environmental Assessment. U.S. Fish and Wildlife Service, Maine Coastal Islands National Wildlife Refuge Complex, Rockland, ME.

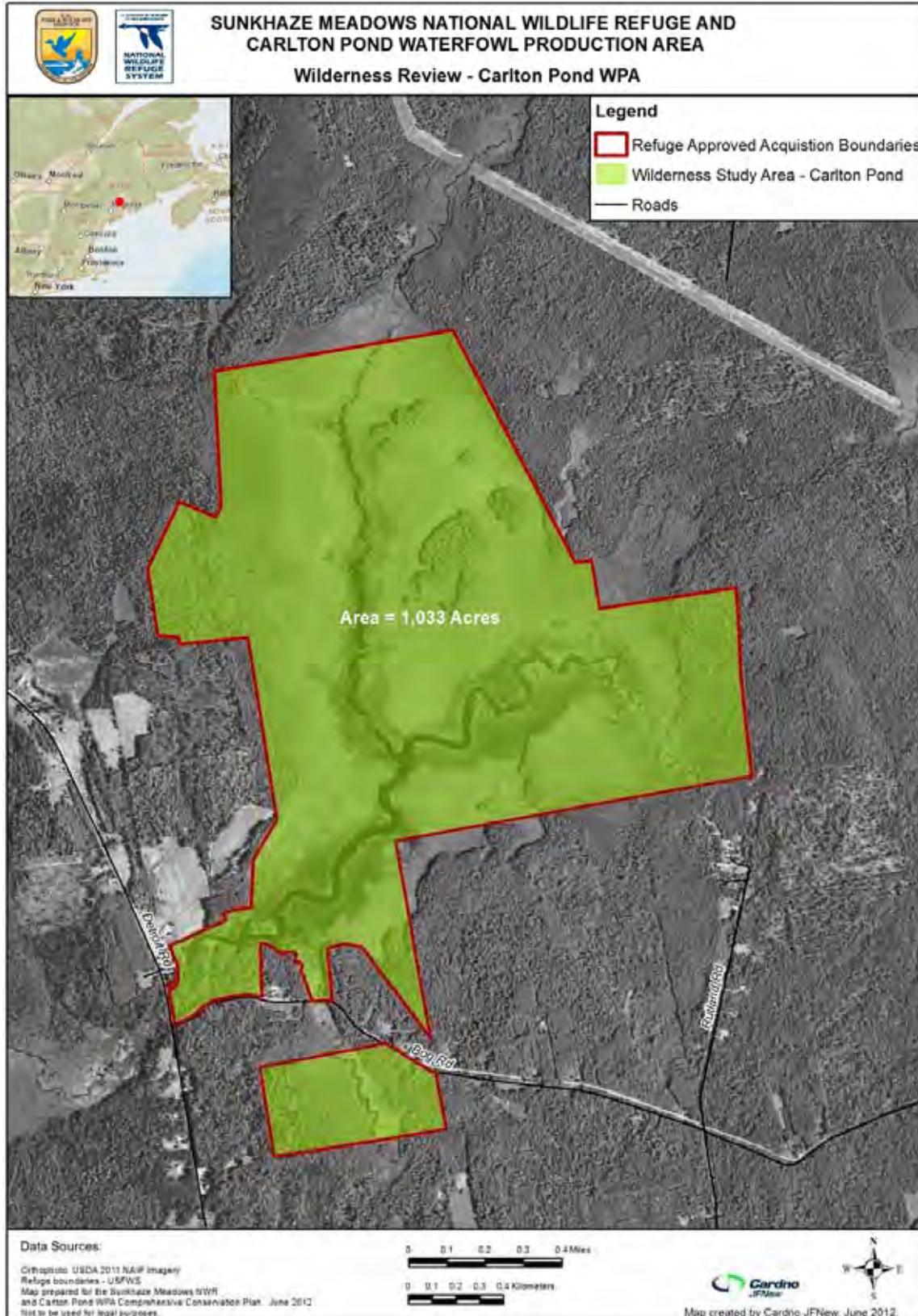
Map C.1. Areas Analyzed for Potential Inclusion in Wilderness Study Phase for the Sunkhaze Meadows Unit of the Sunkhaze Meadows NWR.



### Map C.2 Areas Analyzed for Potential Inclusion in Wilderness Study Phase for the Benton and Sandy Stream Units of the Sunhaze Meadows NWR.



### Map C.3 Area Analyzed for Potential Inclusion in Wilderness Study Phase for Carlton Pond WPA.



**Map C.4 Partial Wilderness Alternative Analyzed for Area A of the Sunkhaze Meadows Unit of the Sunkhaze Meadows NWR.**

