



USFWS

Appendix D

Appropriate Use and Compatibility Determinations

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Introduction

❖ About the Appropriate Refuge Uses Policy

This policy describes the initial decision process the refuge manager follows when first considering whether or not to allow a proposed use on a refuge. The refuge manager must find a use is appropriate before undertaking a compatibility review of the use. This policy clarifies and expands on the compatibility policy (603 FW 2.10D(1)), which describes when refuge managers should deny a proposed use without determining compatibility. If we find a proposed use is not appropriate, we will not allow the use and will not prepare a compatibility determination.

By screening out proposed uses not appropriate to the refuge, the refuge manager avoids unnecessary compatibility reviews. By following the process for finding the appropriateness of a use, we strengthen and fulfill the Refuge System mission. Although a refuge use may be both appropriate and compatible, the refuge manager retains the authority to not allow the use or modify the use. For example, on some occasions, two appropriate and compatible uses may be in conflict with each other. In these situations, even though both uses are appropriate and compatible, the refuge manager may need to limit or entirely curtail one of the uses in order to provide the greatest benefit to refuge resources and the public. See the compatibility policy (603 FW 2.11G) for information concerning resolution of these conflicts.

For proposed uses not considered during the preparation of this CCP, we will apply the procedure contained in this policy and make an appropriateness finding without additional public review and comment. However, if we find a proposed use is appropriate, we must still determine that the use is compatible. The compatibility determination includes an opportunity for public involvement. See the planning policy (602 FW 1, 3, and 4) for detailed policy on refuge planning.

❖ About Compatibility Determinations

The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager of the compatibility of an activity before it is allowed on a national wildlife refuge. This finding is documented in a report called a “compatibility determination.” A compatible use is one “...that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge” (Refuge Improvement Act). The Act defines six priority, wildlife-dependent uses that are to be given enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation. These priority uses may be authorized on a refuge when they are compatible and not inconsistent with public safety.

At the time the compatibility determination is made, the refuge manager will insert the required maximum 10-year re-evaluation date for uses other than wildlife-dependent recreational uses, or a 15-year maximum re-evaluation date for wildlife-dependent recreational uses. However, the refuge manager may re-evaluate the compatibility of a use at any time (602 FWS 2, Parts 2.11 and 2.12). For example, a decision may be revisited sooner than the mandatory date, or even before the CCP process is completed, if new information reveals unacceptable impacts or incompatibility with refuge purposes.

Moreover, not all uses that are determined compatible may be allowed. The refuge manager has the discretion to allow or deny any use based on other considerations such as public safety, policy, or available funding. Nevertheless, all uses that are allowed must be determined compatible. Except for consideration of consistency with State laws and regulations as provided for in subsection (m) of the Act, no other determinations or findings are required to be made by the refuge official under this Act or the Refuge Recreation Act for wildlife dependent recreation to occur.

Please note that archaeological and historic structure research the Service conducts itself does not need a compatibility determination. However, archaeological research by non FWS personnel on refuge property will need a compatibility determination. Such other projects require an Archaeological Resource Protection Act (ARPA) Permit application to the Regional Historic Preservation Officer and a Special Use Permit from the Refuge Manager. Compatibility can be determined at that time.

Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Boat Launching

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: _____ Date: _____

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.

If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: _____ Date: _____

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Boat Launching

Narrative

Rachel Carson is a coastal refuge. Surface waters in the State of Maine are the property of the state and the refuge cannot regulate this activity. Since the refuge is surrounded by water, these facilities are offered to accommodate our wildlife oriented visitors. These activities would be conducted in such a manner to minimize impacts on established programs, including hunting, fishing, wildlife and observation programs, on the rest of the refuge. The refuge fishing program is in its fourth year. Permitting recreational boat launch will benefit fishing. Safety continues to be of paramount importance in all of our management decisions.

Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Mosquito Control

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

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Refuge Manager: _____ Date: _____

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If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.

If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: _____ Date: _____

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Mosquito Control

Narrative

Rachel Carson may have more neighbors than any other national wildlife refuge. The refuge hosts between 260,000 and 330,000 visitors annually. Many of our neighbors occupy seasonal housing and most of our visitors enjoy the refuge during warm weather, which coincides with the time period when mosquitoes are present.

Arthropods such as mosquitoes pose an annoyance to humans and worldwide can have consequences such as mosquito-borne infections (eastern equine encephalitis, West Nile virus). Service Policy is to allow mosquito control on refuge lands when it is necessary to protect the health and safety of the public or a wildlife or domestic animal population. We will allow management of mosquito populations on Refuge System lands using effective means that pose the lowest risk to wildlife and habitats.

Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Research Conducted by Non-Refuge Personnel

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: _____ Date: _____

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.

If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: _____ Date: _____

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Research Conducted by Non-Refuge Personnel

Narrative

The Service encourages and supports research and management studies on refuge lands that will improve and strengthen decisions on managing natural resources. The refuge manager encourages and seeks research that clearly relates to approved refuge objectives, improves habitat management, and promotes adaptive management. Priority research addresses information on better managing the Nation's biological resources that generally are important to agencies of the Department of Interior, the National Wildlife Refuge System, and State Fish and Game Agencies that address important management issues, or demonstrate techniques for managing species or habitats.

Researchers will submit a final report to the refuge on completing their work. For long-term studies, we may also require interim progress reports. We expect researchers to publish in peer-reviewed publications. All reports, presentations, posters, articles or other publications will acknowledge the Refuge System and the Rachel Carson refuge as partners in the research. All posters will adhere to Service graphics standards. We will insert this requirement to ensure that the research community, partners, and the public understand that the research could not have been conducted without the refuge having been established, its operational support, and that of the Refuge System.

Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Skiing and Snowshoeing

This exhibit is not required for wildlife-dependent recreational uses, forms of take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision criteria:	YES	NO
(a) Do we have jurisdiction over the use?	X	
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	X	
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	X	
(d) Is the use consistent with public safety?	X	
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	X	
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	X	
(g) Is the use manageable within available budget and staff?	X	
(h) Will this be manageable in the future within existing resources?	X	
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	X	
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D. for description), compatible, wildlife-dependent recreation into the future?	X	

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will generally not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes X No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate Appropriate X

Refuge Manager: _____ Date: _____

If found to be Not Appropriate, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found Not Appropriate outside the CCP process, the refuge supervisor must sign concurrence.

If found to be Appropriate, the refuge supervisor must sign concurrence:

Refuge Supervisor: _____ Date: _____

A compatibility determination is required before the use may be allowed.

Justification for a Finding of Appropriateness of a Refuge Use

Refuge Name: Rachel Carson National Wildlife Refuge

Use: Skiing and Snowshoeing

Narrative

Wildlife observation, photography, and interpretation are priority public uses as defined by the National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57) and if compatible, are to receive enhanced consideration over other general public uses.

Rachel Carson National Wildlife Refuge is located in Maine where the ground can be covered with snow from November to April. In Maine, the traditional means of access to outdoor destinations during winter months is via ski and snowshoe. Refuge trails are open to public use daylight hours year round. Due to the snow cover, visitor impact is minimized during winter months in that trail tread is not being compressed and fewer species and fewer numbers of wildlife are present. These activities are encouraged at Rachel Carson NWR, and year around access requires use of snowshoes or skis.

Compatibility Determination

Use

Hunting

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing and Acquisition Authorities

The Rachel Carson refuge was established on December 16, 1966, under the authority of the Migratory Bird Conservation Act (16 U.S.C. 715–715r).

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 U.S.C. 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b); 100 Stat. 3583), the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if the Secretary deems such terms to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the use? Conduct and allow access for hunting on refuge lands: specifically, for deer, migratory birds and upland game birds in accordance with state regulations. **Is the use a priority public use?** Yes. Hunting is one of the six priority public uses in the National Wildlife Refuge System Improvement Act of 1997 (Pub. L. 105–57).

(b) Where would the use be conducted? Six of the 10 refuge divisions are open for migratory bird hunting and falconry: the Brave Boat Harbor, Lower Wells, Upper Wells, Mousam, Goose Rocks, Little River, Goosefare Brook, and Spurwink River divisions. Eight of the 10 divisions are open for deer and upland game hunting: all the divisions open for migratory bird hunting plus the Little River and Goosefare Brook divisions. Our Hunt Plan, Annual Program, and refuge-specific regulations further

identify the areas open to hunting.

(c) When would the use be conducted? The refuge adapts state regulations for species hunted. The state determines hunting seasons annually: usually within a September-to-February time frame.

(d) How would the use be conducted? The refuge permits hunting within state guidelines and in compliance with a hunt program that we adjust each year to ensure safety and good wildlife management. New lands acquired by the refuge that traditionally have been hunted will remain open until we have completed their public use planning. If they cannot biologically, ecologically and safely accommodate hunting within state guidelines, then we will complete a separate public review process.

The refuge ownership in Maine extends to the mean low tidal mark; thus, it encompasses intertidal lands that lie between the high and low tidal ranges. Those intertidal lands are considered Public Trust Lands of the people of Maine, and certain rights (fishing, fowling, and navigation) are held in common by the people of Maine. The Legislature of Maine states that these rights held in public trust generally are derived from English Common Law and from the Massachusetts Colonial Ordinance of 1641-1647 (State of Maine Bureau of Public Lands). Those recreational uses held in trust are among the most important to the people of Maine today. The Service recognizes those rights, and will allow such uses, unless evidence shows that they detract from the Service mission to protect those lands.

(e) Why is this use being proposed? Hunting is a priority public use in the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57) and, if compatible, is to receive enhanced consideration in refuge planning.

Availability of Resources

Costs associated with administering this use include

Preparation of Annual Hunt Plan (24 staff hrs @ \$39.50/hr).....	\$708.00
Preparation of Refuge Hunting Information/maps (16 staff hrs @ \$39.50/hr)	\$632.00
Law Enforcement (80 staff hrs @ \$33.18/hr)	\$2,654.00
News Releases (8 staff hrs @ \$26.87/hr).....	\$215.00
Preparation of Annual Hunting Maps and Regulations (16 staff hrs @ \$39.50/hr)	\$632.00
Program Cost	\$4,481.00

FY 2005 Refuge Budget Allocation included

Salaries.....	\$429,812
Fixed Costs.....	\$39,602
Annual Maintenance.....	\$30,184
Total Available Funds.....	\$499,598

Based on a review of the budget allocated for recreational use management, I certify that funding is adequate to ensure compatibility, administer and manage the recreational use listed.

Sufficient resources are available to continue the existing hunting program. Our existing staff and budget have provided sufficient resources to continue current management, although we anticipate increased capacity necessitated by the addition of new lands for hunting and fishing access. Managing those activities falls within the projected budget and staffing capabilities of the refuge.

Anticipated Impacts of the Use

Hunting is consistent with the purposes of the refuge when it is carried out within established regulations and is a priority use in the Refuge Improvement Act. The *2001 National Survey of Fishing, Hunting,*

and Wildlife-Associated Recreation reveals that 975,000 Maine residents and nonresidents 16 years old and older fished, hunted, or watched wildlife in Maine. Of that total, 376,000 fished, 164,000 hunted, and 778,000 participated in wildlife-watching activities, including observing, feeding, and photographing wildlife (USFWS 2003). The Rachel Carson refuge was an important destination for some of that wildlife-dependent recreation.

Adverse effects on wildlife (waterfowl) populations are not expected because of the hunting regulations and bag limits that have been set in place by the federal and state agencies (USFWS Migratory Bird Office and the Maine Department of Inland Fisheries and Wildlife) that manage the harvest of waterfowl populations. Significant conservation measures and extensive pre- and post-season population monitoring and the institution of Adaptive Harvest Management are safeguards inherent in waterfowl management. Adverse effects on other game species are not expected, because hunting will occur under state regulations. The MDIFW sets harvest limits that take into account game species population data collected by state biologists and wildlife species assessments.

Hunting results in the direct take of the target game up to a daily limit in accordance with state regulations. The direct disturbance of wildlife is expected, as is true for all human-wildlife interactions. Those impacts affect individuals, not populations.

Thirty-six species of shorebirds are reported using the Maine coast primarily as staging areas during long distance migration. The numbers of migrant shorebirds peak from mid-May to early June and from mid-July to mid-September (Tudor 2000), outside hunting seasons. The impacts to wildlife are at a level that will not interfere with wildlife populations. Endangered or threatened species and species of special concern are also present on the refuge. However, no threatened or endangered species are using the areas identified for hunting during hunting seasons. The status of the New England cottontail is being reviewed; its habitat is dense upland thickets. Rabbit hunting is not permitted on the refuge.

Public Review and Comment

As part of the CCP process for the refuge, this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- The refuge employs a hunt permit system to avoid conflicts. Issuing permits to all hunters ensures that all hunters receive a copy of the current refuge regulations and maps of open areas. The maps and regulations are especially valuable in avoiding conflicts with neighbors.
- Compliance with regulations will be achieved through education, signage and law enforcement, which will result in minimizing negative impacts on refuge habitat and wildlife.
- Refuge regulation of hours (daylight hours) and access-restricted areas will be enforced. Some activities are not compatible, and are prohibited on the refuge to protect sensitive habitats and wildlife. Prohibited activities include driving off-road vehicles, camping, building fires, horse-back riding, and mountain biking.

Justification

Hunting is a wildlife dependent priority public use with minimal impact on refuge resources, and is conducted under state regulations, thereby reducing the amount of staff time and effort needed to oversee it. The staff time and resources needed are identified during annual work planning to minimize impacts on other refuge programs. In addition, hunting is consistent with the purposes for which the refuge was established, the Service policy on hunting, the National Wildlife Refuge System Improvement Act of 1997, and the broad management objectives of the National Wildlife Refuge System. Hunting is compatible with and will not detract from the mission of the Refuge System or the objectives of the refuge. Furthermore, hunting on public lands in Maine is a popular, traditional recreation activity that is strongly supported by the Maine Department of Inland Fisheries and Wildlife, which strongly supports hunting on national wildlife refuges in Maine. Allowing hunting within the refuge will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established.

Rachel Carson refuge hosts over 250 species of birds, 53 mammals and 40 reptiles and amphibians. Here, too, this species biodiversity provides management flexibility. These activities are not thought to be disturbances which will jeopardize this resource. The refuge hunt program is in its 11th year in current format. Using annual programs, the hunt has been evaluated and modified every year. The hunt is increasingly popular with more hunters every year. This activity does not obviously raise safety issues due to the large size of the hunting opportunity.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10 or 15 year Re-evaluation Date _____
(for all uses other than priority public uses) (Date)

References

U.S. Fish and Wildlife Service. 2005. *Draft Comprehensive Conservation Plan*. Rachel Carson National Wildlife Refuge, Maine.

State of Maine *Hunting and Trapping 2005 Laws and Rules*. Maine.

U.S. Fish and Wildlife Service. 2005. *Hunter Information 2005–2006 Hunting Season*. Rachel Carson National Wildlife Refuge, Maine.

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State of Maine. 2004. *Wells Deer Hunt December 1 – 11, 2004 Regulations*. Maine.

State of Maine. 2005. *Migratory Game Bird Hunting Schedule*. Maine.

State of Maine *Open Water Fishing 2005 Regulations*. Maine.

Office of the Federal Register National Archives and Records Administration. 2005. *Wildlife and Fisheries. Code of Federal Regulations*. U. S. Government Printing Office Washington, D.C.

Compatibility Determination

Use

Fishing

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing and Acquisition Authorities

The Rachel Carson refuge was established on December 16, 1966, under the authority of the Migratory Bird Conservation Act (16 U.S.C. 715–715r).

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 U.S.C. 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . .” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b); 100 Stat. 3583), the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if the Secretary deems such terms are in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the use? Conduct and allow access for fishing on refuge lands. Fishing for bass, salmon, trout, pickerel, whitefish, smelt and other species is permitted in accordance with state regulations. **Is the use a priority public use?** Yes. Fishing is one of the six priority public uses in the National Wildlife Refuge System Improvement Act of 1997 (Pub. L. 105–57).

(b) Where would the use be conducted? All navigable waters on the refuge are owned by the State of Maine and are open to fishing. There are currently nine fishing access points on the refuge. The appendix to this compatibility determination contains the most recent fishing access points.

(c) When would the use be conducted? The refuge adopts state regulations for species fished. The state fishing season traditionally opens on April 1 and closes on September 30, with the exception of Mousam River from Route 1 to tidewater, which is open year-round.

(d) How would the use be conducted? All tidal waters of the Refuge are open to fishing and bank fishing is currently permitted in nine areas (appendix contains the most recent fishing access points); both types of fishing are increasingly popular.

The refuge permits fishing by rod and reel or hook and line only, from bank fishing access points, a pier (not yet constructed), and from all Maine state waters. We expect to accommodate a maximum number of 100 users at any given time. It is unlikely that we will reach those numbers except during events such as Fishing Derby Day.

The refuge is building a fishing pier on the Spurwink River. The planned pier design calls for a 12' x 20' wooden, fully-accessible structure. We are improving a parking lot located adjacent to this site. With the possible exception of a kiosk, we do not anticipate any further supporting facilities. Other uses proposed for the site include wildlife observation, photography, and interpretation. The refuge will continue to provide fishing access sites and will improve the nine areas now available to anglers with access and interpretive signs.

(e) Why is this use being proposed? Fishing is a priority public use as defined by the National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57) and if compatible, this activity is to receive enhanced consideration over other general public uses.

Availability of Resources

Costs associated with administering this use include

Annual review of Fishing Plan (24 staff hrs @ \$39.50/hr)	\$708.00
Signing and monitoring fishing access sites (40 staff hrs @\$26.87/hr)	\$1075.00
Law Enforcement (80 staff hrs @ \$33.18/hr)	\$2,654.00
News Releases (4 staff hrs @ \$26.87/hr).....	\$108.00
Program Cost	\$4,545.00

FY 2005 Refuge Budget Allocation included

Salaries.....	\$429,812
Fixed Costs.....	\$39,602
Annual Maintenance.....	\$30,184
Total Available Funds.....	\$499,598

Based on a review of the budget allocated for recreational use management, I certify that funding is adequate to ensure compatibility and to administer and manage the recreational use listed.

Sufficient resources are available to continue the existing fishing program. Existing staff and budget have provide sufficient resources to continue with current management, although the refuge anticipates increased capacity needs necessitated by the additional of new lands for fishing access. We do not anticipate charging fees to fish.

Anticipated Impacts of the Use

Fishing is consistent with the purposes of the Refuge when carried out within established regulations and is a priority use identified in the Refuge Improvement Act. Some wildlife disturbance is created by fishing

activity. Disturbance during the summer is limited to waterfowl, shorebirds, aquatic species, marsh and wading birds. The fishing access points have been selected to coincide with existing uses to help reduce any additional impact.

The *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation* revealed that 975,000 Maine residents and nonresidents 16 years old and older fished, hunted, or wildlife watched in Maine. Of the total number of participants, 376,000 fished, 164,000 hunted, and 778,000 participated in wildlife-watching activities, including observing, feeding, and photographing wildlife (USFWS 2003). Rachel Carson refuge was an important destination for some of this wildlife-dependent recreation.

Wetlands will be minimally impacted by construction of the Spurwink River pier which would serve to promote this priority use on the site. We consulted with the Corps of Engineers and Maine Department of Environmental Protection on the wetland impacts. We submitted a Natural Resources Protection Act permit in August, 2005 and the MDEP accepted the submittal as a complete application. We do not anticipate any permit problems associated with this pier and boardwalk

Endangered and/or threatened species and species of special concern are also present on the refuge. The **pipin plover** is federal-listed threatened and state-listed endangered in Maine. They nest above the high tide line on open sand, gravel or shell-covered beaches, especially on sand spits and blowout areas in dunes. Piping plover has traditionally nested at Goosefare Brook. If fishing activities are in conflict with where the birds nest at this beach, the fishing will be curtailed until the young plovers fledge. The plovers and terns are present during the refuge's fishing seasons. Conflicts are avoided by geographically separating the activities. Most fishing pressure is late in the summer and in the fall after plovers and terns have finished nesting. Other threatened and endangered species may be present but will not be affected by this activity.

Public Review and Comment

As part of the CCP process for Rachel Carson refuge this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Fishing will be permitted only in designated areas to prevent erosion and degradation of wetlands and water quality. The refuge provides a handout identifying the fishing access areas.
- Fishing access areas have been designated and signed.
- Compliance with regulations will be achieved through education, signage and law enforcement which will result in minimizing negative impacts to refuge habitat and wildlife.
- Lead sinkers and other lead tackle are prohibited to prevent ingestion, and possible lead poisoning, by wildlife.
- Refuge regulation concerning hours (daylight hours) and restricted access will be enforced.

- Some activities are not compatible and are prohibited on the Refuge to protect sensitive habitats and wildlife. Prohibited activities include using off-road vehicles, camping, building fires, horse-back riding, mountain biking, and collection of any plants or animals not covered by a permit.

Justification

Fishing is a wildlife dependent priority public use with minimal impact on refuge resources. Fishing is conducted under state regulations, so anglers do not have to learn a second set of regulations on the refuge. Staff time and resources needed are identified during annual work planning to minimize impacts on other refuge programs. In addition, fishing is consistent with the purposes for which the Refuge was established; the Service policy on fishing; the National Wildlife Refuge System Improvement Act of 1997; and the broad management objectives of the National Wildlife Refuge System. Fishing is a popular traditional wildlife-dependent activity in Maine. Allowing fishing to occur within the Rachel Carson refuge will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the Refuge was established.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10 or 15 year Re-evaluation Date _____ (Date)
(for all uses other than priority public uses)

Attachment: Fishing Sites at Rachel Carson National Wildlife Refuge

References

U.S. Fish and Wildlife Service. 2005. *Draft Comprehensive Conservation Plan*. Rachel Carson National Wildlife Refuge, Maine.

U.S. Fish and Wildlife Service. 2000. *Environmental Assessment, Fishing*. Rachel Carson National Wildlife Refuge, Maine.

State of Maine. 2005. *Open Water Fishing Regulations*. Maine.

Wells National Estuarine Research Reserve Fish Species of the Wells Reserve. *Checklist of finfish*. Wells, Maine.

U.S. Fish and Wildlife Service, 2005. *Department of Environmental Protection Natural Resources Protection Act permit application*. Wells, Maine.

U.S. Fish and Wildlife Service. 2005. *Designated Recreational Fishing Sites*. Rachel Carson National Wildlife Refuge, Maine.

Fishing Sites at Rachel Carson National Wildlife Refuge

The following sites may be used by anglers. All Maine fishing regulations apply. Use of all areas contingent upon user cooperation. Refuge regulations require use of non-lead jigs and sinkers to prevent waterbird poisoning. Areas open dawn until dusk only. Carry out all litter, including monofilament, which can be dangerous to birds and other wildlife. Obey refuge signs and private property. Locations are described from south to north.

Chauncey Creek—Kittery

Carry-in boat access only at the intersection of Cutts Island and Seapoint Roads. Note that tidal changes in this area may cause previously navigable channels to become treacherous or impassable. Park adjacent to the site on Seapoint Road.

Brave Boat Tidal Creek—York

Fishing permitted on north side of stream bank from Brave Boat Harbor Road to the first trestle downstream, approximately 1000 feet. Park at pull-off northeast of Brave Boat Harbor Road, south of Payne Road, adjacent to creek. No refuge parking available.

Ogunquit River—Ogunquit/Wells

Anglers may fish on the north bank of the Ogunquit River, east of Route 1. Access is limited to the marked and posted areas at the refuge boundary corner behind the Ogunquit River Plantation Hotel east (downstream), on the Wells side of the river, for approximately 500 feet. No refuge parking available.

Stevens Brook—Wells

The east side of Stevens Brook is open for fishing from Bourne Avenue to the point where Stevens Brook approaches Ocean Avenue (approximately 1/4 mile). Approach from the public parking lot on Ocean Avenue.

Webhannet River—Wells

Fishing permitted along the west bank of the Webhannet River. The area begins at the north side of Mile Road and continues approximately 400 feet north (downstream), ending at the first tidal creek.

Merriland River/Skinner Mill—Wells

Anglers may fish from the refuge boundary, east (downstream) for approximately 1000 feet, which includes the oxbow. Access is by an existing trail on the south side of the river across private property. Park on Skinner Mill Road; no refuge parking available.

Mousam River—Kennebunk

Fishing permitted east of Route 9, on the north side of the river, west to our posted boundary and east to the point opposite Great Hill Road (approximately 3/10 mile). Access will be from the bridle path along the first tidal creek. Fishing is currently allowed on the opposite bank and at the mouth of the Mousam River. Park on Route 9; no refuge parking available.

Goosefare Brook—Saco

Anglers may fish on the south side of the Goosefare Brook outlet. There is very little parking in the immediate area; use the public parking lot at the end of Bayview Road.

Spurwink River—Scarborough

Fishing permitted along the west bank of the Spurwink River, north of the Route 77 bridge. The area extends approximately 1000 feet, ending at a point near the fork in the river. Limited parking available just off Route 77.

Compatibility Determination

Use

Wildlife Observation, Photography, Environmental Education, Interpretation

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing and Acquisition Authorities

The Rachel Carson refuge was established on December 16, 1966. The authority which established the refuge is 16 U.S.C. 715–715r; The Migratory Bird Conservation Act, as amended.

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 U.S.C. 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b); 100 Stat. 3583), the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the use? Conduct and allow access for priority public uses (Wildlife Observation, Photography, Environmental Education, and Interpretation) as provided for under the NWRS Improvement Act of 1997. **Is the use a priority public use?** Yes, wildlife observation, photography, environmental education and interpretation are four of the six priority public uses in the National Wildlife Refuge System Improvement Act of 1997 (Pub. L. 105–57).

(b) Where would the use be conducted? The primary public uses will occur as follows: Waysides, overlooks and opportune situations on all divisions will provide the public with chances to observe wildlife. Refuge trails in Brave Boat Harbor, Upper Wells and Goosefare Brook Divisions; shared trails in Mousam and Goosefare Brook Divisions. Interpreted trails such as Carson and Ted Wells trails enhance visitor’s

experiences. Schools and other organized groups are the target for environmental education, on and off refuge.

(c) When would the use be conducted? Most public use occurs during the high season, i.e. approximately July 4 to Labor Day. Wildlife observation, photography, environmental education and interpretation are year around activities.

(d) How would the use be conducted? The Carson Trail and Ted Wells trails are currently interpreted with brochures to add wildlife and environmental insights to visitor's experiences. The Cutts Island trail is scheduled for upgrade to an interpreted trail with interpretive panels. Interpretative signs at several locations (Lower Wells, Biddeford Pool, Little River, Goosefare Brook) provide management oriented information to visitors. The trail and observation platform at Goosefare Brook provide information on wildlife observation. Wildlife/nature photography is encouraged on all public use areas of the refuge. Environmental education is conducted on refuge, mainly at Carson Trail, and may be conducted off refuge, such as at local school settings. The CCP contains information on an environmental education center to be located in Saco in the proposed alternative. See chapter 2, alternative B, objective 5.2 for details.

(e) Why is this use being proposed? Wildlife observation, photography, environmental education and interpretation are priority public uses as defined by the National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57) and if compatible, are to receive enhanced consideration over other general public uses.

Availability of Resources

Facilities or materials needed to support these four uses include the following:

Service Standards-Trails:	\$26,000. Upgrading with boardwalks where needed and improving the tread on Cutts Island trail and tread on Goosefare Brook trail.
Carson Trail Restroom:	\$32,000. This is for a double, composting, fully-accessible restroom. This facility will Service visitors to Refuge Headquarters as well.
Supplies and materials:	\$8,500. We will produce 15,000 copies of the Carson Trail. We will produce 3,000 copies of the refuge mammal list. We will produce 10,000 copies of the refuge bird list. We will modify the reptile and amphibian list to fit Service format and produce 1,500 copies of this brochure; we will do this in house, with assistance from the Regional External Affairs office.
Parking area (obligated):	\$55,000. As part of an ongoing project to provide universal fishing access and wildlife observation at the Spurwink Unit. This project is funded through a Visitor Services initiative and these funds are obligated.
Routine maintenance (annual):	\$4,700. This is the expected cost to maintain the parking area at Carson, Goosefare Brook and Spurwink parking lots by grading and filling low spots, repairing handrails and vandal damage, as well as general upkeep and maintenance.
Total:	\$66,500 new funds, plus up to \$4,700 annually; \$55,000 funded through Visitor Services and already obligated.

These facilities will be used by the public engaged in all six priority uses of the Refuge system. With the exception of annual maintenance, all expenditures are enumerated in the Refuge Management Information System. We calculated hunting and fishing program costs in separate compatibility determinations. We have plans to charge entrance fees, and those plans can be found in the CCP, chapter 2, alternative B, goal 5. These fees could help offset annual maintenance costs. Funds for the Spurwink parking lot are already obligated or expended. The refuge anticipates increased capacity with the development of additional wildlife observation, photography, interpretation and environmental education opportunities as projected in the Comprehensive Conservation Plan.

Anticipated Impacts of the Use

Direct disturbance to wildlife is anticipated, as is true for all human – wildlife interactions. United States’ treaty migratory bird obligations will not be adversely affected since actions taken on the refuge can only influence the small proportion of the migratory bird populations which are present on the refuge at any one time and the initiatives described in this determination are designed to minimize impacts on individuals and habitats. We will be satisfying our proposed conservation plan objectives, and a goal of the Refuge System Improvement Act, by providing opportunities for compatible wildlife -dependent recreation. Thirty-six species of shorebirds are reported using the Maine coast primarily as staging areas during long distance migration. Peak numbers of migrant shorebirds occur from mid-May to early June and from mid-July to mid-September (Tudor 2000), which is also the start of the peak visitor use season. Shorebirds using the Maine coast face potential impacts from recreational disturbances to foraging and nesting birds, as well as oil spills, resource extraction affecting shorebird food supplies, habitat loss to development, predators, and contaminants (Clark and Niles 2000). The impacts to wildlife are at a level that will not interfere with wildlife populations. Location of waysides, layout and construction of trails and overlooks will attempt to minimize habitat degradation.

Nearly 100,000 visitors used the one-mile foot Carson Trail at the Wells headquarters; one of four developed trails on the Refuge. There are many times during the summer and fall when the parking lot is full or overflowing. The headquarters trail in Upper Wells is currently the only Refuge Division with an informational kiosk. The two-mile Cutts Island Trail in Brave Boat Harbor Division has trail signs, but no kiosk nor restroom. Carry-in boat access only is available on Chauncy Creek at the intersection of Cutts Island and Seapoint Roads. Parking is available through verbal agreement with Town of Kittery. The Goose Fare Brook Trail and overlook offers parking, a short stone-dust trail and interpreted observation platform with automatic-focus binoculars. The Bridle Path and Atlantic Way and Ted Wells Trails provide views of Refuge habitat in Kennebunk and Saco and Old Orchard Beach. These trails are located on and adjacent to Refuge property and are maintained by municipal or private non-profit organizations. New signs, new trails and other opportunities will continue to impact wildlife and wildlife habitat.

Endangered and/or threatened species and species of special concern are present on the refuge. However, there are no threatened and endangered species known to use the areas identified for wildlife observation, photography, environmental education and interpretation.

Public Review and Comment

As part of the CCP process for Rachel Carson refuge this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Compliance with regulations will be achieved through education, signage and law enforcement which will result in minimizing negative impacts to refuge habitat and wildlife.
- Refuge regulation concerning hours (daylight hours) and access restricted to permitted areas will be enforced.
- Some activities are not compatible and are prohibited on the Refuge to protect sensitive habitats and wildlife. Prohibited activities include using off-road vehicles, camping, building fires, horse-back riding, mountain biking, and collection of any plants or animals not covered by a permit.

Justification

Environmental education, wildlife observation, interpretation, and photography are four of the six priority public uses of the National Wildlife Refuge System and have been determined to be compatible activities on hundreds of other refuges nationwide. The Refuge System Improvement Act of 1997 instructs refuge managers to seek ways to accommodate these six activities. A small portion of the refuge is open to general public use, while other areas may be accessible for specific activities through the special use permit process.

Project Leader _____ (Signature) _____ (Date)

Concurrence

Regional Chief _____ (Signature) _____ (Date)

Mandatory 10 or 15 year Re-evaluation Date _____ (Date)
(for all uses other than priority public uses)

References

Clark and Niles, 2000. *North American Shorebird Plan*.

Daily, Gretchen C. 1997. *Nature's Services: Societal Dependence on Natural Ecosystems*. Edited. Washington, D.C.

Hutt, Sherry, Jones, Elwood W. McAllister, Martin E. 1992. *Archeological Resource Protection*. The Preservation Press. Washington, D.C.

Howe, Jim, McMahon, Ed & Propst, Luther 1997. *Balancing Nature and Commerce in Gateway Communities*. The Conservation Fund and The Sonoran Institute Washington D.C.

Student Conservation Association. 1996. *Lightly on the Land*. The Mountaineers. Washington.

Tilden, Freeman. 1957 *Interpreting Our Heritage*. University of North Carolina Press, North Carolina.

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U.S. Fish and Wildlife Service. 2005. *Draft Comprehensive Conservation Plan*. Maine.

U.S. Fish and Wildlife Service. 1985. *Refuge Manual*. Washington, D.C.: U.S. Government Printing Office.

Compatibility Determination

Use

Boat Launching

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing and Acquisition Authorities

The Rachel Carson refuge was established on December 16, 1966. The authority which established the refuge is 16 U.S.C. 715–715r; The Migratory Bird Conservation Act, as amended.

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 U.S.C. 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b); 100 Stat. 3583), the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the use? Visitors launch and land non-motorized canoes and kayaks from two locations on the refuge. **Is the use a priority public use?** No. Boating is not a priority public use; however, this launch activity is allowed to support wildlife observation and fishing.

(b) Where would the use be conducted? The launch sites are in the southern- and northernmost refuge divisions; Brave Boat Harbor and Spurwink. 1) the southern refuge car-top launch area is located on Cutts Island, Seapoint Road, Kittery and 2) the Spurwink river boat launch immediately west of Route 77. The use takes place on navigable tidal water within the boundaries of the Refuge.

(c) When would the use be conducted? The Cutts Island and Spurwink launches are open daylight hours, year round. Practically, the areas are open prior to and following freeze-up. Both areas are tidally influenced and will not be suitable (low, high and fast water levels) for launching at all times. Special care is needed at the Cutts Island site where the rapid tidal exchange can effectively prevent users from returning to the launch site.

(d) How would the use be conducted? Both areas are for the launch of recreational crafts. The Cutts Island site requires carrying the boat, canoe or kayak some 30 feet from the parking area (on Town of Kittery property) to the water's edge. The Spurwink launch ramp is suitable for trailer launching small boats directly into the river.

(e) Why is the use being proposed? Rachel Carson is a coastal refuge. Surface waters in the State of Maine are the property of the state and the refuge cannot regulate this activity. Since the refuge is surrounded by water, these facilities are offered to accommodate our wildlife oriented visitors. These activities would be conducted in such a manner to minimize impacts on established programs, including hunting, fishing, wildlife and observation programs, on the rest of the refuge.

Availability of Resources

Both launch facilities directly support priority public uses. Neither site has required, nor is expected to require, extensive maintenance. Continuation of this activity and issuance of this boat launch determination is within the budget and staff capacity of the refuge.

Anticipated Impacts of the Use

Brave Boat Harbor Division – The Brave Boat Harbor Division encompasses approximately 750 acres. This Division is located within the towns of York and Kittery. Oak-pine forest with vernal pools and old field upland habitats surround salt marsh and estuary habitat.

This area was nominated for inclusion in the Maine Ecological Reserves program because of its saltmarsh ecosystem, and presence of oak-pine forest, exemplary white oak-red oak forest and perched hemlock-hardwood swamp communities, acidic fen, shrub swamp, and vernal pool (McMahon 1998). It also lies within a Maine Beginning With Habitat Focus Area (Greater Brave Boat Harbor/Gerrish Island) that is known to harbor rare natural communities including red oak-white oak forest, dune grassland, and spartina saltmarsh (Maine Department of Inland Fisheries and Wildlife). Brave Boat Harbor lies within the Mount Agamenticus to the Sea Conservation Initiative, a region in southern Maine that surrounds the largest coastal forest on the eastern seaboard between Acadia and the New Jersey pine barrens (Mount Agamenticus to the Sea Conservation Initiative).

Threatened and endangered species may be present but will not be affected by this activity.

Spurwink Division, in the Towns of Scarborough and Cape Elizabeth, encompasses 520 acres. This Division is centered along the waters of the Spurwink River, Pollack Creek and several other small waterways. It consists of upland fields, high quality salt marsh, shrublands, and some mature forest.

Direct disturbance to waterfowl, notably wintering black duck, is likely along the refuge waterways as is disturbance to other waterfowl, wading birds and salt marsh species. Both areas are patrolled and visited frequently by refuge staff. Intense levels of use, should they occur, will result in reexamination of this determination. Water quality up and down stream (tidal) could be degraded through bank, or streambed erosion or introduction of potentially toxic materials. Dormant or unavailable toxins or heavy metals could be in existence in the muddy bottom and could be stirred and become available to aquatic species.

In the spring and summer months nesting waterfowl and shorebirds in the immediate area would be affected by launching and paddling. These disturbances, however, would be minimal since restrictions

built into execution of this project, i.e. recreational, no-motor boats only, are designed to lessen impacts. Refuge visitors will be inconvenienced by Maine's 9 to 11 foot tidal range.

Refuge visitors could find this activity creates temporary direct disturbance to wildlife and/or habitat which may impact their intended uses. Anglers may take advantage of this launch area to access state-controlled waters. Although the striped bass fishing season is January 1 - December 31, most fishing takes place in the spring and early summer. During peak fishing seasons, any activity can startle or repel fish. Activities in the vicinity of the launch sites can result in compaction of soils, trampled vegetation and erosion to habitats, especially in riparian zones.

Endangered and/or threatened species and species of special concern are also present on the refuge. The New England Cottontail occurs in the Spurwink Division, however, the rabbit does not occur in the immediate vicinity of the boat launch. Federal-listed threatened piping plover nest on beaches and feed on the mudflats behind the beach, but the birds are not found near either boat launch. Other threatened and endangered species may be present but will not be affected by this activity.

Public Review and Comment

As part of the CCP process for Rachel Carson refuge, this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Project will be adequately publicized and accommodations for pedestrians will comply with applicable safety regulations.
- Enforcement will occur on refuge use, taking and disturbance provisions to assure compliance with regulations and minimize negative impacts to refuge habitat and wildlife.
- Refuge regulation concerning hours (daylight hours) and access restricted to permitted areas will be enforced.
- There are countless opportunities for wildlife related experiences on the refuge. Unfortunately, the impact of humans is becoming ever more present. We must all learn how to minimize our damaging effects and how to preserve our natural and wild environment. We can use and enjoy these treasures and so can our grandchildren if we practice the Leave No Trace principles, modified here for the refuge.
 - Plan Ahead and Prepare
 - Travel on Durable Surfaces
 - Dispose of Waste Properly
 - Leave What You Find
 - Be careful with Fire
 - Respect Wildlife
 - Be Considerate of Other Visitors

Justification

The fishery resource at Rachel Carson refuge is plentiful and species abundant with native species such as winter flounder (*Pleuronectes americanus*), alewife (*Alosa pseudoharengus*), blueback herring (*A. aestivalis*), pollock (*Pollachius virens*), bluefish (*Pomatomus saltatrix*), American shad (*A. sapidissima*),

striped bass (*Morone saxatilis*), as well as stocked species such as brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) These renewable resources can be utilized and maintained at optimum levels. This species biodiversity, which is important in maintaining a healthy ecosystem, also provides management flexibility. This site specific, time limited disturbance will not jeopardize this resource.

The fishing program is in its fourth year. Permitting recreational boat launch will benefit fishing. Safety continues to be of paramount importance in all of our management decisions. Allowing visitors to launch and land non-motorized canoes and kayaks from two locations within the Rachel Carson refuge will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the Refuge was established.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10 or 15 year Re-evaluation Date _____
(for all uses other than priority public uses) (Date)

References

U. S. Fish and Wildlife Service. 2005. *Draft Comprehensive Conservation Plan*. Rachel Carson National Wildlife Refuge, Maine.

U. S. Fish and Wildlife Service. 2000. *Environmental Assessment, Fishing*. Rachel Carson National Wildlife Refuge, Maine.

State of Maine. 2005. *Open Water Fishing Regulations*. Maine.

U. S. Fish and Wildlife Service. 20005. Department of Environmental Protection Natural Resources Protection Act. *Permit application*. Maine.

U. S. Fish and Wildlife Service. 2000. *Designated Recreational Fishing Sites*. Rachel Carson National Wildlife Refuge, Maine.

Getches, David H. 1997. *Water Law in a Nutshell*. West Publishing, Minnesota.

Compatibility Determination

Use

Use of *Bacillus thuringiensis* (Bti), a larvicide to control mosquito and flies in emergency public and/or wildlife health situations (hereafter “mosquito control” will include mosquitoes, flies, and similar species).

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing Authority

Rachel Carson National Wildlife Refuge was established on December 16, 1966. The authority which established the refuge is 16 U.S.C 715-715r, The Migratory Bird Conservation Act, as amended.

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 USC 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 USC Section 460k-1), suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . .” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 USC Section 3901(b) 100 Stat. 3583, the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 USC Section 742f (a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 USC Section 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Administration act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the Use? Is the use a priority public use? The use is mosquito management which includes surveillance and, if warranted, mosquito control. Mosquito surveillance and control are not a priority public uses of the National Wildlife Refuge System (Refuge System) under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Mosquitoes and other insects provide a food source, directly or indirectly, for Service trust species (migratory birds, threatened and endangered species, and anadromous fish).

(b) Where would the use be conducted? The refuge hosts saltwater and freshwater mosquitoes, greenhead flies and black flies. Much of the refuge is saltmarsh, so most mosquito breeding habitat is in areas best suited to saltwater mosquitoes. Because of this, the mosquito control would take place in the saltmarsh areas.

(c) When would the use be conducted? Seasonally, on an irregular and short-term basis when it is necessary to protect the health and safety of humans, wildlife, or domestic animals. We will allow State or local vector control agencies to conduct mosquito control on refuge lands using effective compatible means that pose the lowest risk to wildlife and habitats.

When necessary to protect the health and safety of the public or a wildlife or domestic animal population, we will allow management of mosquito populations on the refuge

The surveillance activities associated with this use would be conducted from April through early October under the conditions of this Compatibility Determination, a Special Use Permit and the Service Mosquito policy. Some mosquito control activities could occur throughout the mosquito/fly season (top minnows, swallows, etc).

(d) How would the use be conducted? The mosquito control will be applied to the marsh by hand spraying or hand dispersal. Except in cases of officially determined health emergencies, any method we use to manage mosquito populations within the refuge will conform with applicable Federal laws such as the Endangered Species Act. Habitat management and pesticide uses for mosquito control will give full consideration to the integrity of non-target populations and communities. They will also be consistent with integrated pest management strategies and with existing pest management policies of the Department of the Interior and the Service.

We will allow pesticide treatments for mosquito population control on Refuge System lands only when local, current mosquito population monitoring data are collected and the data indicate that refuge-based mosquito populations are contributing to a human, wildlife, or domestic animal health threat.

State/local public health or mosquito control agencies will conduct any surveillance, the methods to include dip samples, light/CO₂ traps, and landing rates. *Bacillus thurigiensis* application would be made following the limitations included in the product EPA label, an annual Fish and Wildlife Service Pesticide Use Permit, and an annual Refuge Special Use Permit.

(e) Why is this use being proposed? In rare circumstances mosquitoes can serve as disease vectors presenting a threat to human health. It is the policy of the National Wildlife Refuge System that we will allow native mosquito populations to function unimpeded and we may allow mosquito populations to be controlled only in the following circumstances:

- There is a need to manage a public or wildlife health threat from a specific mosquito-borne disease that mosquito and disease monitoring data have documented as enumerated in Service policy.
- There are tires, tanks, or other similar debris/containers that may serve as artificial breeding sites for native or non-native species of mosquitoes. We may remove these or treat them with pesticides.
- We are enhancing, restoring, or managing habitat for other wildlife species to achieve refuge purposes. This may be in the form of habitat restoration or water level manipulations where there is a definable benefit to other wildlife over not undertaking such actions. We prohibit habitat modifications or management actions designed specifically for mosquito control that impact other wildlife species or habitats and are detrimental to refuge purposes or System goals. These modifications or actions include, but not limited to, inappropriate draining,

maintaining high water levels that are inappropriate for wildlife, and the importing or enhancing of non-native predators.

- There is a need to manage a threat to public health and safety from extreme numbers of biting mosquitoes when advised to do so by the Centers for Disease Control and Prevention (CDC) and/or the Federal Emergency Management Agency (FEMA). Such mosquito control may be necessary following natural or human-caused disasters when biting mosquitoes may hamper recovery efforts.

Availability of Resources

Refuge staff time and resources are finite and work is planned annually. The mandate for all national wildlife refuges is to consider wildlife first. The Service provides the refuge with no funds or support for mosquito control. The preparation of annual Pesticide Use and Special Use Permits, reviewing monitoring reports, and reviewing annual action-reports are functions that can be accomplished with assistance from Regional biologists.

Anticipated Impacts of the Use

Generally, refuges will not conduct or allow mosquito monitoring or control, but these activities may be allowed under special use permits. When necessary to protect the health of a human, wildlife, or domestic animal population, we will allow surveillance and if warranted reduction of mosquito populations on Refuge System lands using effective means that pose the lowest risk to wildlife and habitats.

Mosquitoes, flies and other insects are a food source to wildlife, especially birds, fish, reptiles and amphibians. Mosquito eggs, larvae and pupae provide a significant food source to *Fundulus* living in saltmarsh pools and pannes which in turn compose an important part of the diet for marsh and wading birds such as egrets and herons. These and similar food chain relationships, when combined with the wildlife first mandate, results in a determination against mosquito control on the refuge.

Rachel Carson wrote about the interconnectedness of all living things; each species has its own ties with others and all are related to the earth. This is the message of *Silent Spring* and the earth-sea trilogy. She simply and convincingly explained the connections between humans and all creatures of the earth. Preserving under industry and government pressure to abandon her research, in *Silent Spring*, she linked the unrestrained use of post-World War II chemical pesticides with their disastrous biological consequences. With this book Ms. Carson launched the modern environmental movement. Congress renamed and dedicated this refuge in her honor. Consequentially, this refuge is very conservative concerning pesticides, due to both the direct effects of chemicals on the interrelatedness of all living things and the perception of using pesticides on a refuge named for Rachel Carson.

The resources most at risk can be characterized as follows: Southern coastal Maine is a migration and staging area for much of the North American shorebird population. Thousands of shorebirds feed along coastal beaches and mud flats as they migrate through the State. Biddeford Pool serves as one of the top shorebird staging areas in southern Maine. In 2004, a fall migration shorebird survey was conducted weekly at several spots on the refuge. The survey documented an average of 555 shorebirds per a survey (at 8 sites) with peak numbers (>1400 birds) occurring in late August. Thirty-six species of shorebirds are recorded for the refuge, with five of these considered regular breeders. Most shorebird use occurs during fall migration, beginning in early July and continuing through early November. Utilization occurs in a variety of habitats within the estuarine community, but the greatest use occurs in tidal mudflats and salt pannes. Areas used during major fall migrations include the Webhannet River at low tide, several salt pannes on the Lower Wells and Upper Wells Division, the Batson River and Goose Rocks tidal mudflats, and numerous locations at the Biddeford Pool Division. The great diversity of shorebirds found in these areas compares to only a few other sites in Maine.

Endangered and/or threatened species and species of special concern are also present on the refuge, but will not be affected by this action. The **piping plover** is federally threatened and state endangered in Maine. They nest above the high tide line on open sand, gravel or shell-covered beaches, especially on sand spits and blowout areas in dunes. Fifty to 75% of the Maine piping plover population nests at three sites on or near the refuge, including Crescent Surf Beach, Goosefare Brook, and Marshall Point at Goose Rocks. The **least tern** is a state endangered species in Maine. In 2005, Crescent Surf Beach hosted the largest nesting colony (51 pairs) of least terns in Maine. New England cottontail rabbit status is being reviewed; their habitat is dense upland thickets.

Toxicity and Effects to Non-target Organisms

There is little information available regarding non-target species effects of Bti in salt marsh application (Higgins, 2003, personal communication). Results of a Canadian study, in publication, indicate that salt marsh application of Bti reduced the numbers of some non-target benthic species, but that the numbers of other benthic community species increased so that overall biomass was not affected (Higgins, 2003, personal communication).

From studies conducted in fresh water wetlands, the bacterium Bti is a microbial insecticide that, when ingested, is toxic to mosquitoes, black flies and several other members of the nematocera suborder within the order diptera. The intact toxin is not active against vertebrates (Boisvert and Boisvert 2000). The greatest degrees of susceptibility are within a few families: the Culicidae (mosquitoes), the Simuliidae (black flies) and the Chironomidae (midges), with mosquitoes and black flies being the most susceptible (Boisvert and Boisvert 2000).

Bti is used widely because of its reportedly high specificity for target species and environmental safety (Ali 1981; Merritt et al. 1989). Laboratory and field studies have shown that Bti is toxic to some larval chironomids, but many factors, such as temperature, water depth, aquatic vegetation and suspended organic matter, may act to reduce its toxicity to chironomids in the environment (Charbonneau et al. 1993; Merritt et al. 1989).

Numerous studies have been conducted on the effects of Bti on fresh water, non-target organisms (anything other than mosquitoes or black flies). A recent comprehensive review of 75 of these studies (Boisvert and Boisvert 2000) found that 37 had documented that some non-target organisms can be affected to a certain extent after a Bti treatment. The other 38 studies show no effects to non-target organisms studied. Some members of the diptera suborder nematocera have been shown to be the most common species susceptible to Bti. The susceptibility of chironomid larvae to Bti could be between 15 to 75 times less than mosquito or black fly larvae, but the studies indicated that a high dosage of Bti will affect chironomid populations. Although many of the studies were done either at high dosage or under laboratory conditions, 9 of the 23 studies reporting an effect on chironomid populations were done using actual operating conditions (in the field at operational doses). Apart from Chironomidae, seven other dipteran families were affected by Bti. During many experiments or trials using higher dosages, some of these families show significant mortalities. All these families are dipteran and may possess the capacity to capture, ingest and digest toxic crystals. In sufficient quantity, this can produce enough toxic proteins to induce cellular damage that could lead to death.

A long-term study on the effects of repeated Bti treatments on non-target organisms in freshwater wetlands was performed by Hershey et al. (1998) over 4 years in Minnesota. Bti was applied for 3 consecutive years using 6 applications each year between mid-April and mid-July at recommended label rates. Boisvert & Boisvert (2000) consider this frequency of applications as “intensive” and “higher than normal.” Highly significant reductions were observed in several insect groups in the second year and eventually the intensive treatments resulted in wetland communities that were depleted of most insects

during the third year. Since Bti was likely to be directly toxic to only Nematocera diptera, the effects of Bti on other insect groups may have resulted in disruption of the invertebrate food web (Hershey et al. 1998). Because the application was repeated 6 times per season at 3 week or shorter intervals, non-target insects were much more likely to have been exposed to the direct or indirect effects of Bti. Boisvert & Boisvert (2000) believe that the recent study by Su and Mulla (1999) provides some explanation for these Hershey et al. (1998) results. Su and Mulla (1999) found that shortly after a single Bti treatment the growth of two species of green algae was inhibited for nearly three weeks. Considering the type of habitat treated and the frequency of Bti applications by Hershey et al. (1998), it is likely that primary production of algae was almost totally inhibited for three years resulting in the dramatic changes in diversity indices that they observed. No such food web effects have been documented during “normal” use of the materials or in saline environments (Lawler et al. 1999).

In conclusion, there are little data regarding the effects of Bti in salt marsh applications. In fresh water wetlands, Bti is thought by many to be a selective mosquito control treatment. However, there may be some effects to chironomids under normal operating conditions. Repeating treatments at longer intervals may give the non-target community time to recover in case there are any effects (Mulla et al. 1979). In addition, chironomids were the most abundant group in the freshwater wetlands of that study (Hershey et al. 1998). Thus, the results of that study do not necessarily apply to the saline conditions at the refuge. Therefore, at the level of treatment proposed, adverse impacts to non-target organisms are expected to be negligible or nonexistent. However, Hershey’s study does demonstrate the need for long term research to better understand the consequences of Bti application on the invertebrate food web.

Public Review and Comment

As a part of the CCP process for Rachel Carson refuge, this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

The refuge will abide by the following national guidance:

- Mosquito management can occur only when local and current monitoring data indicate that refuge-based mosquitoes are contributing to a human, wildlife, or domestic animal health threat.
- Refuges may use compatible non-pesticide options to manage mosquito populations that represent persistent threats to health.
- Refuges will collaborate with Federal, State, or local public health authorities and vector control agencies to identify refuge-specific health threat categories. These categories will represent increasing levels of health risks, and will be based on monitoring data.
- Management decisions for mosquito control will be based on meeting or exceeding predetermined mosquito abundance or disease threshold levels that delimit threat categories.
- In the case of officially determined mosquito-borne disease emergencies, we will follow the guidelines described in this document. Monitoring data are still required to ensure that intervention measures are necessary.

- All pesticide treatments will follow Service and Department of the Interior pest management and pesticide policies. In an emergency, the pesticide approval process can be expedited.
- Refuges must comply with Federal statutes and Service policies by completing the appropriate documentation prior to mosquito management activities taking place.

A modified Open Marsh Water Management is used to manage saltmarshes on the refuge. This management tool uses techniques such as plugging ditches to mimic natural hydrology. Unlike the salt hay harvesting and “mosquito control “ditching in the late 1800’s and early 1900’s, modified OMWM involves plugging or in other ways modifying ditches and excavating shallow ponds. Pond excavation includes a 3+ foot sump to provide over-winter habitat for *Fundulus*. This pond and over-wintering habitat for *Fundulus* increases a food source to wading birds, but it also increases numbers of *Fundulus* which prey on mosquito larvae and pupae.

When necessary to protect the health of a human, wildlife, or domestic animal population, we will allow surveillance of mosquito populations on Refuge System lands by public health personnel. Sites will be checked for the presence of larval or adult mosquitoes through use of standard dip samples, light/CO2 traps, searching for new larval habitat, or noting landing rates to obtain counts of mosquitoes, to obtain samples for viral analyses, and to identify species present.

Only foot access to the salt marsh is allowed. Further stipulations will be contained in the required Special Use Permit.

Copies of monitoring data and lab results will be made available to the refuge manager on a weekly basis or as soon as they are available. Dip counts and enumeration of numbers by species will be required prior to each application of Bti.

The Refuge Manager will be contacted at least one day in advance of each application of Bti so that, at his or her discretion, the manager may accompany the applicators during work on the refuge or may delay application for the protection of refuge resources existent at any particular time. The Refuge Manager, in consultation with the public health authorities and Service personnel, may authorize application of Bti in instances where the number of larva present, the species present, the incidence of West Nile Virus positive mosquitoes, EEE positive mosquitoes, or West Nile Virus positive birds indicate there is a potential risk to public health.

Application of Bti will be limited to a maximum of two times per month following the spring tides during the months of June, July, August, and September. Application of Bti will be by hand spraying a liquid formulation or hand dispersal of a granular formulation of Bti. Application will be performed by trained personnel, and will be in strict conformance with the product label.

Application of Bti will be limited to the areas shown on the Special Use Permit map.

The State/local public health officials will provide a written summary report of the season’s work to the refuge manager by December 31 of each year. The report will include the results of all monitoring and surveillance data, as well as a table showing (for each application): the number of acres treated, the rate of active ingredient applied per acre (pounds or ITUs), the target species, and the results (percent effectiveness).

Justification

Rachel Carson refuge is one unit in a system of national wildlife refuges. This system has rules and procedures; in this case, national policy is to allow mosquito control on refuge lands when a human, wildlife or domestic animal health concern can be directly linked to the refuge habitat. Despite anticipated

negative reactions due to the teachings of Rachel Carson, and only in the very narrowest interpretation of Service policy will allowing mosquito control to occur within the Rachel Carson refuge not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established.

Project Leader _____
 (Signature) (Date)

Concurrence

Regional Chief _____
 (Signature) (Date)

Mandatory 10 or 15 year Re-evaluation Date _____
 (for all uses other than priority public uses) (Date)

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Compatibility Determination

Use

Research conducted by non-refuge personnel

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing Authority

The Rachel Carson refuge was established on December 16, 1966. The authority which established the refuge is 16 U.S.C 715-715r; The Migratory Bird Conservation Act, as amended.

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 U.S.C. 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b); 100 Stat. 3583), the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the use? Is the use a priority public use? The use is research conducted by non-Service personnel. It is not a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997.

Rachel Carson refuge supports natural resource research on refuge lands when it does not materially interfere with or detract from the purposes of the refuge or the mission of the National Wildlife Refuge System. All research proposals are required to complete the standard Service special use permit, as amended by the refuge.

Allow colleges, universities, partners and other credentialed researchers the opportunity, by permit, to conduct wildlife, habitat, or human resources related research activities within the Refuge boundary. Research conducted by non-Service personnel is not a priority public use of the Refuge System.

Research may contribute to a body of knowledge and not relate to priority public uses. Wildlife research may compliment hunting or fishing which are primary public uses. Habitat related research may compliment wildlife observation or photography which are primary public uses. Human resources research may compliment environmental education or interpretation which are priority public uses.

As part of the Land Management Research and Demonstration program at the Refuge, identify high-priority estuarine ecosystem management research needs, develop research proposals, and facilitate and implement research projects.

(b) Where would the use be conducted? Research will be conducted throughout the refuge and throughout the year consistent with special use permit conditions. Areas showing signs of impending degradation will be closed or altered to reduce or stop adverse impacts as necessary to protect habitat and populations. If a research project occurs during the refuge hunting season, special precautions will be required and enforced to ensure public health and safety. Individuals will stay within the areas designated by staff and restrictions of SUP.

(c) When would the use be conducted? Research may be conducted at any period of the year. Special Use Permit conditions will limit negative impacts to wildlife, habitat, visitors and other programs. SUP will control numbers of individuals, areas of use, frequency of use, seasonal use, equipment and collections. The timing of each individual research project will be limited to the minimum required to complete the project.

(d) How would the use be conducted? Written research proposals will be required for review and approval before permits will be issued. If approved, access to Refuge lands and waters will be limited to least invasive means required to accomplish the activities. All disturbances will be at the minimal level necessary to accomplish goals of the proposed research. Off-road study areas will be accessed by boat or foot.

(e) Why is this use being proposed? Research by non-Service personnel is conducted by colleges, universities, federal, state, and local agencies, non-governmental organizations, and qualified members of the general public to further the understanding of the natural environment and to improve the management of the refuge's natural resources. Much of the information generated by the research is applicable to management on and near the refuge. Management oriented research results in long-term benefits to the wildlife populations of the refuge. The collection of detailed information on the wildlife, habitats and systems within the Refuge is integral to being able to maximize the habitat benefits of the existing landscape for the wildlife species utilizing the refuge.

The Service will encourage and support research and management studies on refuge lands that will improve and strengthen natural resource management decisions. The refuge will encourage and seek research relative to approved refuge objectives that clearly improves land management and promotes adaptive management. Priority research addresses information that will better manage the nation's biological resources and address important management issues or demonstrate techniques for management of species and/or habitats.

The refuge will also consider research for other purposes which may not be directly related to refuge-specific objectives, but contribute to the broader enhancement, protection, use, preservation and

management of native populations of fish, wildlife and plants, and their natural diversity within the region or flyway.

The refuge will maintain a list of research needs that will be provided to prospective researchers or organizations upon request. Refuge support of research directly related to refuge objectives may take the form of funding, in-kind services such as housing or use of other facilities, direct staff assistance with the project in the form of data collection, provision of historical records, conducting of management treatments, or other assistance as appropriate.

Availability of Resources

The staff time for fulfillment of planned development and administration of the refuge is committed and available. The additional time needed to review and monitor research proposals and issue special use permits is flexible, i.e. it is moderated by the value of the research to System and refuge goals. The administrative burden for timely and consistent reporting is placed on the researcher. The Refuge biologists spend an average of two weeks a year reviewing, approving, coordinating and following-up on report requests for research projects conducted by outside researchers. At a rate of \$40.66, the cost is \$3250.00. Additionally, refuge management expends an average of three days a year on research SUPs, for a cost of \$1200. Administrative and maintenance involvement adds another \$800 per year for a total estimated cost of just over \$5,000.

Anticipated Impacts of the Use

The Service encourages approved research to further the understanding of the natural resources. Research by other than Service personnel adds greatly to the information base for Refuge Managers to make proper decisions. Disturbance to wildlife and vegetation by researchers could occur through observation, banding, and accessing the study area by foot or vehicle. It is possible that direct mortality could result as a by-product of research activities. For example, least tern chick mortalities can occur when chicks pile on top of each other and suffer from heat exhaustion and stress. Least terns are territorial and active in nest protection. These birds are easily spooked and will readily fly off their nest when a researcher approaches, even from a long distance. Nest abandonment can leave eggs or chicks vulnerable to heat or predators.

Standardized special use permit conditions are designed to minimize negative impacts to wildlife, habitat and visitors. The impacts to individual wildlife will not interfere with wildlife populations.

Endangered and/or threatened species and species of special concern are also present on the refuge. Special Use Permit conditions prevent negative impacts on threatened and endangered species. The **piping plover** is federal-listed threatened and state-listed endangered in Maine. They nest above the high tide line on open sand, gravel or shell-covered beaches, especially on sand spits and blowout areas in dunes. Fifty to 75% of the Maine piping plover population nests at three sites on or near the Refuge, including Crescent Surf Beach, Goosefare Brook, and Marshall Point at Goose Rocks. The **least tern** is a state-listed endangered species in Maine. In 2003, Crescent Surf Beach hosted the largest nesting colony (157 pairs) of least terns in Maine. Other threatened and endangered species may be present but will not be affected by this activity. New England cottontail rabbit status is being reviewed; their habitat is dense upland thickets. American eel populations are being reviewed, their habitats include the creeks, streams, rivers, salt marsh pools and grasses on the refuge.

Public Review and Comment

As a part of the CCP process for Rachel Carson refuge, this compatibility determination will undergo extensive public review including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

_____ Use is not compatible

 X Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- All research proposals will be reviewed for their potential benefits to future refuge management activities and impacts to current refuge and system purposes.
- Continuation of each study will be contingent upon acceptable annual review by refuge staff. Review includes impacts to habitat and wildlife populations.
- Active LE program, in addition to SUP, will ensure regulation compliance, protection of refuge resources and promote safe and quality experience
- Some activities are not compatible and are prohibited on the Refuge to protect sensitive habitats and wildlife. Prohibited activities include using off-road vehicles, camping, building fires, horse-back riding, mountain biking, and collection of any plants or animals not covered by a permit.
- We will require all researchers to submit a detailed research proposal that follows Service Policy. Researchers must give us at least 45 days to review proposals before the research begins. If the research involves the collection of wildlife, the refuge must be given 60 days to review the proposal. Researchers must obtain all necessary scientific collecting or other permits before starting the research. We will prioritize and approve proposals based on the need, benefit, compatibility, and funding required for the research.

Proposals

We will expect researchers to submit a final report to the refuge on completing their work. For long-term studies, we may also require interim progress reports. We also expect that research will be published in peer-reviewed publications. All reports, presentations, posters, articles or other publications will acknowledge the Refuge System and the Rachel Carson refuge as partners in the research. All posters will adhere to Service graphics standards. We insert that requirement to ensure that the research community, partners, and the public understand that the research could not have been conducted without the refuge having been established, its operational support, and that of the Refuge System.

We will issue SUPs for all research conducted by non-Service personnel. The SUP will list all conditions necessary to ensure compatibility. The SUPs will also identify a schedule for annual progress reports and the submittal of a final report or scientific paper.

We may ask our regional refuge biologists, other Service divisions, state agencies, or academic experts to review and comment on proposals. We will require all researchers to obtain appropriate state and federal permits.

Justification

The Service encourages approved research to further understanding of refuge natural resources. Research by non-Service personnel adds greatly to the information base for Refuge Managers to make proper decisions. Research conducted by non-Service personnel will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the Refuge was established.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10 or 15 year Re-evaluation Date
(for all uses other than priority public uses) (Date)

Attachments: Special Use Permits and conditions

SPECIAL USE PERMITS - RHC

Special Conditions – All general permits please initial box (**FDR**) to affirm compliance

- Location of work will be specified to the appropriate level of detail.
- All materials including flagging, transect markers, etc. are to be removed by end of permit period and area restored to pre-permit conditions.
- To protect wildlife and vegetation, disturbances to habitat are to be kept to a minimum.
- Unless excepted in the permit, all refuge regulations apply.

SPECIAL USE PERMITS – RHC FOR COLLECTING BIOLOGICAL SAMPLES

No Manipulation Areas:

- Drakes Island Road and Mile Road
- Spurwink River Division east of Spurwink Road [Rt. 77]

Special Conditions – All Research Permits ***Initial Each Block***

- An update or final report is required from every permittee by December 31.
- USFWS/RHC will be appropriately recognized in all written reports
- Location of work will be specified to the appropriate level of detail. Research sites require GPS coordinates (UTM NAD83 Zone 19).
- All materials including flagging, transect markers, etc. are to be removed by end of research project or permit period and area restored to pre-permit conditions.
- To protect wildlife and vegetation, disturbances [including trampling] to habitat are to be kept to a minimum.
- Unless excepted in the permit, all refuge regulations apply.
- Inform the refuge biologist in advance if there are any changes in your plan of research to maintain the validity of your permit
- You may use specimens collected under this permit, any components of specimens (including natural organisms, enzymes, genetic materials of seeds), and research results derived from collected specimens for scientific or educational purposes only, and not for commercial purposes unless you have entered into a Cooperative Research and Development Agreement (DRADA) with us. We prohibit the sale of collected research specimens or other transfers to third parties. Breach of any terms of this permit will be grounds for revocation of this permit and denial of future permits. Furthermore, if you sell or otherwise transfer collected specimens, any components thereof, or any products or research results developed from such specimens or their components without a CRADA, you will pay us a royalty rate of 20 percent of gross revenue from such sale. In addition to such royalty, we may seek other damages and injunctive relief against you.

We encourage permittees and their assistants to notify the refuge staff of unusual observations or occurrences that they encounter on the refuge. In addition, as part of our efforts to preserve and restore native habitats on Rachel Carson NWR, refuge staff have been identifying and treating infestations of non-native plants, and we encourage permittees and their assistants to report new outbreaks of invasive

plants, as well as non-native animal sightings on the refuge. To prevent the transfer of noxious invasives, all boots and other equipment must be rinsed clean prior to use on the refuge.

SPECIAL USE PERMITS – RHC

No Manipulation Areas:

- Drakes Island Road and Mile Road
- Spurwink River Division east of Spurwink Road [Rt. 77]

Special Conditions – Research Permits ***Initial Each Block***

- An update or final report is required from every permittee by December 31.
- USFWS/RHC will be appropriately recognized in all written reports
- Location of work will be specified to the appropriate level of detail. Research sites require GPS coordinates (UTM NAD83 Zone 19).
- All materials including flagging, transect markers, etc. are to be removed by end of research project or permit period and area restored to pre-permit conditions.
- To protect wildlife and vegetation, disturbances [including trampling] to habitat are to be kept to a minimum.
- Unless excepted in the permit, all refuge regulations apply.
- Inform the refuge biologist in advance if there are any changes in your plan of research to maintain the validity of your permit

We encourage permittees and their assistants to notify the refuge staff of unusual observations or occurrences that they encounter on the refuge. In addition, as part of our efforts to preserve and restore native habitats on Rachel Carson NWR, refuge staff have been identifying and treating infestations of non-native plants, and we encourage permittees and their assistants to report new outbreaks of invasive plants, as well as non-native animal sightings on the refuge. To prevent the transfer of noxious invasive species, all boots and other equipment must be rinsed clean prior to use on the refuge.

Compatibility Determination

Use

Skiing and Snowshoeing

Refuge Name

Rachel Carson National Wildlife Refuge

Establishing and Acquisition Authorities

The Rachel Carson refuge was established on December 16, 1966. The authority which established the refuge is 16 U.S.C. 715–715r; The Migratory Bird Conservation Act, as amended.

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 U.S.C. 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 U.S.C. 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b); 100 Stat. 3583), the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(1)), the purpose of the acquisition is for the development, advancement, management, conservation, and protection of fish and wildlife resources.

For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use:

(a) What is the use? Facilitate wildlife observation, wildlife photography, and interpretation by allowing skiing and snowshoeing on refuge trails. The use simply involves foot-travel over the surface of the snow with the use of snowshoes and cross country skis on the refuge trail systems. **Is the use a priority public use?** No, however this use would facilitate wildlife observation, wildlife photography, and interpretation during winter months (priority public uses).

(b) Where would the use be conducted? Refuge trails in Brave Boat Harbor, Upper Wells and Goosefare Brook Divisions. Shared trails in Mousam and Goosefare Brook Divisions.

(c) When would the use be conducted? Use would be determined by snow accumulation. Typically in southern Maine, use would be limited to November through March. Wildlife observation, photography, and interpretation are year around activities.

(d) How would the use be conducted? The refuge's Carson, Cutts Island, Goosefare Brook Overlook trails and the Ted Wells, Atlantic Way and Bridle Path which we share with partners, are open to snowshoeing and skiing as a part of the wildlife dependent activities of wildlife observation, photography and interpretation. Interpretative brochures for the Carson and Ted Wells trails are available year-round.

(e) Why is this use being proposed? Wildlife observation, photography, and interpretation are priority public uses as defined by the National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57) and if compatible, are to receive enhanced consideration over other general public uses. These activities are encouraged at Rachel Carson refuge, and year around access requires use of snowshoes or skis.

Availability of Resources

Snowshoeing and skiing on trails has little effect on the trail tread. Costs for trail maintenance are enumerated in a separate compatibility determination (Wildlife Observation, Photography, Environmental Education, Interpretation). Existing staff and budget have provided sufficient resources to manage current uses. These low impact activities are within the projected budget and staffing capabilities of the Refuge to manage.

Anticipated Impacts of the Use

Direct disturbance to wildlife is anticipated, as is true for all human – wildlife interactions. Many trust resources, migratory birds and threatened and endangered species, migrate south during the period of use (November to March). The impacts to wildlife are at a level that will not interfere with wildlife populations. Impacts to habitat are minimal from travel over snow cover.

Nearly 100,000 visitors used the one-mile foot Carson Trail at the Wells headquarters. There are many times during the summer and fall when the parking lot is full or overflowing. During the winter months there are typically just a few automobiles in the plowed parking lot.

Endangered and/or threatened species and species of special concern are also present on the refuge but not on trails during winter months. New England cottontail rabbit status is being reviewed; their habitat is dense upland thickets.

Public Review and Comment

As part of the CCP process for Rachel Carson refuge this compatibility determination will undergo extensive public review, including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Snowshoers and cross-country skiers will only use established trails. Public use is limited to designated trails.
- Compliance with regulations will be achieved through education, signage and law enforcement which will result in minimizing negative impacts to refuge habitat and wildlife.

- Refuge regulation concerning hours (daylight hours) and access restricted to permitted areas will be enforced.
- Some activities are not compatible and are prohibited on the Refuge to protect sensitive habitats and wildlife. Prohibited activities include using off-road vehicles, camping, building fires, horse-back riding, mountain biking, and collection of any plants or animals not covered by a permit.

Justification

Wildlife observation, interpretation and photography are priority public uses. Rachel Carson refuge is located in Maine where the ground can be covered with snow from November to April. In Maine, the traditional means of access to outdoor destinations during winter months is via ski and snowshoe. Refuge trails are open to public use daylight hours year round. Due to the snow cover, visitor impact is minimized during winter months in that trail tread is not being compressed and fewer species and fewer numbers of wildlife are present. Allowing Skiing and Snowshoeing to occur within the Rachel Carson refuge will not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the Refuge was established.

Project Leader _____
 (Signature) (Date)

Concurrence

Regional Chief _____
 (Signature) (Date)

Mandatory 10 or 15 year Re-evaluation Date _____
 (for all uses other than priority public uses) (Date)

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Compatibility Determination

Use

Furbearer Management

Station Name

Rachel Carson National Wildlife Refuge

Establishing Authority

Rachel Carson refuge was established on December 16, 1966. The authority which established the refuge is 16 U.S.C 715-715r; The Migratory Bird Conservation Act, as amended.

Refuge Purposes

For lands acquired under the Migratory Bird Conservation Act (16 USC 715d), the purpose of the acquisition is for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.

For lands acquired under the Refuge Recreation Act (16 USC Section 460k-1), “suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1).

For lands acquired under the Emergency Wetlands Resources Act of 1986 (16 USC Section 3901(b) 100 Stat. 3583, the purpose of the acquisition is for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide to help fulfill international obligations contained in various migratory bird treaties and conventions.

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For lands acquired under the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)), the purpose of the acquisition is for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude, if such terms are deemed by the Secretary to be in accordance with law and compatible with the purpose for which acceptance is sought.

National Wildlife Refuge System Mission

“To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Proposed Use

(a) What is the use? Is it a priority public use? The use is furbearer management. We consider furbearer management a refuge management economic activity. It is not a priority public use of the National Wildlife Refuge System under the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997.

(b) Where would the use be conducted? Furbearer management would be conducted on the expansion areas of the refuge, primarily Biddeford and York River divisions. Furbearer management will also be conducted in the Upper Wells, Mousam and Goosefare Brook divisions where the targeted species cause damage to refuge resources, such as raccoons feeding on the eggs and chicks of federally threatened piping plover and State endangered least terns and/or muskrat causing damage to marsh habitats. The

proposed locations are where it will accomplish the goals and objectives of our Habitat Management Plan, such as the balance of predator-to-prey levels and marsh ecosystem dependence.

We will work with the Maine Department of Inland Fisheries and Wildlife seasonally to inventory targeted species activity and determine trapping locations. A permit system and refuge law enforcement would ensure that trappers on the refuge comply with state and refuge regulations and that the data submitted to the refuge is accurate. Designating management zones and limiting the number of trappers in each zone may help prevent conflicts between trappers. In addition, designating trapping zones would allow the refuge to either concentrate or reduce trapping in areas where management intervention is desirable. Designating locations where specific trappers are permitted on the refuge will facilitate the enforcement of refuge and state regulations. That zoning may also provide better quality trapping experiences by preventing overlap with other trappers. However, if necessary, trapping may be concentrated or zoning eliminated to meet our goals for protecting refuge resources.

(c) When would the use be conducted? Furbearer management would be conducted in accordance with the Maine state seasons. Maine furbearer management seasons run from late October to the end of March. The annual occurrence of furbearer management on the refuge will be at the discretion of the refuge manager, and will depend on the population size of the targeted species and management objectives.

(d) How would the use be conducted? The refuge will be open to furbearer management for the following species: beaver, coyote, fisher, fox, mink, muskrat, otter, raccoon, skunk, and weasel.

The furbearer management program will closely mimic the Maine Department of Inland Fisheries and Wildlife's sanctuary deer hunt in Wells, Maine. We would conduct furbearer management following Maine state regulations and specific refuge regulations issued through a refuge special use permit (SUP). Only select permitted trappers may participate. The refuge would allow furbearer management during state seasons under state limits for the targeted species. The refuge manager reserves the authority to regulate the numbers of target species taken in any one location. Target species may include but are not limited to: raccoon, mink, opossum, fox, skunk, etc.

We would manage the furbearer management program through the SUP process and, if needed, will work with the State to have special furbearer management regulations or extended seasons. Administering the program under an annual SUP will allow the refuge manager to have a ready list of contacts for requests for specific management needs to accomplish refuge objectives.

We will require a harvest report from each trapper following the close of trapping season but before December 31 each year. The report will include data about the trapping effort, the time span of trapping by species, the number of target and non-target species harvested, the refuge areas trapped, and remarks on observations of wildlife or other noteworthy ecological information. Those data can provide a basis for catch-per-unit and population trend analyses. If the required information is lacking for a trapper from the previous year, we would not issue the SUP for the next year.

(e) Why is this use being proposed? We will conduct furbearer management first as a tool to maintain habitat and keep the predator-to-prey balance. A regulated furbearer management program on the refuge also affords a potential mechanism to collect survey and monitoring information or contribute to research on furbearer (and other wildlife) occurrence, activity, movement, population status, and ecology. By maintaining a trained, experienced group of trappers, the Service can use their skills and local knowledge to perform or assist in valuable management or research functions. Trappers who participate in the refuge program would provide assistance with the implementation of structured management objectives, such as the alleviation or reduction of wildlife damage conflicts, negative interactions among

species, and habitat modifications. Refuge trappers typically have a stake in proper habitat and wildlife conservation and protection of the ecological integrity of the refuge so they can continue trapping. Accordingly, they are valuable assets for the refuge manager in providing on-site reports concerning the fundamental status of habitat, wildlife, and refuge conditions.

Furbearers are considered a renewable natural resource with cultural and economic values (Andelt et al 1999, Boggess et al. 1990 Northeast Furbearer Resources Technical Committee 1996, Payne 1980). Several human dimensions studies have documented trapper profiles, cultural aspects of trapping, and the socioeconomic role of trapping in the United States (Andelt et al. 1999, Boggess et al. 1990, Daigle et al. 1998, Gentile 1987). A regulated trapping program on the refuge could also foster the appreciation of wildlife and nature, wildlife observation, environmental education, a greater understanding of ecological relationships, stewardship of natural resources, and inter-generational passage of the methodologies of renewable resource use. Trapping is an activity in which family members and friends often participate and share joint experiences that broaden appreciation of natural resources and ecological awareness (Daigle et al. 1998).

Availability of Resources

The financial resources necessary to provide and administer this use at its current level are now available, and we expect them to be available the future. The refuge manager would provide overall administration of the program. A wildlife biologist, working with State personnel, would be required to evaluate furbearer activity and potential and current impacts on refuge resources. The biologist would also evaluate trapper data and compile trapping reports. An administrative assistant is required to help process SUPs and enter trapping data into a database. A refuge law enforcement officer would be required to check refuge trappers and ensure compliance with state and refuge regulations.

We estimate below the annual costs associated with administering the furbearer management program on the refuge.

Refuge Biologist (GS12) (recommendations, surveys, data analysis)—1 week/yr	\$2,000
Deputy Refuge Manager (GS12) (program administration)—1 week/yr	\$2,000
Law Enforcement Officer (GS 9) (trapper compliance)—12 days	\$3,000
Administrative Assistant (GS6) (office administration, permit issuance)—1 week/yr	\$900
Total.....	\$7,900

Anticipated Impacts of the Use

The impacts of furbearer management on the purposes of the refuge and mission of the Refuge System can be either direct or indirect, and may have negative, neutral, or positive impacts on refuge resources.

Indirect impacts may include displacing migratory birds during the pair bonding/nesting season or the destruction of nests by trampling. Direct impacts may include the catch of target and non-target species that are predators on migratory birds or nests, or the removal of species that induce habitat change (e.g., beavers).

Because of the temporal separation of trapping activities and breeding wildlife using the refuge, indirect impacts on those resources by trappers would be negligible. Trappers using the refuge in early March may disturb individual early nesting waterfowl on occasion, and cause their temporary displacement from specific, limited areas. Those impacts are occasional, temporary, and isolated to small geographic areas. Owls initiate nesting activities on the refuge in February, but no evidence suggests that trapping has affected owl nesting success.

Indirect impacts on wildlife nesting and breeding success can result from the removal of animals under

a furbearer management program. In many instances, those impacts are positive. Reductions in the populations of nest predators such as raccoon, fox, skunk, and mink have positive impacts on nesting birds. The degree to which predator management benefits migratory bird production can vary widely depending on the timing of the removal of predators, the size of the habitat block, habitat isolation and adjacent land use.

The removal of plant-eating species such as beaver and muskrat can have both positive and negative impacts on refuge resources. Muskrats will dig bank dens into embankments, causing considerable damage and adding costs to the operations of the refuge. Beavers will sometimes plug water control structures, causing damage, limiting access, and could compromise the capabilities of the refuge to manage habitat. Managing beaver and muskrat populations at reasonable levels through a furbearer management program can reduce refuge costs in managing wildlife.

However, those same animals can enhance habitat management. Muskrats build houses and dens using aquatic vegetation, thus creating openings for fish, waterfowl and other migratory birds. Beaver dams create pond habitat, and their lodges are associated with openings in aquatic vegetation beds. Beavers are keystone species for cycling small wetland systems from pond to meadow to scrub-shrub and forested successional stages back to pond. That cycling benefits other species, including woodcock and black duck. Those benefits minimize the need to commit refuge resources to achieve those habitat conditions.

When considering impacts on refuge purposes, the impacts of the furbearer management program obviously include those on the furbearer populations themselves. Trapping harvests and removes individuals of the species. Yet state natural resources agencies indicate that, with exceptions, furbearer populations are stable or increasing. The anticipated direct impacts of trapping on wildlife would be a reduction of furbearer population in those areas where surplus furbearers exist. The removal of excess furbearers from those areas would maintain furbearer populations at levels compatible with the habitat and with refuge objectives, minimize furbearer damage to facilities and wildlife habitat, minimize competition with or interaction among wildlife populations and species that conflict with refuge objectives, and minimize threats of disease to wildlife and humans.

Non-target furbearer species could be taken through this trapping program. Traps will be set specifically around areas of targeted species activity to reduce the risk of taking species other than targeted species. The experience of the trappers and the selection of the appropriate trap size will reduce non-target furbearer captures (Northeast Furbearer Resources Technical Committee 1996, Boggess et. al 1990

A national program operated under the guidance of the Fur Resources Technical Subcommittee of the International Association of Fish and Wildlife Agencies (IAFWA 1998) systematically improves the welfare of animals in trapping through trap testing and the development of "Best Management Practices (BMPs) for Trapping Furbearers in the United States." The refuge would cooperate with and contribute to the development and implementation of those BMPs by practicing an integrated, comprehensive approach to furbearer management, wherever and whenever possible.

Public Review and Comment

As a part of the CCP process for Rachel Carson Refuge, this compatibility determination will undergo extensive public review including a comment period of 30 days following the release of the Draft CCP/EA.

Determination

Use is not compatible

Use is compatible, with the following stipulations

Stipulations Necessary to Ensure Compatibility

- Permittees must comply with all conditions of the refuge furbearer management special use permit and all state trapping regulations of the state in which the trapping would occur.
- Traps shall be set only where traps or trapped furbearers are not visible from public highways, overlooks, or other visitor facilities.
- Trappers, when requested by federal or state enforcement officers, must display for inspection their state trapping license, refuge trapping permit, trapping equipment, and all animals in their possession.
- One sub-permittee is allowed. The sub-permittee must be listed on the permit and have all applicable state licenses. The sub-permittee may trap the unit without the permittee only if prior approval is granted to the permittee by the refuge manager.
- Ingress to and egress from the refuge shall be only by routes that are currently open for travel. No motorized vehicles are allowed behind gates or off designated routes.
- Permittees shall, no later than 10 days after the last day of the refuge trapping season but in all cases before December 31, submit to the refuge manager the trapping report form provided with the trapper permit on which the number of each species of animals taken and the location where the animal was taken is correctly stated.
- Permittees may cut small trees or brush on the refuge for use only as trap stakes. Cutting is prohibited along public roads and trails or near visitor facilities.
- Unless otherwise stated by the refuge manager, the refuge trapping season will run concurrently with the state season.
- The Fish and Wildlife Service assumes no responsibility for the theft of equipment or animals.
- Failure by permittees or sub-permittees to comply with any of the provisions above or the violation of any refuge regulations or state laws or regulations applicable to trapping on the refuge, shall render him or her subject to prosecution under said laws and regulations and shall be cause for the revocation of this permit and for refusal of a trapping permit for the next 3 years.
- This permit may be terminated at any time by agreement between the issuing officer and the permittee; it may be revoked by the issuing officer for any violation of refuge or state laws or regulations applicable to trapping on the refuge or any conditions of the trapping permit; that permit may be revoked by the issuing officer for non-use.
- Snaring is prohibited.
- The use of exposed bait and setting traps adjacent to naturally occurring carcasses are prohibited.
- Permittees must immediately release non-target species that are uninjured and report those captures by species and number as part of the annual report. Injured species are to be reported to the refuge manager or designee within two business days. Permittees must turn over to the refuge manager or designee within 24 hours non-target species injured or killed through trapping activities.
- Foothold traps set on land must be staked with chains less than 9½ inches equipped with two swivels to prevent an incidentally captured lynx from entanglement around a solid object. Drag sets are prohibited.
- Traps must be checked at least once every 24 hours.

- For land sets, only foothold traps #2 or smaller and 110 and 120 conibear for landsets are permitted to help avoid incidental capture of lynx.
- Leaning pole sets for martin and fisher will be on poles no larger than 4 inches in diameter and set at a 45-degree or greater angle. The use of exposed bait on leaning poles is prohibited. If bait is used with conibear traps set for martin and fisher, bait will be hidden at the back of a box at least 15 inches in depth and the conibear will be set at least 6 inches from the front of the box.

Justification

Furbearer management on the refuge is a useful tool in maintaining balance between furbearers and habitat, safeguarding refuge infrastructure, and preventing the spread of disease. High populations of predators can decrease the nesting success of ground-nesting migratory birds, thus compromising one purpose of the refuge. Furbearer populations, with local exceptions, are stable or increasing in the two states in which the refuge lies. The furbearer management program on the refuge does not have any appreciable negative impacts on furbearer populations.

Furbearer management contributes to the purposes of the refuge and the mission of the Refuge System by maintaining the vigor and health of furbearer populations and safeguarding the refuge infrastructure critical to habitat for scores of fish and wildlife species.

Project Leader _____
(Signature) (Date)

Concurrence

Regional Chief _____
(Signature) (Date)

Mandatory 10 or 15 year Re-evaluation Date _____
(for all uses other than priority public uses) (Date)

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