APPENDIX A

COMPATIBILITY DETERMINATION FOR RACHEL CARSON NWR FISHING

COMPATIBILITY DETERMINATION

USE: Recreational Fishing

REFUGE NAME: Rachel Carson National Wildlife Refuge

DATE ESTABLISHED: December 16, 1966

ESTABLISHING AND ACQUISITION AUTHORITIES:

1. Migratory Bird Conservation Act, as amended (16 U.S.C. 715-715r)
2. Refuge Recreation Act of 1962 (16 U.S.C. 460k-1)
3. Emergency Wetlands Resources Act of 1986 [16 U.S.C. 3901(b)]
4. Fish and Wildlife Act of 1956 [16 U.S.C. 742f]

PURPOSE(S) FOR WHICH ESTABLISHED:

For lands acquired under the Migratory Bird Conservation Act, 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, "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. Section 3901(b) 100 Stat. 3583, "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. Section 742f (a)(1)), "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. Section 742f(b)(1)), "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:

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

DESCRIPTION OF USE:

(a) What is the use? Is the use a priority public use?
To provide and allow access for public recreational fishing opportunities on Rachel Carson National Wildlife Refuge (NWR). All recreational fishing activities, including allowable methods of taking, limits, species, and open/closed seasons would be consistent with applicable State regulations.

Fishing is one of six priority public uses on national wildlife refuges as defined by the Refuge System Improvement Act of 1997, when compatible with the refuge purpose. Fishing is a traditional Maine pastime and the refuge helps inform the public of the need for stewardship of public lands and waters.

(b) Where would the use be conducted?
Fishing would be permitted at 11 fishing access points on the refuge (see Recreational Fishing Plan, Section VII and the refuge website *https://www.fws.gov/refuge/rachel_carson/* for maps) as well as any future established fishing locations.

(c) When would the use be conducted?
The refuge adapts State regulations for species fished. Fishing is permitted on the refuge from 30 minutes before sunrise to 30 minutes after sunset. Refuge fishing opportunities are for tidewater habitat which is open year-round to open water fishing.

(d) How would the use be conducted?
All tidal waters of the refuge are open to fishing, and bank fishing is permitted in several areas. We will provide fishing access at nine areas currently available to anglers, plus two new sites at Timber Point. Additionally, refuge signs designating bank fishing access, closed areas, and boundaries are posted to ensure refuge visitors are aware of refuge regulations. No refuge permit is required but an applicable State license must be purchased and on person while fishing.

(e) Why is this use being proposed?
The use is being proposed by the refuge to promote one of the priority public uses of the Refuge System. Providing recreational fishing opportunities will promote stewardship of our natural resources and increase public appreciation and support for the refuge. Department of the Interior Secretarial Order 3356 (September 15, 2017) emphasized identifying opportunities to increase outdoor recreation opportunities for all Americans,

including opportunities to hunt and fish. This legitimate and appropriate use of a national wildlife refuge is generally considered compatible, as long as it does not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the national wildlife refuge.

AVAILABILITY OF RESOURCES:

Sufficient resources are available to continue or expand the fishing program. Existing staff and refuge budget have provided sufficient resources to continue with current management, although the refuge anticipates increased capacity necessitated by the additional of new lands for fishing access. These activities are within the projected budget and staffing capabilities of the refuge to manage.

Annual administrative costs for the refuge fishing program total $5,000. Our existing staffing chart and budget provide sufficient resources to continue the implementation of the fishing plan. Although we anticipate increased angler activity resulting from the addition of new access points and fishing opportunities, managing those activities falls within the projected budget and staffing capabilities of the refuge.

ANTICIPATED IMPACTS OF USE:

Wildlife

Recreational anglers can affect littoral habitats through the act of bank fishing by creating paths to gain access to water, or parallel to shorelines. This would likely influence wildlife resource allocation, reproduction, or the spatial distribution of individuals, thus indirectly affecting an individual's fitness and population dynamics (Knight and Cole 1995, Lewin et al. 2006). Compared to other non-consumptive land-based activities, recreational bank fishing is considered to have greater impacts on water bird communities, including waterfowl, shorebirds, marsh- and wading-birds, and aquatic species due to the prolonged nature of the activity (Watson et al. 1996, Quan et al. 2002). Often during recreational fishing, anglers lose fishing lines, sinkers, hooks, and other general litter. Angling litter can have negative impacts on the health and survival of sessile invertebrates (Asoh et al. 2004) and vertebrate species such as water birds and turtles, which can become entangled (Chiappone et al 2005). To minimize the effects of angler litter, the refuge employs the "Leave No Trace" policy. Additionally, lead is a known metabolic poison that can negatively influence biological processes in both wildlife and humans (Haig et al. 2014). The use of lead fishing tackle (sinkers and jigs) is a major source of lead deposition in the environment (Bellinger et al. 2013). As such, refuge regulations would require use of non-lead jigs and sinkers to prevent wildlife poisoning.

We anticipate minimal impacts to wildlife through disturbance caused by fishing activity. The refuge fishing access points have been selected to coincide with existing uses to help reduce impacts. Additionally, disturbances to wildlife species will be mitigated by regulations restricting access; therefore, impacts to wildlife from human disturbance would be limited to only small portions of the refuge.

Fish

The fishery resource at Rachel Carson NWR is plentiful and fish species are abundant. Recent studies of recreational fishing have found fish populations to be exploited if not properly managed (Coleman et al. 2004). In general, recreational fishing tends to be highly selective for species and size (Lewin et al. 2006). This combination of exploitation and selectivity in recreational fishing can cause direct and indirect effects on fish populations.

Federal and State regulations established by National Oceanic and Atmospheric Administration Fisheries, Maine Department of Inland Fisheries and Wildlife (MDIFW), and the Maine Department of Marine Resources (MDMR) apply to the harvest of different fish species in Maine. These agencies review annual reports of fish surveys, total catch, effort, population trends, among other variables and set regulations for catch size, limit, and tackle restrictions. Fish populations on the refuge are seasonally plentiful and are present in numbers sufficient to sustain population levels for priority refuge objectives other than fishing. There have not been biological concerns of unacceptable levels of predation and competition for habitat from recreational fish species. Federal and State regulations will provide guidance for all fishing activities that occurs on the refuge.

Anglers tend to target older and larger fish, which typically have greater reproductive capacity. Their selective removal may reduce the population's overall reproductive success. The likelihood of mortality depends on type of fishing gear used, where the fish was hooked, how the fish is handled, angler experience, and environmental conditions. Fish caught and released with nonlethal injuries could be exposed to parasites, or bacterial or fungal infections. Handling fish also increases stress that may lead to changes in physiology and behavior (Lewin et al. 2006).

Since fishing generally removes individuals from a population, at high levels it can lead to reduced population sizes and loss of genetic diversity. The loss of genetic diversity can ultimately reduce a population's fitness, resilience, and ability to adapt to environmental changes and stressors. The higher the fishing mortality, the greater these types of impacts will be (Lewin et al. 2006).

While fishing does remove individuals from the population, we do not anticipate that projected fishing pressure will affect the refuge's fish population as a whole. Anglers must abide by the State's seasons, catch limits, and regulations to protect the State's fish populations. The refuge's fishing pressure is projected to be sustainable. Other fishing opportunities exist nearby in the southeastern part of Maine and adjacent areas.

Fishing activities have caused no additional adverse impacts to any federally endangered or threatened species. Nesting habitat of endangered and threatened species such as the piping plover and least terns are prohibited to fishing during sensitive times. Signs will be erected to inform the public of any closed areas.

Vegetation and Soil

Medium or heavy use of pathways can impact the natural plant community through soil compaction, erosion, or vegetation trampling (Lewin et al. 2006). Bank fishing is also known to accelerate the natural erosion of river banks following vegetation trampling and die-off, which can jeopardize bank integrity (Waters 1995). The aforementioned environmental impacts associated with bank fishing should be taken into consideration; however, they are expected to be minimal in the long-term. To minimize impacts, and to discourage widening of existing trails and establishment of new trails by the public, signs will be posted to educate anglers. As visitors are seeking access to very specific and productive sites, impacts to trails are expected to be localized and minimal.

Hydrology and Water Quality

Paths used by anglers can affect the hydrology of an area by altering drainage patterns. Some anglers may walk off-trail to access a fishing area, thereby creating new trails and affecting drainage. However, we expect those impacts to be minimal considering anglers are not repeatedly using the same paths, and levels of use are unlikely to create adverse effects. Refuge staff has observed only negligible problems associated with erosion, incision, compaction or stream alteration, and we do not expect any increase in these negligible impacts. The recreational fishing program would not violate Federal or State standards from contributing pollutants to water sources and would comply with the Clean Water Act.

Visitors and Other Uses

Recreational fishing should pose little to no conflict between user groups engaged in other refuge public uses such as hunting, wildlife observation, photography, environmental education or interpretation. Visitors that engage in the Refuge System's priority uses may gain a greater understanding and appreciation for the role of the Refuge System in the conservation of fish, wildlife, and their habitats. In fact, visitors engaging in wildlife photography and observation could benefit from a fishing program by increasing access to refuge lands.

There could be some conflicts, however, with those who enjoy the aesthetic value of the land. With any increase of visitors to refuge land, additional litter and trampling of vegetation and soil compaction would likely occur. Trails/paths that are created and trash left behind would take away from the naturalness of the land, and result in conflicts with users who access refuge land for photography or wildlife observations. This impact could be lessened or avoided by designating specific access routes to water edges, and consolidating trails/paths to certain areas. Information about the effects of littering on refuge land and regulations may be posted in certain areas open for fishing to help deter people from littering and educate people about the importance of a healthy environment. Several times a year, staff, volunteers, and Youth Conservation Corps members will clean parking areas and pick up trash, helping to alleviate this issue.

Adverse effects to other wildlife are not expected under this plan. Disturbances would be minimal, as wildlife would have undisturbed areas to take shelter to minimize stress. Designated access routes would also decrease disturbances to any nesting wildlife, such as

the saltmarsh and Nelson's sparrow.

Cultural Resources
Limited to no cultural resource conflicts would result from the implementation of the Recreational Fishing Plan.

PUBLIC REVIEW AND COMMENT:

This Compatibility Determination (CD) is part of the Rachel Carson NWR Recreational Fishing Plan and the accompanying Environmental Assessment (EA). The plan was coordinated with all interested and/or affected parties, including the Maine Department of Inland Fisheries and Wildlife and Maine Department of Marine Resources staff. We notified the public through local venues, the refuge website, and notification in the Federal Register (as part of other expansions and openings on national wildlife refuges). A 30-day comment period on the draft documents began on March 23, 2020. Due to the unprecedented pandemic response, the comment period was extended an additional 15 days, to May 7, for a total period of 45 days. Comments on the plan were received from a total of three individuals during the 45-day comment period. Substantive comments were reviewed and considered when finalizing the plan.

DETERMINATION (CHECK ONE BELOW):

_____Use is not compatible

__X___Use is compatible, with the following stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

The following stipulations will be implemented and/or maintained to ensure compatibility:

- Anglers are prohibited from using any lead fishing tackle, including lead jigs, sinkers, lines, and lures.
- Anglers are prohibited from trapping fish on the refuge to use as bait.
- Fishing will be restricted to areas that have been designated and posted.
- Fishing is only allowed from 30 minutes before sunrise to 30 minutes after sunset.

JUSTIFICATION:

The Refuge System Improvement Act of 1997 identifies fishing as a priority public use. Priority public uses are to receive enhanced consideration when developing goals and objectives for refuges if they are determined to be compatible. Providing fishing opportunities will promote public appreciation and support for the refuge. Recreational fishing will not materially interfere with or detract from the mission of the Refuge System or the purposes for which the refuge was established. We, therefore, find that public fishing conducted according to the State of Maine

seasons and limits will be compatible with the principles of sound wildlife management and otherwise in the public interest (50 CFR § 32.1.)

SIGNATURE:
Refuge Manager

KARL STROMAYER Digitally signed by KARL STROMAYER
Date: 2020.07.31 09:34:01 -04'00'

(Signature) (Date)

CONCURRENCE:
Regional Chief

SCOTT KAHAN Digitally signed by SCOTT KAHAN
Date: 2020.07.31 17:56:11 -04'00'

(Signature) (Date)

MANDATORY 15 YEAR RE-EVALUATION DATE: _____
(Date)

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