

**Final Damage Assessment and Restoration Plan
&
Environmental Assessment
For The
T/V Bow Mariner Oil Spill**



Razorbills, Maine Coastal Islands National Wildlife Refuge

Prepared by:

U. S. Fish and Wildlife Service
Virginia Field Office

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FACT SHEET
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FINAL DAMAGE ASSESSMENT AND RESTORATION PLAN
&
ENVIRONMENTAL ASSESSMENT
T/V Bow Mariner Oil Spill

Trustee: U.S. Department of Interior
U.S. Fish and Wildlife Service (Authorized Official)

Abstract: The U.S. Fish and Wildlife Service is presenting a Final Damage Assessment and Restoration Plan/Environmental Assessment, which proposes restoration of natural resources and resource services injured or lost as a result of the February 28, 2004, *T/V Bow Mariner* oil spill off the Virginia coast.

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Copies: A copy of the Final Damage Assessment and Restoration Plan/Environmental Assessment is available at www.fws.gov/northeast/mainecoastal or by contacting the individual listed above. A copy may also be viewed at the public library on School Street in Milbridge, Maine.

EXECUTIVE SUMMARY

Purpose of this Document

This final Damage Assessment and Restoration Plan/Environmental Assessment (Plan) was prepared by the U.S. Fish and Wildlife Service (Service), acting in its capacity as a federal natural resource Trustee. The Service has conducted a natural resource damage assessment (NRDA) for the February 28, 2004 *T/V Bow Mariner* incident. The Service previously made the draft Plan available to the public to solicit their comments on the proposed restoration actions. This final Plan serves as an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4371 *et seq.*) and its implementing regulations (40 C.F.R. 1501.3).

Background

At approximately 6:00 pm on Saturday, February 28, 2004, the chemical tanker *T/V Bow Mariner* caught fire and exploded while the crew was engaged in cleaning residual Methyl Tert Butyl Ether (MTBE) from a cargo tank. The vessel sank by the bow at about 7:30 pm in position 37-52.8N/074-15.3W, about 45 nautical miles east of Virginia. The vessel's cargo of ethyl alcohol (3,188,711 gallons) was released, along with the vessel's heavy fuel oil (192,904 gallons), diesel fuel (48,266 gallons) and slops (quantity unknown) (U.S. Coast Guard [USCG] 2005). The ethanol and diesel fuel likely dissipated rapidly. The fuel oil and slops formed a persistent oil slick that moved generally south-southeast and remained well off shore. Timely aerial surveys and subsequent mortality modeling conducted cooperatively by the Service and representatives of the Responsible Parties (RPs), Odfjell Asia II PTE Ltd., and Ceres Hellenic Shipping Enterprises, Ltd., the owner and operator of the *T/V Bow Mariner*, indicated that a significant number of pelagic seabirds were killed by the spill.

Overview of the Oil Pollution Act

Pursuant to the Oil Pollution Act of 1990, 33 U.S.C. 2701, 2706(b) (OPA), and the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR §§ 300.600 *et seq.*) (NCP) certain entities are designated natural resource Trustees which are authorized to act on behalf of the public to protect and restore natural resources that have been injured by a discharge or a substantial threat of discharge of oil. Designated natural resource Trustees may conduct a NRDA to document and quantify injuries to natural resources and services impacted by the release of oil. Trustees then prepare a plan to restore those injured natural resources and the services they provide to the conditions that would have existed had the release of oil not occurred.

OPA provides the statutory authority for natural resource Trustees to assess and restore injuries resulting from oil spill incidents. The OPA NRDA law, codified at 15 CFR Part 990, defines injury as "an observable or measurable adverse change in a natural resource or impairment of a natural resource service." Restoration, under the OPA regulations, means "restoring, rehabilitating, replacing, or acquiring the equivalent of injured natural resources and services" and includes both primary restoration conditions and compensatory restoration.

A NRDA, as described under Section 1006 of OPA (33 U.S.C. § 2706) and its implementing regulations (15 C.F.R. Part 990), consist of three phases: (1) preassessment, (2) restoration planning, and (3) restoration implementation. The Trustees may initiate a damage assessment provided that an incident has occurred; the incident is not from a public vessel or an onshore facility subject to the Trans-Alaska Pipeline Authority Act; the incident is not permitted under federal, state or local law; and Trustee natural resources may have been injured as a result of the incident. Based on information collected during the preassessment phase, the Trustees make an initial determination as to whether natural resources or services have been injured or are likely to be injured by the release. Through coordination with response agencies, the Trustees next determine whether the oil spill response actions will eliminate the injury or the threat of injury to natural resources. If injuries are expected to continue and feasible restoration alternatives exist to address such injuries, the Trustees may proceed with the restoration planning phase. Even if degradation from injuries is not expected to continue, restoration planning may be necessary if injuries resulted in interim losses requiring compensatory restoration.

The purpose of the restoration planning phase is to evaluate the potential injuries to natural resources and services, and to use that information to determine the need for, type of, and scale of restoration actions. OPA defines natural resources as “land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any state or local government or Indian tribe, or any foreign government (33 U.S.C. 2701(20)).” Services (or natural resource services) are functions performed by a natural resource for the benefit of another natural resource and/or the public.

Restoration planning under OPA has two components: injury assessment and restoration selection. The goal of injury assessment is to determine the nature and extent of injuries to natural resources and services, thus providing a factual basis for evaluating the need for, type of, and scale of restoration actions. Restoration selection involves identifying a reasonable range of restoration alternatives; evaluating and selecting the preferred alternative(s); developing a final EA; presenting the alternative(s) to the public; soliciting public comment on the draft Plan; and considering those comments before issuing a final Plan.

Public Review and Comment on Draft Plan

The Service published a Notice announcing the draft Plan’s availability for public review and comment in both *The Ellsworth American* and *The Bangor Daily News*. The duration of the public comment period was 30 days and the deadline for submitting written comments on the draft Plan was specified in the published Notice of Availability. No public comments were received.

NEPA Compliance

Restoration of natural resources under OPA must comply with NEPA (42 U.S.C. § 4371 *et seq.*) and its implementing regulations (40 C.F.R. Part 1500). In compliance with NEPA, this final

Plan also serves as an EA. As such, it includes a summary of the current environmental setting, describes the purpose and need for action, and identifies alternative actions and their potential environmental consequences.

Injury Determination and Proposed Restoration

The Service has determined that, as a result of the oil release described above, injury to pelagic seabirds has occurred. Aerial surveys conducted during the spill identified over 2,000 birds of 10 species within the general area of the oil spill footprint. Many of these birds were in the process of migrating to their nesting grounds to the north. Overall, the mortality estimate model indicated a broad range of total seabird loss of between 106 and 9,064. This broad range was driven primarily by uncertainty associated with model input variables such as spill trajectory, oil thickness, bird residence times, and other similar data. Because of their foraging behavior, two species that were at higher risk from oil exposure than other bird species were razorbills (*Alca torda*) and northern gannets (*Morus bassanus*). Taking a conservative approach to injury determination, mortality range estimation and restoration scaling modeling efforts were limited to these two “at-risk” species. When losses are limited to the aforementioned at-risk species in the context of spills of similar size and nature, the mortality estimates narrowed to 48 to 417 individuals for northern gannets and to 3 to 28 individuals for razorbills. Therefore, the Service will seek approximate scaled restoration for the loss of between 50 and 450 seabirds at their nesting sites. Of the species affected by the spill, razorbills have the highest conservation need within the United States. Northern gannets nest in Canada in this hemisphere, have stable populations at the current time, and a lower overall conservation need. Conversely, in the United States, razorbills nest within the confines of the Service’s Maine Coastal Islands National Wildlife Refuge (Refuge) and receive some level of active management within the Northeast. Because it is not feasible, or fiscally prudent within the scope of this incident to undertake two separate restoration actions in two countries, the Service has selected razorbills as the target (surrogate) restoration species. The Service has determined that it is highly likely that razorbill restoration efforts in Maine will prove successful.

The Service’s proposed restoration action is expected to have no adverse impact and predominately positive effects on the environment, especially on those natural resources injured by the release of oil from the *T/V Bow Mariner*.

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Section 1: Purpose of and Need for Restoration

1.1 Purpose

This final Damage Assessment and Restoration Plan/Environmental Assessment (Plan) was prepared by the U.S. Fish and Wildlife Service (Service), in its capacity as the federal natural resource Trustee (Trustee), to evaluate a range of alternatives for restoring natural resource injuries and lost services resulting from the 2004 *T/V Bow Mariner* oil spill that occurred approximately 45 nautical miles off the coast of Virginia. The Service made the draft Plan available to the public in order to solicit comments on the proposed restoration actions. This final Plan also serves as an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4371 *et seq.*) and its implementing regulations (40 C.F.R. 1501.3).

Under the federal Oil Pollution Act (OPA), the Service is responsible for restoring natural resources injured by the *T/V Bow Mariner* release with funding from the Responsible Parties (RPs). The Service, acting as Trustee on the public's behalf, has conducted a natural resource damage assessment (NRDA) to determine the nature and extent of natural resource losses resulting from this incident and the restoration actions needed to restore these losses. The NRDA was conducted using the OPA NRDA regulations.

This final Plan was prepared by the Service to inform the public about the NRDA and the restoration planning efforts that have been conducted following the incident. The Service sought public comment on the proposed restoration alternatives presented in the draft Plan with the intent to consider any written comments before developing this final Plan.

1.2 Overview of the Incident

At about 6:00 pm on Saturday, February 28, 2004, the chemical tanker *T/V Bow Mariner* caught fire and exploded while the crew was engaged in cleaning residual Methyl Tert Butyl Ether (MTBE) from cargo tank number eight starboard. The vessel sank by the bow at about 7:30 pm in position 37-52.8N/074-15.3W; approximately 45 nautical miles east of Virginia. The vessel's cargo of ethyl alcohol (3,188,711 gallons) was released, along with its heavy fuel oil (192,904 gallons), diesel fuel (48,266 gallons) and slops (quantity unknown). The explosion and oil release (also referred to as the "incident" and the "oil spill") was caused by the ignition of a fuel/air mixture, either on deck or in the cargo tanks, that was within its flammable limits. The specific ignition source was determined (U.S. Coast Guard [USCG] 2005). Many natural resources were potentially at risk from the oil release, including birds, marine mammals, fish, and shellfish. However, the Service determined that the most significant natural resources under its jurisdiction that were injured as a result of the *T/V Bow Mariner* incident were pelagic seabirds. Aerial surveys conducted during the spill identified over 2,000 birds of 10 species within the general area of the oil spill footprint. Many of these birds were in the process of

migrating to their nesting grounds to the north at the time of the spill. Overall, the mortality estimate model indicated a broad range of total seabird loss of between 106 and 9,064. This broad range was driven primarily by uncertainty associated with model input variables such as spill trajectory, oil thickness, bird residence times, and other similar factors.

Cooperative studies implemented by the Service and representatives of the Responsible Parties (RPs) to ascertain the effects of the *T/V Bow Mariner* oil spill determined that an estimated range of between 50 and 450 seabirds were injured or killed. Under OPA, the parties responsible for the release of oil are liable for the cost of assessing impacts and restoring injured natural resources. Federal, State, and Tribal Natural Resource Trustees may conduct a NRDA action to document and quantify injuries to natural resources and services. In the case of the *T/V Bow Mariner* spill, the Service is the sole natural resource Trustee. In this case, the RPs are Odfjell Tankers Asia II PTE Ltd., Singapore (subsidiary of Odfjell of Bergen Norway, owner of the *T/V Bow Mariner*) and Ceres Hellenic Shipping Enterprises, Ltd., Greece (operator) (USCG 2005).

Of the species affected by the spill, the razorbill is the most in danger of extinction within the United States. Northern gannets nest in Canada in this hemisphere, have stable populations at the current time, and a lower overall conservation need. Conversely, razorbills nest within the confines of the Maine Coastal Islands National Wildlife Refuge (Refuge) and receive some level of active management within the Northeastern United States. Since it was not feasible or fiscally prudent to undertake two distinct restoration actions in two countries, the Service selected razorbills as the target (surrogate) restoration species to replace the lost seabirds and the services that they provided. The Service determined that there is a strong likelihood of success of razorbill restoration efforts in Maine.

The RPs and the Department of Interior (DOI), acting on behalf of the Service, negotiated the terms of a Settlement Agreement which was approved by the United States Department of Justice on December 30, 2008. Representatives of the RPs and DOI executed the Settlement Agreement on February 3, 2009. Pursuant to the Settlement Agreement and prior funding agreements between the parties, the RPs paid \$45,367 as reimbursement for natural resource damage assessment costs incurred by DOI and \$563,295.41 for the restoration, rehabilitation, replacement, and/or acquisition of natural resources equivalent to those which were injured or destroyed as a result of the incident. The Settlement Agreement provided that it was intended to “fund a natural resource restoration project(s) which the [Service] believes will be beneficial to pelagic seabird populations impacted by the incident.”

1.3 Natural Resource Trustees and Authorities

The OPA and Executive Order 12777 designate agencies responsible for acting on behalf of the public as Trustees for natural resources injured as a result of an oil release. During the pre-assessment phase of this NRDA, the U.S. Department of Commerce, represented by the National Oceanic and Atmospheric Administration (NOAA) and the Service participated as the natural resource Trustees.

The OPA regulations (15 CFR Part 990) provide that a NRDA shall include the following three phases: (1) preassessment, (2) restoration planning, and (3) restoration implementation. Based on early available information collected during the Preassessment Phase, the Service made a preliminary determination that natural resources and/or services under its jurisdiction were injured by the release. NOAA determined that the incident did not cause significant injuries to resources under its jurisdiction; therefore NOAA concluded that it would not pursue a natural resource damage claim in the instant case.

The Service determined that response actions did not eliminate the injury to natural resources under its jurisdiction and that injuries were likely to have resulted in interim losses of natural resources and/or services from the date of the incident until the date of recovery

1.4 Overview of OPA Requirements

Under OPA, Trustees can recover:

- the cost of restoring, rehabilitating, replacing, or acquiring the equivalent of the injured natural resources (“primary restoration”);
- the diminution in value of those injured natural resources pending restoration (“compensatory restoration”); and
- reasonable assessment costs.

Before initiating an NRDA, the Trustees must determine that:

- an incident has occurred and it is not expressly excluded from NRDA provisions;
- the incident is not from a public vessel;
- the incident is not from an onshore facility subject to the Trans-Alaska Pipeline Authority Act, 43 U.S.C. § 1651 *et seq.*;
- the incident is not permitted under a permit issued under federal, State, or local law; and
- natural resources under the trusteeship of the Trustee may have been injured as a result of the incident.

Natural resources are defined as “land, fish, wildlife, biota, air, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to or

otherwise controlled by the United States, . . . any State or local government or Indian tribe” (15 CFR§ 990.30). Injury is defined as “an observable or measurable adverse change in a natural resource or impairment of a natural resource service...” (15 CFR§ 990.30).

Through coordination with response agencies (e.g., USCG) the Trustees next determine whether the oil spill response actions will eliminate the injury or the threat of injury to natural resources. If injuries are expected to continue and feasible restoration alternatives exist to address such injuries, the Trustee may proceed with the Restoration Planning Phase. Restoration Planning may also be necessary if injuries are not expected to continue to endure, but are nevertheless suspected to have resulted in interim losses of natural resources and/or services from the date of the incident until the date of recovery.

The purpose of the Restoration Planning Phase is to evaluate the potential injuries to natural resources and services and use that information to determine the need for and extent of associated restoration actions. This phase provides the link between injury and restoration and has two basic components: (1) injury assessment and (2) restoration selection. The goal of injury assessment is to determine the nature and extent of injuries to natural resources and services, thus providing a basis for evaluating the need for, type of, and scale of restoration actions. As the injury assessment is being completed, the Trustee develops a plan for restoring the injured natural resources and services.

During the Restoration Planning Phase, the Trustee must:

- identify a reasonable range of restoration alternatives,
- evaluate and select the proposed alternative,
- develop a Draft Restoration Plan presenting the alternatives to the public,
- solicit public comment on the Draft Restoration Plan, and
- incorporate comments into a Final Restoration Plan.

1.5 Coordination with the Responsible Parties

The OPA regulations direct the Trustees to invite the RPs to participate in the damage assessment and restoration process. Although the RPs may contribute to the process in many ways, final authority to make determinations regarding injury and restoration rests solely with the Trustees.

During the early stages of the incident, the Service and representatives of the RPs prepared and co-funded the following studies: (1) an aerial survey (Ford 2004) to determine the number of seabirds inhabiting and/or transiting through the spill areas and (2) a kill estimate model (Ford

and Storm 2005) to determine the number and species of seabirds likely killed by the oil spill. In addition, the Service and representatives of the RPs continued to communicate and meet which culminated in the aforementioned Settlement Agreement.

1.6 Public Participation

Due to the remote nature of the oil spill, there was no direct public participation during the assessment phase. In addition, the Service does not anticipate significant restoration planning participation from Mid-Atlantic States because the oil spill occurred within the U.S. Exclusive Economic Zone (EEZ), well beyond State jurisdiction. However, the restoration actions will occur within areas jointly controlled and managed by the State of Maine and the Service; therefore the Service solicited public review and comment from inhabitants of Maine. It is important to note that the Refuge's Comprehensive Conservation Plan (CCP) (Service 2005) has undergone extensive public review and that all seabird restoration alternatives considered in the final Plan were also made available for public review and comment within communities in the vicinity of the Refuge.

Public Review and Comment on draft Plan

The Service published a Notice announcing the draft Plan's availability for public review and comment in both *The Ellsworth American* and *The Bangor Daily News*. The duration of the public comment period was 30 days and the deadline for submitting written comments on the draft Plan was specified in the published Notice of Availability. A copy of the draft Plan/EA was also placed in the reference section of the Milbridge Branch of the Maine Public Library and was made available to the public during normal business hours.

While no public comments were received, the public review of the draft Plan was consistent with all state and federal laws and regulations that apply to the NDRA process, including Section 1006 of OPA, the regulations for NRDA under OPA (15 CFR Part 990), NEPA (42 USC Section 4371, *et seq.*), and the regulations implementing NEPA (40 CFR Part 1500).

1.7 Administrative Record

The Service has compiled an administrative record that contains the documents the Service relied upon to plan and implement the NRDA and to address restoration and compensation issues and decisions. The administrative record is available for public review at the address specified below.

The administrative record facilitates public participation in the NRDA process and will be available for use in any future administrative or judicial review of the Service's actions as provided by law. Additional information and documents, including public comments received on the draft Plan, the final DARP/EA, and/or other related restoration planning documents will be incorporated into the administrative record upon their completion.

The documents comprising the administrative record can be viewed at the following public location:

U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694, extension 107
Office Hours: Monday-Friday 8:00 am - 4:30 pm

1.8 Summary of the Natural Resource Damages Claim

The natural resource damage claim for the incident encompasses restoration actions for injuries to pelagic seabirds and the services they provide. The proposed restoration actions seek to protect and enhance nesting habitat in Maine to compensate for the mortality of 50 to 450 pelagic seabirds with restoration emphasis placed upon razorbills.

Section 2: Affected Biota and Environment

2.1 Physical and Biological Environment

The Chesapeake Bight overlies the Continental Shelf between Cape Hatteras, North Carolina, and the mouth of the Delaware Bay at Cape May, New Jersey (Figure 1). The Continental Shelf within the spill area of the bight includes the section from the shoreline to the 100 fathom curve. The Continental Slope then begins at the 100 fathom contour and extends seaward. The edge of the Continental Shelf is about 71 nautical miles to the east of Ocean City, Maryland, about 65 nautical miles east of Chesapeake Bay, and about 25 nautical miles east of Cape Hatteras. Four major undersea canyons (Wilmington, Baltimore, Washington, Norfolk) intersect the Chesapeake Bight. These canyons and the Continental Shelf provide important habitat for seabird prey items and therefore provide important links within the pelagic food web. Pelagic seabirds are most abundant between the 30 and 40 fathom contour and along the edge of the Continental Shelf, especially near the Baltimore Canyon (Rowlett 1980) where the incident occurred.

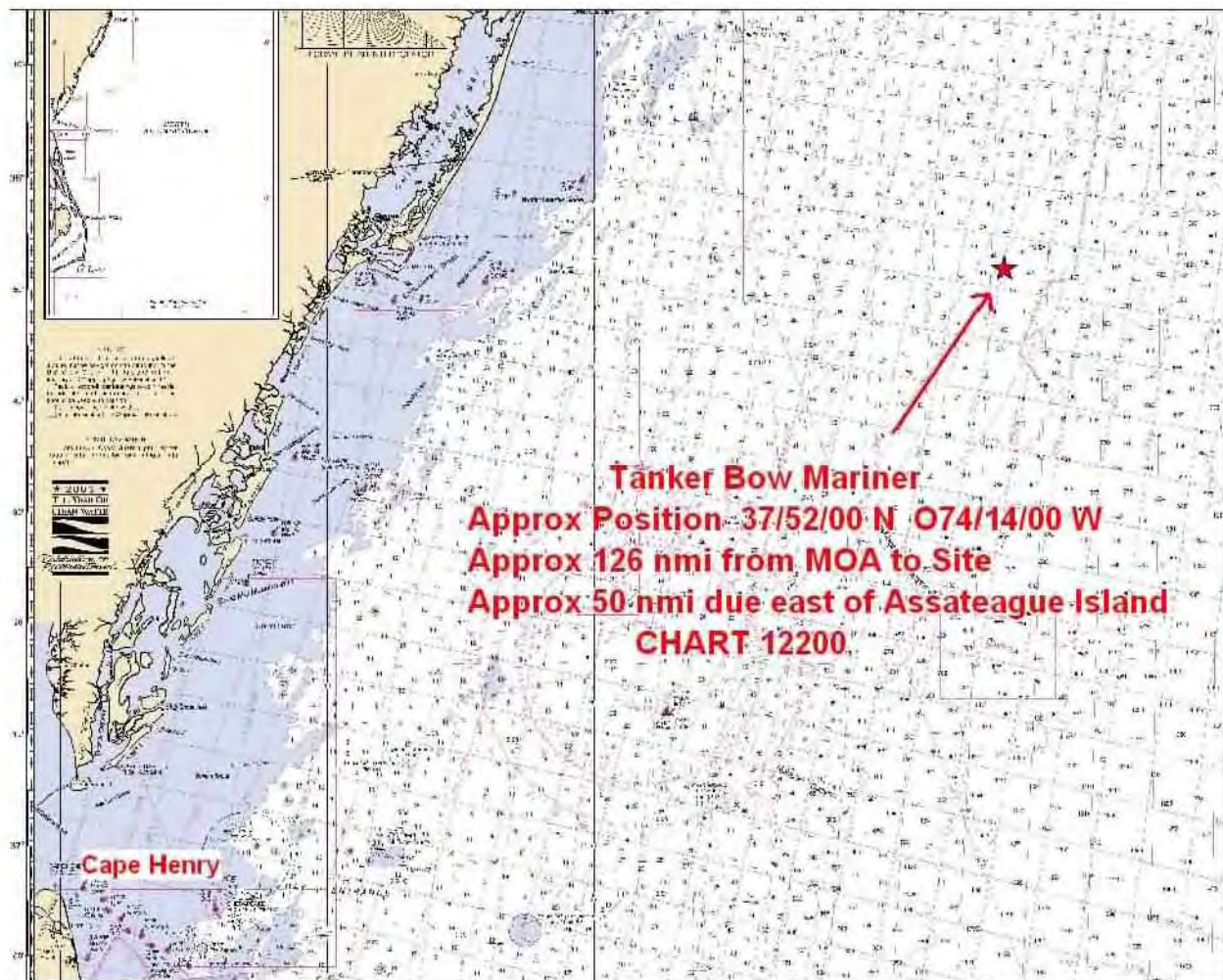
2.2 Endangered and Threatened Species

It is unlikely that species designated as endangered or threatened under the Endangered Species Act (16 U.S.C. § 1531, *et seq.*) were affected by the *T/V Bow Mariner* incident. However, a number of razorbills, a species listed as threatened by the State of Maine, were killed or injured by the spill.

2.3 Pelagic Seabirds Found in the Spill Area

Based on recent accounts of pelagic bird-watching trips, the Service has concluded that a wide variety of pelagic seabird species occur within the spill area in late winter and early spring. Of the 38 trips in January, February, and March conducted between 1988 and 2005 described on the website of Brian Patteson's Seabirding Pelagic Trips (www.patteson.com), the presence of northern gannets in the hundreds or thousands was very common, and razorbills were observed on 34 trips (89%) (Table 1). While these data probably describe surveys a little to the south of site of the *T/V Bow Mariner* incident in areas where species distribution may be somewhat influenced by the Gulf Stream, they provide a consistent description of the seabirds that inhabit the region during the season in which the spill occurred. Table 1 summarizes the 33 bird species recorded on these trips and provides a general context for the March 17, 2004, aerial survey data.

Figure 1. Chesapeake Bight and *T/V Bow Mariner* Wreck Site.



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Table 1. Birds seen on 38 pelagic birding trips conducted in January, February, and March during the years 1988-2005 by Seabirding Pelagic Trips. Maximum numbers refer to the highest number of that species seen on any one trip. Species recorded on the aerial survey of March 17, 2004 in **bold text**.

Taxa	Proportion of Trips Seen	Maximum Numbers Recorded
King Eider	3%	<10
Red-throated Loon	29%	<10
Common Loon	47%	10-99
Yellow-nosed Albatross	3%	<10
Black-browed Albatross	3%	<10
Northern Fulmar	68%	10-99
Black-capped Petrel	11%	10-99
Greater Shearwater	3%	<10
Sooty Shearwater	13%	<10
Manx Shearwater	42%	<10
Audubon's Shearwater	5%	<10
Northern Gannet	92%	>10,000
American White Pelican	3%	<10
Red Phalarope	53%	1,000-9,999
Great Skua	61%	<10
Pomarine Jaeger	3%	<10
Parasitic Jaeger	3%	<10
Little Gull	29%	<10
Bonaparte's Gull	47%	1,000-9,999
California Gull	3%	<10
Herring Gull	37%	100-999
Thayer's Gull	3%	<10
Iceland Gull	16%	<10
Lesser Black-backed Gull	50%	10-99
Great Black-backed Gull	37%	100-999
Glaucous Gull	8%	<10
"Nelson's" Gull	16%	<10
Black-legged Kittiwake	92%	100-999
Dovekie	58%	100-999
Common Murre	5%	<10
Thick-billed Murre	5%	<10
Razorbill	89%	100-999
Atlantic Puffin	50%	10-99

Section 3: Injury Determination and Quantification

3.1 Summary of Assessment Activities

The Service's damage assessment activities have focused solely on pelagic seabirds. These activities consisted of four basic tasks:

- Task 1: Beached Bird Survey
- Task 2: Pelagic Seabird Survey
- Task 3: Pelagic Seabird Mortality Estimation
- Task 4: Pelagic Seabird Resource Equivalency Analyses

3.2 Task 1: Beached Bird Survey

At the request of the RPs, beached bird surveys were jointly conducted in early March 2004 at the following three states: Maryland, Virginia, and North Carolina. The purpose was to determine the background level of bird mortality on several Mid-Atlantic beaches so that, had oiled seabirds washed ashore, this baseline level of mortality could be used to discount overall mortality in subsequent modeling. Since the oil slick in the instant case moved to the southeast away from land in the weeks following the incident, no oiled birds washed ashore. Consequently, the Service did not use the beached bird survey data in the NRDA.

3.3 Task 2: Pelagic Seabird Survey

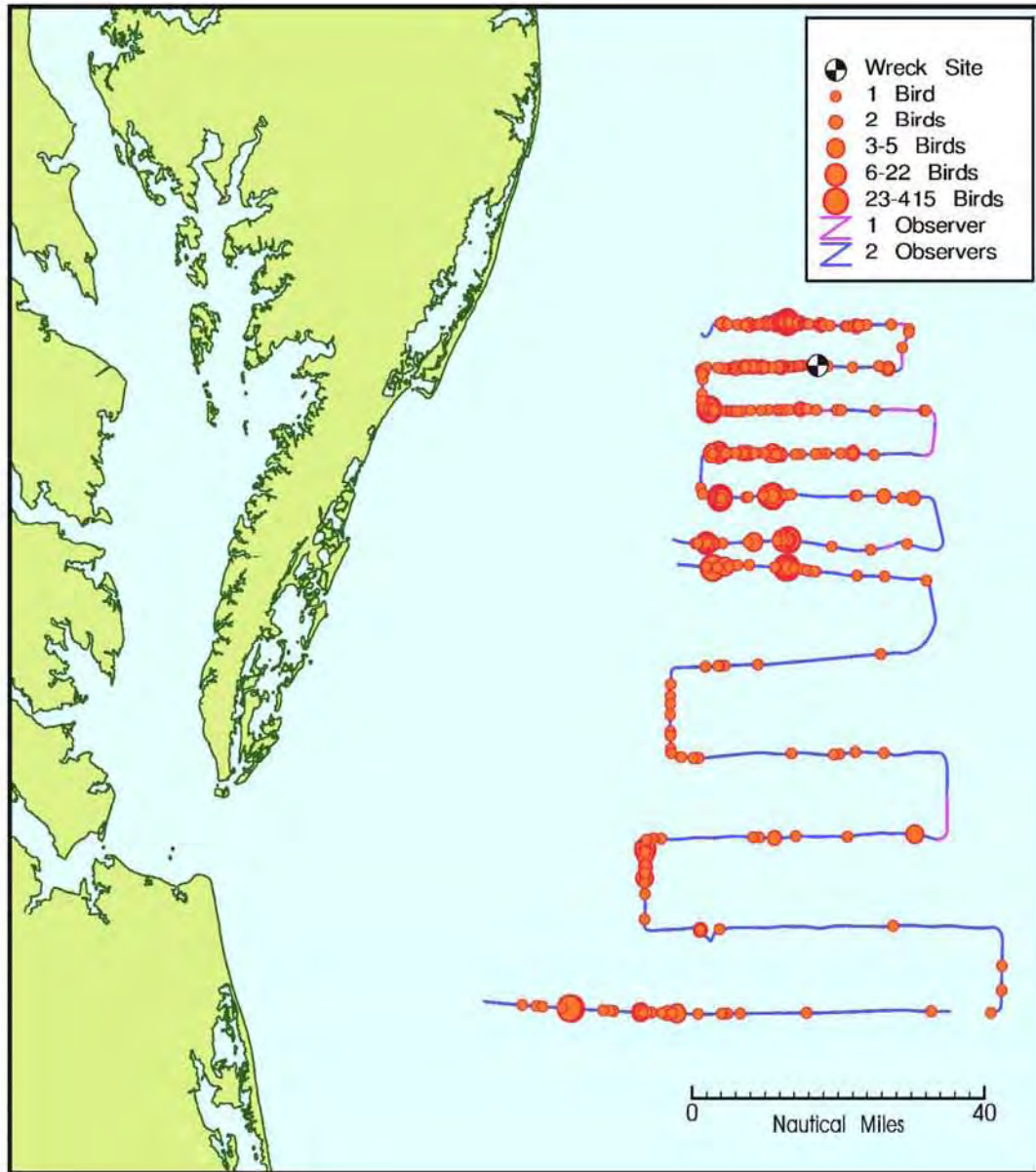
An aerial survey was undertaken on March 17, 2004, to determine the abundance and distribution of wildlife in the area potentially affected by the oil slick(s) emanating from the *T/V Bow Mariner* wreck. Surveys were carried out in a Partenavia Observer aircraft using standard protocols for marine bird surveys (Briggs *et al.* 1981, 1983). The aircraft flew at 200 feet above sea level at about 110 knots. Trained observers scanned 50-meter corridors to either side of the aircraft and recorded all marine birds, mammals, and turtles and oil within their corridors. Observations were transmitted to the navigator who recorded the observation and the position of each observation on a laptop computer linked to a GPS receiver that recorded the position of the aircraft at 5 second intervals. Observers also recorded their sightings and associated information on tape recorders. Viewing conditions were generally good with scattered light showers and a light to moderate breeze. A total of 968 kilometers (km) of track line was flown while recording wildlife data, corresponding to a total survey area of approximately 94 square km (Figures 2 and 3).

A total of 2,020 birds of 10 different species were observed during the survey. The species breakdown and average densities are shown in Table 2. Marine mammals and turtles were also observed and recorded, but are not relevant to this NRDAR action.

Table 2. Summary of seabird observations during the aerial survey of March 17, 2004.

Taxa	Number of Observations	Total Number of Individuals Observed	Animals per Square Km
Black-browed Albatross	1	1	0.01
Northern Fulmar	109	297	3.16
Northern Gannet	228	912	9.70
Red Phalarope	2	2	0.02
Bonaparte's Gull	3	6	0.06
Herring Gull	37	579	6.16
Great Black-backed Gull	8	83	0.88
Laughing Gull	1	1	0.01
Black-legged Kittiwake	8	10	0.11
Gull spp.	6	63	0.67
Razorbill	7	60	0.64
Bird spp.	2	6	0.06
TOTAL BIRDS	412	2,020	21.48

Figure 2. The track line of the March 17, 2004, wildlife survey and birds observed. Bird flocks are shown as size graded circles where the size of the circle indicates the number of individuals in the group.



Overall seabird density was 21.48 birds per square km. The most common bird in the survey area was the northern gannet, accounting for 47% of the seabird sightings. Gulls (*Larus spp.*), primarily herring gulls (*Larus argentatus*), accounted for 37% of the sightings, northern fulmars (*Fulmaris glacialis*) for 15%, and razorbills for 3%. Sightings of northern gannets and razorbills, the two most vulnerable species in the area, are shown in Figure 3.

The Service cannot be certain that the bird distribution on March 17, 2004 (the day that the Service conducted its wildlife surveys) was substantially similar to the bird distributions during the previous two weeks (the intervening time between the spill and the Service's wildlife survey). During the survey, bird densities, especially those of northern gannets, were highest just east and south of the wreck site and along the edge of the Continental Shelf break near the 200-meter depth line. Razorbills were present in low numbers on the Continental Shelf east-southeast of the wreck site, and also over the Continental Shelf break about 140 km south-southeast of the wreck site. Since most of the gull species are resident and gannets would be expected to be moving through the area on their northbound migration throughout March, similar numbers of birds were probably in the general area. Specific "hot spots," however, may shift over a period of several weeks and the survey results may or may not reflect the exact locations of bird concentrations during the spill. Nonetheless, the survey results clearly provide by far the best distributional data for this region and time period. Therefore the Service concluded that the seabird distribution observed during the survey is representative of seabird distribution at the time of the spill.

3.4 Task 3: Pelagic Seabird Mortality Estimation

3.4.1 Oil Spill Trajectory

The Service utilized the General NOAA Oil Modeling Environment (GNOME) (NOAA 2004) to simulate the spill trajectory for a 14-day period following the incident. With the exception of the extension of the wind record and the use of oil observations at known locations to update the simulated trajectory, the Service's analysis utilized model inputs developed during the spill response. The results of the trajectory analysis are shown in Figure 4.

Model results suggest that the oil remained in the general vicinity of the wreck site for the first week, moving slowly east and west while spreading. Overflights carried out on March 7, 2004 indicated that some oil had also moved about 50 km directly south of the original release point. After the first week, oil would have begun moving steadily to the south, southeast across the Continental Shelf break.

The vessel MSRC *Virginia Responder* carried out oil skimming operations and on March 4, 2004, the USCG reported that 25,000 gallons of oil and water mixture had been recovered. The actual amount of oil recovered is unknown. The NOAA computer program, Automated Data Inquiry for Oil Spills (ADIOS2) (NOAA 2002) was used to assess the persistence of the remaining heavy fuel oil. Based on this analysis, about 12% of the spilled oil (23,160 gallons)

Figure 4. Simulated oil spill trajectory for heavy fuel oil released from the *T/V Bow Mariner* based on results of the GNOME model. The slick position is represented by a graded series of points, each representing the potential location of oil particles at 1, 2, 4 ... 14 days after the vessel sank. The gray grid represents the region surveyed for seabirds. Bathymetric lines are at 200 m and 2,000 m depth, indicating the location of the Continental Shelf break.

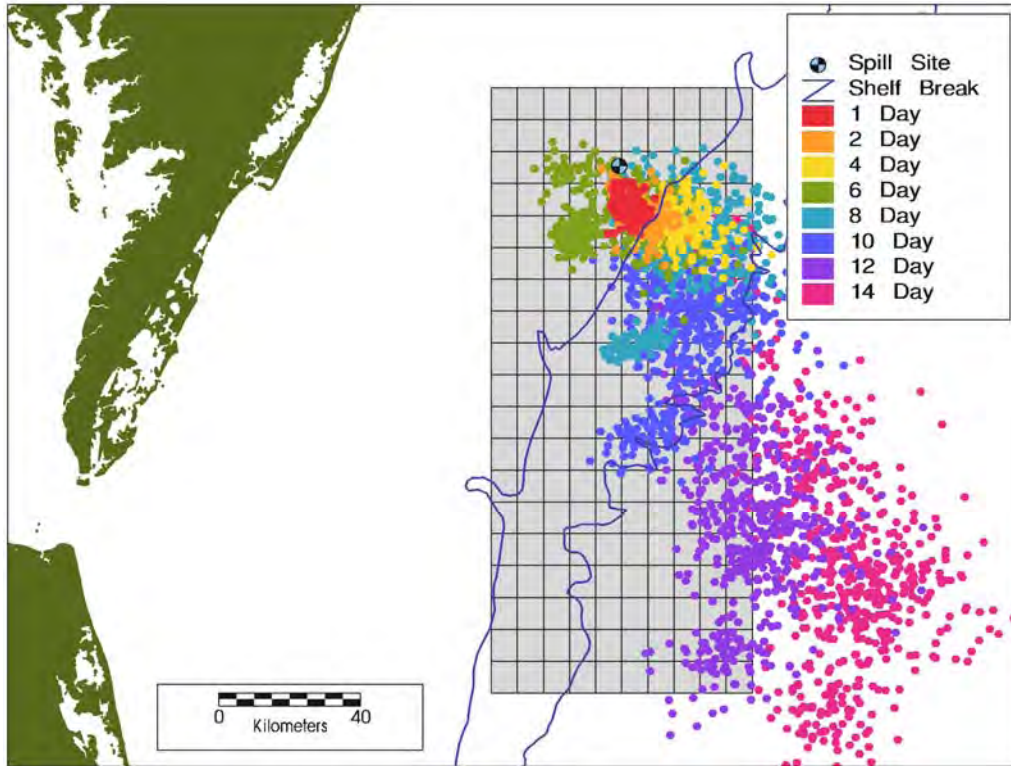
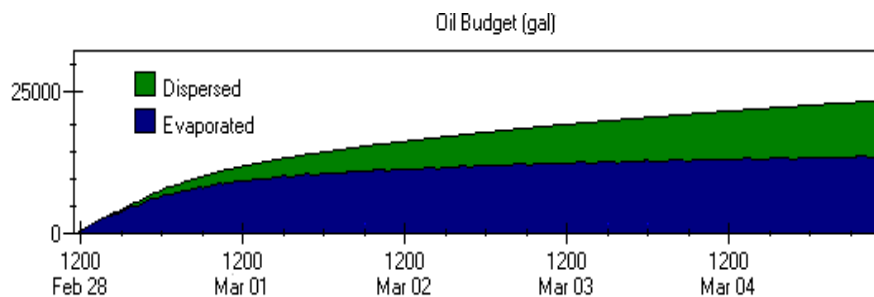


Figure 5. Output from the NOAA ADIOS2 oil spill fate model. Total spill volume was assumed to be 193,000 gallons, not including the amount recovered by skimming operations. If significant quantities remained on the vessel when it sank, volume would have been less than portrayed here, but the proportion of oil remaining would have remained the same.



would have been dispersed or evaporated. The remainder (88% - 169,840 gallons) would have persisted, but would have become increasingly undetectable as it diffused.

3.4.2 Vulnerability of Seabirds to Oil

The likelihood that a seabird will be injured or killed by an oil slick varies widely among species. Several authors have ranked seabird species in this regard, using “Oil Spill Vulnerability Indices” based on behavioral and demographic characteristics (King and Sanger 1979, Camphuysen 1989, Lock *et al.* 1994, Williams *et al.* 1994). Camphuysen (1989) and Williams *et al.* (1994) provide the following relative rankings of bird taxa observed during their wildlife surveys (from most to least vulnerable): razorbill, northern gannet, northern fulmar, gull species.

Many pelagic seabirds display unique natural history characteristics that increase their vulnerability to, and the effects of, exposure to oil. Pelagic seabirds generally return to land only during the breeding period, take several years to reach sexual maturity, and usually lay only one egg (Lock *et al.* 1994). As a result, they do not have the reproductive capacity to recover rapidly from population reductions. Lock *et al.* (1994) reported the following consequences of oil exposure on marine birds. Pelagic seabirds are able to tolerate exposure to cold water because they are protected by an outer layer of waterproof contour feathers which cover an inner layer of insulating down. Exposure to oil interferes with the protective layer of contour feathers and allows the cold water to penetrate into the down layer. This destroys both the waterproofing and insulation typically provided by the feathers. As the cold water comes in direct contact with the birds’ skin, the birds will utilize their energy reserves, first fat and then muscle, in an effort to maintain their body temperature. Foraging efficiency in these weakened birds is further reduced by the extra weight in the waterlogged feathers. Ingestion of oil during preening likely gives rise to a number of internal pathologies. Lock *et al.* (1994) examined the potential risk of oil exposure to a number of seabirds breeding in Atlantic Canada. They identified both razorbills and northern gannets as highly vulnerable to oiling due to their forage diving strategies.

Relevant information regarding the two most vulnerable species, razorbill and the northern gannet, is discussed in greater detail below.

3.4.2.1 Razorbill

Maine has identified razorbills as a State-listed threatened species. Maine is the only state that supports a breeding population of razorbills. Razorbills, like several other species of seabirds, were nearly eliminated from Maine during the early 1900s due to over-harvesting and egg collection. During the past 20 years, the Refuge has been working with conservation partners to restore razorbills to the Gulf of Maine. The most recent survey data indicates that an estimated 410 pairs of razorbills nest on six islands in Maine (Service, unpublished data, 2005). The Refuge owns four of these islands, representing nesting habitat for more than 85% of the razorbills in the United States.

Razorbills are members of the family *Alcidae*, all of which are very sensitive to the effects of oiling. Members of this family are surface divers that spend most of their lives resting on the ocean surface and are correspondingly likely to come into contact with surface slicks or with oil entrained in the water column. Because they avoid coming ashore except during breeding season they are constantly in contact with ocean water and are highly dependent on their feathers for insulation. Very light levels of oiling, sometimes no more than a dime-sized spot (Tuck 1961), have been known to kill common murrelets (*Uria aalge*), an alcid similar in size and habit to the razorbill.

In areas where they are common, alcids are usually among the species most severely affected by oil spills. In northern waters, murrelets are frequently the most common species recovered after oil spills such as the *Exxon Valdez* in 1989 (Ford *et al.* 1996), the *Nestucca* in 1988 (Ford *et al.* 1991), and the *Apex Houston* in 1986 (Page *et al.* 1990). Razorbills, though less common than murrelets, also tend to be among the most sensitive species. Razorbills are found only in the North Atlantic and have been one of the three species most frequently recovered after several major European oil spills including the *Amoco Cadiz* in 1978 (Burger 1993), the *Sea Empress* in 1996 (SEEC 1998), the *Erika* in 1999 (Girin 2001), the *Prestige* in 2002 (SEO/Birdlife 2003), and the *Tricolor* in 2003 (Kerckhof *et al.* 2004).

Razorbills rarely form dense flocks while feeding. Small numbers may associate on feeding areas, but while engaged in intensive diving bouts they usually spread out. Cayford (1981) noted that they tend to be more evenly spaced than common murrelets when feeding. Razorbills also are seldom found in association with other seabirds and readily dive rather than fly to avoid boats (Rowlett 1980) and perhaps low flying planes. The impact of the combination of these two factors suggests that observations of razorbills in the spill area were likely a gross underestimate of actual razorbill densities.

Razorbills exhibit several life history characteristics that severely limit their ability to achieve rapid population growth. Juvenile survival rates are estimated at 40%, they do not reach sexual maturity until they are 4-5 years old, they lay only one egg per year, and average reproductive success is estimated at 70% (Hipfner and Chapdelaine 2002). As a result, razorbills rely on high adult survival rates to maintain their populations, and any factor that reduces adult survival has a significant negative impact on population maintenance and recovery. Razorbills affected by the *T/V Bow Mariner* spill were likely in the northbound phase of their migration and were most likely adult birds.

3.4.2.2 Northern Gannet

In the European International Council for the Exploration of the Sea (ICES) areas, oil was listed as the only factor to threaten the population of northern gannets (ICES 2002). An oil vulnerability index calculated by Camphuysen (1989) indicated that gannets are one of the species most vulnerable to oiling in Norwegian waters. Vulnerability scores for 50 species evaluated ranged from 27 (least vulnerable) to 80 (most vulnerable), with gannets scoring 65.

Williams *et al.* (1994) also developed an oil vulnerability index for seabirds in the North Sea that included oiling rates from beached bird surveys and the proportion of time spent on the surface of the sea. He found that the northern gannet ranked 13th in a list of 37 species. In North American waters, Weise and Ryan (2003) calculated an oil vulnerability index for northern gannets in Newfoundland based on the criteria outlined by King and Sanger (1979) and adapted by Camphuysen (1989). In this study, the gannet was rated as being of intermediate vulnerability, below alcids and above most gulls.

In North America, gannets breed in eastern Canada and begin to move south in late September. During winter months, many are present in the waters off Massachusetts and the Outer Banks of North Carolina. The migration continues southward during the late winter and early spring, reaching Florida by December and the Gulf of Mexico by January or February. Breeding adults then return northward, reaching the home waters of their colonies by April. Immature birds leave the Gulf of Mexico in March and travel more slowly, arriving at breeding colonies in May (Nelson 1978, Potter *et al.* 1980, Veit and Petersen 1993, Mowbray 2002).

Northbound migrants appear to remain farther from the coast and closer to the Continental Shelf than southbound migrants (Perkins 1979). During their spring return, Brewer *et al.* (in press) estimate that the birds are moving northward at a rate of 56-112 km per day. Nelson (1978) estimated a somewhat slower return rate of 25-35 km per day. Adult birds return to their breeding colonies in Canada when ice and snow are still present. Gannets affected by the *T/V Bow Mariner* spill would have been in the northbound phase of their migration and were most likely adult birds.

Northern gannets forage by plunge diving, typically making a rapid vertical descent with their wings folded and feed on pelagic shoaling fish such as mackerel, herring, and sand eels (Blake *et al.* 1984). After feeding, they often roost in loose rafts on the water in the vicinity of the feeding area. They are generally found offshore but over Continental Shelf waters, coming to shore only to breed (Mowbray 2002).

3.4.3 Seabird Exposure to Oiling from the *T/V Bow Mariner* Incident

Seabird distributions vary significantly with time, but their general pattern of distribution and areas of concentration are often consistent for weeks or even months. Wildlife surveys were carried out several weeks after the sinking of the *T/V Bow Mariner*, and certain aspects of the distribution of seabirds undoubtedly changed over that interval. Nonetheless, data from those surveys provide the best snapshot of seabird distributions in vicinity of the spill. The Service has determined that the survey data is reasonably representative of conditions during the relevant time periods and is a reliable source of information for natural resource damage assessment purposes.

During the March 17, 2004, aerial survey, seabirds were most common along the Continental Shelf break, somewhat westward of the area most affected by the slick. Northern gannets were

concentrated along the western side of the survey area, particularly in the northwest corner near the site of the wreckage (Figure 3). Razorbills were similarly distributed along the western edge of the study area. The largest group of razorbills was observed in the southwest corner of the survey area, somewhat beyond the oil spill trajectory.

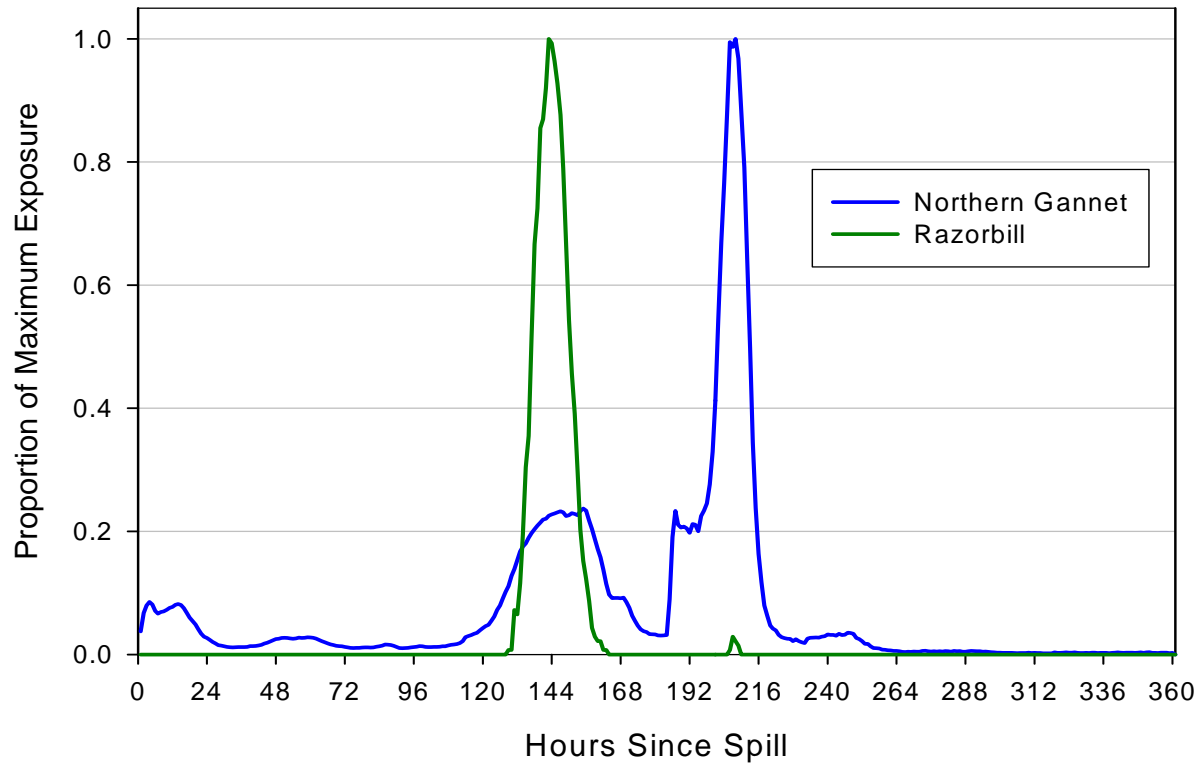
Exposure of seabirds to oiling was estimated by calculating the product of the number of oil particles present in a 5-foot grid block (based on output of the GNOME model) and the estimated density of seabirds in that block. These exposure values were calculated on an hourly basis for both northern gannets and razorbills. Exposure calculated in this way is proportional to the probability that a bird will encounter oil. Values for each species were normalized by dividing the hourly exposure values by the maximum hourly exposure value.

Figure 6 indicates that there was some exposure of gannets on the first day, but that the highest levels of exposure would have occurred on March 4-5 and 7, 2004. Razorbills would have experienced most of their exposure on March 4-5, 2004. The results of the NOAA ADIOS2 oil fates model (Figure 5) indicate that 80-90% of the initial volume of oil would still have been present on March 4-5, 2004. Helicopter overflights on March 7, 2004 showed areas of sheen, debris, and tar balls about 50 km south of the wreck site, indicating that coherent patches of oil were still present at that time.

3.4.4 Estimated Injury to Northern Gannets and Razorbills

Although it is possible to estimate the exposure of seabirds to oil in the *T/V Bow Mariner* incident, it is difficult to translate exposure into mortality estimates. Mortality rates can vary widely. One method which has been used involves using beached bird data to estimate the numbers of birds that were not beached. This general approach was used in analyzing seabird mortality resulting from both the *Exxon Valdez* (Ford *et al.* 1996) and the *Puerto Rican* (Dobbin *et al.* 1986) oil spills. However, this method is not useful in the case of the *T/V Bow Mariner* spill because the incident occurred well offshore and the wind was blowing

Figure 6. Risk of exposure of northern gannets and razorbills to oiling as a function of time since the spill. Exposure is measured as the product of oil density and bird density within a 5-foot block and summed over all 5-foot blocks. For each species, exposure is normalized by dividing a 5-foot block exposure value by the maximum exposure value for that species.



offshore or longshore during the entire incident; therefore birds killed by the oil slick would not have been beached.

A database from 50 historical spills was compiled for the purpose of relating spill volume to seabird mortality (Ford *et al.* in prep). These data show a relationship between Log (Spill Volume) and Log (Number of Birds Recovered) that is highly significant ($P < 0.001$, $R^2 = 0.430$), and which accounts for 43% of the variation in Log (Number of Birds Recovered). The corresponding regression equation is:

$$\text{LogBirdsRecovered} = 0.990 + 0.373 * \text{LogSpillVolume}$$

Assuming a spill volume of 193,000 gallons, on average about 927 birds would have been recovered. Because the relationship is Log-Log, the confidence limits on this estimate are large and asymmetric. Using the regression residuals to estimate the 90th percentile bounds leads to a range of 106 to 9,064 birds recovered. This range is consistent with other spills of comparable volume:

Name	Year	Volume (gallons)	Number of Birds Recovered	Source
<i>Anacortes</i>	1971	203,768	460	Chia 1971
<i>Arco Anchorage</i>	1985	238,980	1,917	Burger 1993
<i>Hamilton Trader</i>	1969	210,000	4,400	Burger 1993
<i>Nestucca</i>	1988	230,061	12,535	Burger 1993

Several factors support the conclusion that mortality caused by the *T/V Bow Mariner* was at the low end of the range:

- Gannets are vulnerable to oiling, but less so than murres and other alcids, which are the most common birds oiled in many spills.
- Razorbills are similar to other alcids such as murres in terms of vulnerability, but they were observed in comparatively low numbers and/or were dispersed.
- Most of the intersection between the spill and the birds occurred about a week into the spill, by which time the slick was weathered and partially dispersed.
- Overall bird density was somewhat lower than is often found in winter on the Pacific Coast, the source of much of the regression data. Overall density from the *T/V Bow Mariner* wildlife survey was 21 birds/ km², whereas nearshore densities along the Pacific Coast often reach densities of 50-100 birds per km² or higher during the winter.

Alternatively:

- The regression estimates are for birds recovered, which is invariably fewer than the number of birds killed. The number killed is typically 3 to 5 times higher than the number recovered.
- The gannets and razorbills were enroute to their breeding colonies to the north at the time of the spill, so turnover of individuals in the affected area was probably high.
- Heavy fuel oil is highly persistent and would have formed into tar balls. In this form, it could have continued to kill birds at low levels even when it was not detectable.

Overall, it is likely that the spill effects were closer to the low end of the range indicated by the regression, 106 to 927, than the high end of the range. The *Anacortes* spill, which occurred in an area with moderate seabird densities and a high proportion of gull species, is probably the most similar incident. The *T/V Bow Mariner* spill is not comparable to the *Nestucca* spill that occurred in the immediate vicinity of exceptionally high numbers of common murres.

About 45% of the birds observed during the *T/V Bow Mariner* wildlife aerial survey were northern gannets and about 3% were razorbills. These two species are likely to have suffered higher mortality than the slightly less vulnerable gulls and fulmars. Assuming the estimate of 927 birds from the regression equation, and assuming that the number of birds of each species killed was proportional to the number of observations in the wildlife survey, between 48 and 417 northern gannets and between 3 and 28 razorbills were killed.

3.5 Task 4: Pelagic Seabird Resource Equivalency Analyses

The Service concluded that seabird injury/mortality occurred as a result of this spill. To restore these injured and/or lost resources, the Service must attempt to identify the economic value of those resources. The value, in economic terms, of a seabird, or any bird, can be difficult to quantify. An alternative approach to economic valuation is resource equivalency analysis (REA). A REA responds to the question, “What, but for the release, would have happened to the injured species?” In this case, what services would between 50 and 450 seabirds, have provided over their expected life spans (direct injury), including fledglings (indirect injury) if they had not been killed by the oil spill? With the REA, the replacement services are quantified in physical units of measure such as bird-years.¹

The proposed restoration projects are then scaled so that the quantity of replacement services equals the quantity of lost services in present value terms. The Service then selects and implements one or more projects (funded by the RPs or, in the alternative, the Oil Spill Liability

¹ A bird-year refers to all services provided by one bird for one year. This measure of services is specific to the species of bird since different birds provide different services. For example, the replacement services for 20 bird-years could be 20 birds for only one year, one bird over 20 years, or anything in between.

Trust Fund²) that are sufficient to recover the direct and indirect losses suffered by the public.

The Service has estimated that between 50 and 450 seabirds were killed by the spill. Using a series of REAs, the Service calculated that the direct injury to seabirds (combining razorbills and northern gannets) ranged from 251 to 2,186 bird-years. Indirect (first and second generation) injury ranged from 404 to 3,519 bird-years. Combining generations, the total restoration claim will require funding of a restoration project which would provide 656 to 5,705 bird-years of replacement services.

Given the uncertainties associated with the mortality assessment, the Service's goal is to seek restoration actions that will replace a conservative, median number of bird-years with a general target range of between 2,000 and 3,000 total bird-years. This target range of service replacement would compensate for the total direct loss of between 152 and 228 seabirds in the spill area. These losses are consistent with the assumption that actual losses were likely at the lower end of the mortality estimate predicted by the model (Section 3.4.4); 106 to 9,064 total seabirds. Compensation for the total direct loss of between 152 and 228 seabirds is also at the lower to median end of the combined razorbill/northern gannet mortality estimate; 50 to 450.

The REA uses accepted economic principles, a kill estimate, and a suite of species-specific life history parameters to project the quantity of discounted bird-years required to offset the injury. It should be noted that an important life history parameter in this instance is animal lifespan. Both razorbills and northern gannets are long-lived with average life spans of 30 and 17 years, respectively. This longevity, combined with low reproductive output (one chick per year and an average reproductive success rate of 70%), results in an increase in the required number of service replacement bird-years.

² See 33 U.S.C. §2712(a)((2) and (f)

Section 4: Review of Restoration Alternatives

The Service has evaluated a number of potential restoration options in the draft Plan that could potentially restore the affected natural resources to pre-spill levels and compensate for interim losses from this spill. In this section, the Service reviews the restoration alternatives that were considered.

4.1 Restoration Under the OPA Regulations

The goal of the damage assessment process for the *T/V Bow Mariner* spill is restoration of injured natural resources and compensation of the public for the interim lost uses of, or services provided by, those resources. OPA requires that this goal be achieved by returning injured natural resources to their baseline condition and by compensating for any interim losses of natural resources and services during the period of recovery to baseline.

Restoration actions under the OPA regulations are either primary or compensatory. Primary restoration returns injured natural resources and services to their baseline condition usually on an accelerated time frame. Primary restoration alternatives can range from the no action, natural recovery, to actions that prevent interference with natural recovery, to more intensive actions expected to return injured natural resources and services to baseline faster or with greater certainty than natural recovery alone.

Compensatory restoration includes actions taken to compensate for the interim losses of natural resources and/or services pending recovery. The type and scale of compensatory restoration may depend on the nature of the primary restoration action and the level and rate of recovery of the injured natural resources and/or services, given the primary restoration action. When identifying the compensatory restoration components of the restoration alternatives, the Trustees must, to the extent practicable, first consider compensatory restoration actions that provide services of the same type and quality and of comparable value as those lost. If compensatory actions of the same type and quality and comparable value cannot provide a reasonable range of alternatives, the Trustees then consider other compensatory restoration actions that will provide services of at least comparable type and quality as those lost. Compensatory restoration alternatives must be scaled to ensure that the size or quantity of the proposed project reflects the magnitude of the injuries from the spill.

4.2 Evaluation Criteria

The OPA regulations (15 CFR § 990.54) requires the reasonable development of a range of primary and compensatory restoration alternatives and then identification of the preferred alternative based on the following six criteria:

1. Cost to carry out the alternative;

2. Extent to which each alternative is expected to meet the Trustee's goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses;
3. Likelihood of success of each alternative;
4. Extent to which each alternative will prevent future injury as a result of the incident and avoid collateral injury as a result of implementing the alternative;
5. Extent to which each alternative benefits more than one natural resource and/or service; and
6. Effect of each alternative on public health and safety.

NEPA applies to restoration actions taken by a Federal Trustee. To reduce transaction costs and avoid delays in restoration, the OPA regulations encourage Trustees to conduct the NEPA process concurrently with the development of the restoration plan.³

To comply with the requirements of NEPA, the Service analyzed the effects of each alternative on the quality of the human environment. NEPA implementing regulations direct Federal agencies to evaluate the potential significance of proposed actions by considering both context and intensity. For the actions proposed in this Plan, the appropriate context for considering potential significance of the action is local, as opposed to national or global.

4.3 Alternative One: No Action/Natural Recovery

NEPA requires the Trustee to consider a "no-action" alternative and the OPA regulations require consideration of the natural recovery option. These alternatives are equivalent. Under this alternative, the Service would take no direct action to restore injured natural resources or compensate for lost services pending environmental recovery. Instead, the Service would rely on natural processes for recovery of the injured natural resources. While some natural recovery might occur over varying time scales for the injured natural resources, actual recovery would be difficult or impossible to measure. In addition, the interim losses suffered would not be compensated for under the no-action alternative.

OPA clearly establishes Trustee responsibility to seek funding for, and conduct primary restoration where possible, compensation for interim (compensatory) losses pending recovery of the natural resources. Neither of these responsibilities can be addressed through a no-action alternative in the present case. While a few of the species may experience natural recovery, under this alternative, there would be no compensatory restoration for the interim losses. Injuries

³ NEPA uses the term "proposed alternative" for a proponent's selected alternative in an environmental assessment; OPA refers to the Trustees' selected option as the "preferred alternative." For purposes of this plan we consider these two terms interchangeable.

to the trust natural resources have occurred as a result of this incident and technically feasible, cost-effective alternatives exist for conducting primary as well as compensatory restoration to compensate for these losses. Therefore the no action alternative was rejected.

4.4 Alternative Two: Seabird Nesting Habitat Acquisition

To address the injury to pelagic seabirds, the Service considered an alternative to pursue acquisition of one or more seabird nesting islands that currently lack permanent protection by a conservation agency. Once acquired, the island(s) would be enhanced and managed for the continued benefit of seabirds. The Service utilized site selection criteria developed by the Refuge during the CCP process.

The “Proposed Expansion Lands” component of the Refuge CCP (Service 2005) calls for Service acquisition of a number of Maine coastal nesting islands (2,306.4 acres) that are considered nationally significant. The proposal was developed in cooperation with the Maine Department of Inland Fisheries and Wildlife (MDIFW), The Nature Conservancy, and Maine Coast Heritage Trust (MCHT) and considered each conservation partner’s ability to acquire and manage coastal islands. The proposal sets forth the following set of biological criteria for the selection of resource protection areas:

- greater than 1% of the State population of seabird species nests on the island; or
- greater than 1% of the State population of wading bird species nests on the island; or
- Federally listed bird species have historically nested on the island; or
- four or more seabird species nest on the island; or
- three species of seabird nest on the island and at least one of which has greater than 0.5% of the statewide nesting population; or
- the island has important seabird, wading bird, or eagle nesting habitat based on an annual biological review of the data.

This restoration alternative could have theoretically met the overall objective of restoring seabird-years lost as a result of the *T/V Bow Mariner* incident. However, this alternative did not include active predator control and social attraction efforts and therefore would not directly benefit razorbills. The settlement amount could only provided partial funding for, perhaps, one acquisition, and could not also provided funding for the other required seabird management actions. The identification of a suitable seabird nesting island(s), and acquisition thereof, would have taken several years and would have substantially delay restoration efforts. Ultimately, the cost of outright acquisition of seabird nesting habitat was determined to be financially infeasible and would not restore resources in a timely fashion.

4.5 Alternative Four: Seabird Restoration on Two Islands

Consistent with the Refuge CCP, the Service considered the feasibility of embarking upon seabird management restoration actions on both Libby Island and Eastern Brothers Island. The draft Plan considered and evaluated the environmental consequences and performance criteria of Alternative Three (the current Preferred Alternative, Eastern Brothers Island Restoration) and also considered site-specific criteria for Libby Island for inclusion within a seabird management restoration program.

Inclusion of Libby Island as an additional restoration objective was deemed potentially desirable because:

- The MDIFW “Razorbill Management Goal and Objectives (2000-2015)” specifically identifies the need to increase the number of razorbill nest sites in the Machias Bay region;
- Libby Island is owned by the Service and is boat-accessible;
- The distance from shore to Libby Island provided adequate protection from mainland based predators such as great horned owls and mink;
- The rocky ledges and cliffs that surround Libby Island could provide suitable nesting habitat for razorbills; and
- The proximity to existing seabird colonies on Petit Manan Island and Machias Seal Island could greatly enhance the potential for razorbills to colonize Libby Island.

This restoration alternative had the potential to meet the Service’s objective of replacing between 2,000 and 3,000 bird-years. However, working on two islands would require the overall length of the project to be reduced from ten to five years. The Refuge has 25-years of seabird management success, including predator control and social attraction efforts (Service 2005). This timeframe has provided Refuge managers with insight on the necessary time frame(s) for seabird restoration projects. Because the razorbill is a long-lived alcid, it was determined that a viable razorbill restoration program would need to span a minimum of ten years to show success. Therefore, it was determined that splitting limited funding resources between two islands significantly increased the risk of restoration failure and was thus rejected as a viable alternative.

Section 5: Preferred Restoration Alternative: Seabird Management on Eastern Brothers Island

This section describes the Service's rationale used to select the preferred alternative to restore the seabirds that were killed by the *T/V Bow Mariner* spill. The preferred restoration alternative meets or exceeds all restoration project criteria outlined in Section 4.2 of the draft Plan. Restoration efforts will specifically focus on razorbills and will seek to establish a new breeding colony of razorbills in Maine on Eastern Brothers Island (photo right) and will increase the total number of islands occupied by breeding razorbills to seven sites in the United States. The restoration project described in this alternative will involve gull control, habitat manipulation, social attraction, and monitoring of the razorbills' response.



The Refuge will be responsible for carrying out the restoration efforts and has demonstrated a highly successful seabird restoration program over the past 25 years. Refuge islands support the highest percentages of razorbills, Atlantic puffins, and common and Arctic terns in Maine. For example, Seal Island currently supports 36% of the Arctic tern population, 22% of the common tern population, and 46% of the Atlantic puffin population. Matinicus Rock supports 33% of the Arctic tern population, 35% of the Atlantic puffin population, and 60% of the razorbill population. Petit Manan Island supports 20% of the Arctic tern population and 18% of the common tern population. While these programs have been highly successful, the Refuge and their conservation partners have identified the need to establish several additional seabird restoration projects in Maine. They are concerned that the limited number of managed colonies and the restricted distribution of these islands could result in a significant decrease in seabirds if disease or predation events occur on one or more islands. Increasing the geographic distribution and number of islands supporting nesting razorbills will help ensure that these birds remain a viable breeding species in the United States.

5.1 Evaluation of Preferred Alternative Selection Criteria

This alternative presents the greatest potential to meet the Service's objective of replacing between 2,000 and 3,000 seabird-years in the most cost effective manner possible. The likelihood of success is high because the Refuge has a 25-year record of seabird management success, including predator control and social attraction efforts (Service 2005). Although the razorbill would be the primary beneficiary of the action, a variety of other high priority Service trust resources would also benefit from the restoration effort. Restoration proposed under this

alternative could begin expeditiously with implementation of predator control, social attraction, and nest monitoring in 2010.

The following positive attributes of working on Eastern Brothers Island were elucidated during the planning process. These multiple issues were the primary drivers in considering the selection of seabird management restoration actions on Eastern Brothers Island as the preferred alternative:

- The MDIFW “Razorbill Management Goal and Objectives (2000-2015)” specifically identifies the need to increase the number of razorbill nest sites in the Machias Bay region where Eastern Brothers Island is located;
- Eastern Brothers Island is accessible by field crew boats;
- The rocky ledges and cliffs that surround Eastern Brothers Island will provide suitable nesting habitat for razorbills; and
- The proximity to existing seabird colonies on Petit Manan Island and Machias Seal Island could greatly enhance the potential for razorbills to colonize the island;
- The mix of granite outcroppings and low sparse vegetation on the island would provide ample, suitable habitat for nesting seabirds;
- The granite shoreline of the island eliminates any concern for island erosion or wash-over from storms;
- The Refuge can maintain all 17 acres of Eastern Brothers Island as a “gull free” area;
- No aquaculture leases have been issued in the vicinity of Eastern Brothers Island;
- The Service believes that the island is sufficiently distant from the mainland to provide adequate protection from mainland-based predators such as great horned owls and mink; and
- The Service has owned Eastern Brothers Island since 1997 and the adjacent Western Brothers Island is owned by MDIFW.

5.2 Performance Criteria and Monitoring of Selected Alternative

The types of equipment and research tools specifically budgeted for this project are currently being used on other Refuge seabird projects in the region. These tools allow the Refuge to intensively monitor the seabird colonies, collecting valuable data on numerous subjects, such as diet composition and productivity rates. Without this information the Refuge would not be able to monitor overall health of the colony and ultimately would not be able to determine the success of the restoration effort.

Success will be based on verifying seabird occupancy and nesting success. The Refuge will be required to monitor Eastern Brothers Island on an ongoing basis, in accordance with appropriate standards of seabird monitoring and as described in the CCP (Service 2005). Refuge staff will submit a detailed annual report documenting habitat management, predator control, social attraction, and monitoring (occupation and nest success) results to the Service’s Virginia Field

Office for each of the first ten years after project initiation. A final report will be completed at the end of ten years or after it has been demonstrated that seabird nesting success has increased to a level equal to a median number of bird-years specified in Section 3.5 of this final Plan.

5.3 Summary of Environmental Consequences of Preferred Alternative

The selected alternative will have beneficial effects on the environment as the Service restores the natural resources and services lost as a result of the *T/V Bow Mariner* spill. No significant adverse effects have been identified. There are no identified cumulative effects of the preferred alternative. A careful review of the draft Plan, and the fact that no public comments were received, indicated that there will not be a significant negative impact on the quality of the human environment as a result of the proposals herein. Therefore, an Environmental Impact Statement (EIS) was not prepared. Specifically:

1. The proposed activities will occur in localized areas near or along the Maine coast. The proposed activities are not national or regional in scope.
2. The proposed activities will not significantly affect public health and safety. The methods used to control predators are highly target-specific and are not likely to affect public health and safety or non-target species.
3. The proposed activities will not have any adverse impacts on unique characteristics of the geographic area such as historical or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. Neither implementing the restoration projects or the predator management projects are expected to permanently affect the physical environment. Some minor visual and aesthetic impacts may occur during construction and maintenance activities, but overall, the proposed action is expected to have a notable positive benefit to the environment by improving and maintaining seabird nesting habitat.
4. The effects on the quality of the human environment from the proposed activities are not highly controversial. Although some individuals are opposed to some aspects of predator management, the methods and impacts are not controversial among avian experts. These activities have previously been found to have no significant impact on the quality of the human environment in analyses conducted by the Service (Service 2005). The reader is referred to that document for more information on the analysis of predator management. The analysis in that document is incorporated by reference into this document.
5. The proposed activities do not establish a precedent for actions with future significant effects or represent a decision in principle about future considerations.
6. There are no significant cumulative effects identified by this assessment. All predator removal will be coordinated with the Service's Migratory Bird Program and MDIFW and will stay within management objectives set for each species.
7. The proposed activities will not likely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historical resources.

8. The proposed activities will fully comply with the Endangered Species Act. During the CCP process the Refuge completed a Section 7 review for all predator control, habitat management, and seabird management activities.
9. There are no irreversible or irretrievable resource commitments identified by this assessment, except for a minor consumption of fossil fuels for routine operations.
10. The proposed activities will not violate Federal, State, or local laws or requirements imposed for the protection of the environment.
11. Proposed actions such as predator control, habitat management, and seabird management activities were also evaluated in the EIS for the CCP (Service 2005).

5.4 Finding of No Significant Impact (FONSI)

Planned activities include seeking to establish a new breeding colony of razorbills in Maine, increasing the total number of islands occupied by breeding razorbills to seven sites in the United States. The Refuge will be responsible for carrying out the restoration efforts, and has demonstrated a highly successful seabird restoration program over the past 25 years. Refuge islands now support the highest percentages of razorbills, Atlantic puffins, and common and Arctic terns in Maine.

The public was notified of the availability of the draft RP/EA for review and comment on July 25, 2009 by publication of a notice in *The Ellsworth American* and *The Bangor Daily News*. After a public comment period of 30 days, no comments were received.

Based on a review and evaluation of the information contained in this final Plan, the Service's Director for the Northeast Region (Region 5) has determined that the proposed actions do not constitute a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of NEPA. Accordingly, the preparation of an EIS on the proposed action is not required.

Section 6: Coordination with Other Programs, Plans, and Regulatory Authorities

6.1 Overview

Two major Federal laws guiding the restoration of the injured resources and services are OPA (The Oil Pollution Act) and NEPA (National Environmental and Policy Act). OPA and its regulations provide the basic framework for natural resource damage assessment and restoration. NEPA sets forth a specific process of impact analysis and public review.

In addition, the Service must comply with other applicable laws, regulations, and policies at the Federal, State, and local levels. The potentially relevant laws, regulations, and policies are set forth below. By coordinating restoration with other relevant programs and plans, the Service can enhance the overall effort to replace Federal trust resources lost to the *T/V Bow Mariner* incident.

In initiating the draft and final DARP/EA, the Service combined the Restoration Plan required under OPA with the environmental review processes required under NEPA. This enabled the Service to implement restoration more rapidly than had these processes been undertaken sequentially.

6.2 Key Statutes, Regulations and Policies

State of Maine

Maine Statute, 12 MRSA § 7751, State Endangered Species Act

Enacted in 1975, this law protects state-listed endangered and threatened species and their habitats. Local and state governments are prohibited from funding, permitting, or carrying out projects that would significantly alter “essential” habitat or violate protection guidelines determined by the Commissioner of the MDIFW. Individuals are prohibited from importing, exporting, hunting, trapping, possessing, selling, transporting, feeding, or harassing any endangered or threatened species without a permit from the Commissioner. The MDIFW is charged with enforcing the Act. The Act authorizes MDIFW to establish and maintain a list of threatened and endangered fish and wildlife species in Maine. The statute directs MDIFW to adopt administrative rules to carry out the provisions of these statutes. The three species that would benefit from the seabird restoration effort (i.e., razorbill, Atlantic puffin, Arctic tern) are listed as State-threatened. The roseate tern is listed by both the Service and MDIFW as an endangered species, and could establish a breeding population on Eastern Brothers Island after common and Arctic terns are already established.

Maine Statute 38 MRSA § 480-A, *et seq.* – State Natural Resource Protection Act

Passed in 1988, the Act applies to the following protected natural resources: coastal wetlands and sand dunes; freshwater wetlands; great ponds; rivers, streams, and brooks; fragile mountain

areas, and significant wildlife habitat. The intent of the Act is to prevent any unreasonable impact to, or destruction of, the resources and to encourage protection or enhancement. Permits are required for activities that occur in, on, or over any protected natural resource or any land adjacent to any great pond, river, stream, brook, coastal wetland, and some freshwater wetlands. Seabird Nesting Islands are considered Significant Habitat.

United States

Oil Pollution Act of 1990 (OPA), 33 USC §§ 2701, *et seq.*; 15 CFR Part 990

OPA establishes a liability regime for oil spills that injure or are likely to injure natural resources and/or the services that those resources provide to the ecosystem or humans. Federal and State agencies act as Trustees on behalf of the public and Indian Tribal Trustees act on behalf of their tribal members to assess the injuries, scale restoration to compensate for those injuries and implement restoration. Section 1006(e)(1) of OPA (33 USC § 2706(e)(1)) requires the President, acting through the Under Secretary of Commerce for NOAA, to promulgate regulations for the assessment of natural resource damages resulting from a discharge or substantial threat of a discharge of oil. Assessments are intended to provide the basis for restoring, replacing, rehabilitating, and acquiring the equivalent of injured natural resources and services.

The OPA damage assessment regulations (15 CFR Part 990) provide a framework for conducting sound natural resource damage assessments that achieve restoration. The process emphasizes both public involvement and participation by the RPs. The Service has used these regulations in this assessment.

National Environmental Policy Act (NEPA), , 42 USC §§ 4321, *et seq.* 40 CFR Parts 1500-1508

Congress enacted NEPA in 1969 to establish a national policy for the protection of the environment. NEPA applies to Federal agency actions that affect the human environment. NEPA established the Council on Environmental Quality (CEQ) to advise the President and to carry out certain other responsibilities relating to implementation of NEPA by Federal agencies. Pursuant to Presidential Executive Order, Federal agencies are obligated to comply with the NEPA regulations adopted by the CEQ. These regulations outline the responsibilities of Federal agencies under NEPA and provide specific procedures for preparing environmental documentation to comply with NEPA. NEPA requires that an EA be prepared in order to determine whether the proposed restoration actions will have a significant effect on the quality of the human environment.

Generally, when it is uncertain whether an action will have a significant effect, Federal agencies will begin the NEPA planning process by preparing an EA. The EA may undergo a public review and comment period. Federal agencies then review the comments and make a determination. Depending on whether an impact is considered significant, an EIS or a Finding of No Significant Impact (FONSI) will be issued.

The Service has integrated this Restoration Plan with the NEPA process to comply, in part, with those requirements. This integrated process allows the Service to meet the public involvement requirements of OPA and NEPA concurrently. The Plan was intended to accomplish NEPA compliance by: (1) summarizing the current environmental setting, (2) describing the purpose and need for restoration action, (3) identifying alternative actions, (4) assessing the proposed alternative's environmental consequences, and (5) summarizing opportunities for public participation in the decision process. Project-specific NEPA documents may be needed for some of the proposed restoration projects.

Coastal Zone Management Act (CZMA), 16 USC §§ 1451, *et seq.*, 15 CFR Part 923

The goal of the CZMA is to preserve, protect, develop and, where possible, restore and enhance the nation's coastal resources. The Federal government provides grants to States with Federally-approved coastal management programs. The State of Maine has a Federally-approved program.

Section 1456 of the CZMA requires that any Federal action inside or outside of the coastal zone that affects any land or water use or natural resources of the coastal zone shall be consistent, to the maximum extent practicable, with the enforceable policies of approved State management programs. It States that no Federal license or permit may be granted without giving the State the opportunity to concur that the project is consistent with the State's coastal policies. The regulations outline the consistency procedures.

The Service does not expect that any of the proposed projects will adversely affect the State of Maine's coastal zone. However, to comply with the CZMA, the Service intends to seek the concurrence of the State of Maine that the preferred alternative is consistent to the maximum extent practicable with the policies of the State coastal program.

Marine Mammal Protection Act (MMPA), 16 USC §§ 1361, *et seq.*

The MMPA is the principal Federal legislation that protects marine mammals. It also recognizes the important role that marine mammals play in the ecosystem as well as their recreational and aesthetic value. The MMPA places a moratorium, with few exceptions, on the taking or importing into the United States of marine mammals or their products. The MMPA defines "take" as "to harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any marine mammal." The Service and NOAA share responsibility for the management and conservation of these species. The proposed restoration projects are not expected to affect marine mammals but could be assessed on a project by project basis.

Endangered Species Act (ESA), 16 USC §§ 1531, *et seq.*, 50 CFR Parts 17, 222, 224

Under the ESA, NOAA's National Marine Fisheries Service (NMFS) and the Service publish lists of endangered and threatened species. Section 7(a)(1) of the ESA directs all Federal agencies to conserve endangered and threatened species and their habitats and encourages such agencies to utilize their authorities to further these purposes. Section 7(a)(2) of the ESA requires that Federal agencies shall, in consultation with the Service/NFMS, insure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any

endangered and threatened species or result in the destruction or adverse modification of designated critical habitat. Prior to implementation of the proposed projects the Service will conduct Section 7 consultations, as appropriate.

National Wildlife Refuge Administration Act, 16 U.S.C. § 668dd, *et seq.*

The Act provides for the administration and management of the National Wildlife Refuge System (System), including wildlife refuges, areas for the protection and conservation of fish and wildlife threatened with extinction, wildlife ranges, game ranges, wildlife management areas and waterfowl production areas. The Act identifies areas to be designated as the System and administered by the Secretary of the Interior (Secretary) through the Service. Programs relating to the management of resources for Refuge lands in Alaska remain in effect subject to supervision of the Service. Acquired lands that become part of the system shall not be transferred or disposed of unless the Secretary, with the approval of the Migratory Bird Conservation Commission, determines that the lands are no longer needed and the lands are transferred or disposed of for an amount not less than: acquisition cost, if the lands had been purchased by the U.S. with funds from the Migratory Bird Conservation Fund, or fair market value, whichever is greater; or the fair market value of donated lands, determined as of date of the transfer or disposal. Proceeds of any transfer or disposal are paid into the Migratory Bird Conservation Fund. All lands designated by law, or Executive or Secretarial order, as an area within the System, and lands included by public land withdrawal, donation, purchase, exchange, or pursuant to a cooperative agreement with state or local governments, federal departments or agencies, or other governmental entities, must continue to be part of the System unless otherwise specified by Act of Congress. This does not preclude: transfer or disposal of acquired lands as described; exchange of lands as authorized by the Secretary; or disposal of lands pursuant to the terms of a cooperative agreement.

Migratory Bird Treaty Act (MBTA), 16 U.S.C. § 703 *et seq.*

The MBTA 1918 is the domestic law that affirms, and implements, the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over utilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take. The Secretary in adopting regulations is to consider such factors as distribution and abundance to ensure that take is compatible with the protection of the species. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11). Certain exceptions apply to employees of the DOI to enforce the MBTA and to employees of Federal agencies, State game departments, municipal game farms or parks, and public museums, public zoological parks, accredited institutional members of the American

***T/V Bow Mariner* FINAL DARP/EA February 2010**

Association of Zoological Parks and Aquariums (now called the American Zoo and Aquarium Association) and public scientific or educational institutions.

**Final Damage Assessment and Restoration Plan
&
Environmental Assessment
For The
T/V Bow Mariner Oil Spill**

This Final Damage Assessment and Restoration Plan and Environmental Assessment is approved for implementation.

Acting



Regional Director / DOI Designated Authorized Official

2-26-10
Date

Section 7: Preparers, Agencies, and Persons Consulted

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STATE OF MAINE

Maine Department of Inland Fisheries and Wildlife

Brad Allen, Project Leader, Bird Group, Bangor, Maine

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Section 8: References

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

300 Westgate Center Drive
Hadley, MA 01035-9589



In Reply Refer To:
FWS/Region 5/ES-EC

FEB 25 2010

Memorandum

To: Supervisor, Virginia Field Office

From: ^{Acting} Assistant Regional Director, Ecological Services

Subject: Final Damage Assessment and Restoration Plan & Environmental Assessment for the *T/V Bow Mariner* Oil Spill, Virginia

This is to inform you that the Regional Director, as Authorized Official, has approved the "***Final Damage Assessment and Restoration Plan & Environmental Assessment For The T/V Bow Mariner Oil Spill***." The Regional Director has signed the plan, the Finding of No Significant Impact, and the Environmental Action Statement. Original signatures for all are attached.

We appreciate the efforts of you and your staff in accomplishing restoration under the Natural Resource Damage Assessment and Restoration program.

Attachments

FINDING OF NO SIGNIFICANT IMPACT

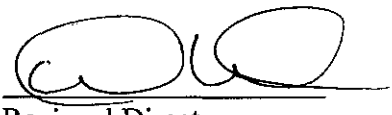
**FINAL DAMAGE ASSESSMENT AND RESTORATION PLAN AND
ENVIRONMENTAL ASSESSMENT
FOR THE T/V BOW MARINER OIL SPILL**

The U.S. Department of the Interior has completed a Final Damage Assessment and Restoration Plan and Environmental Assessment (DARP/EA, cited below) that will restore, replace, and/or acquire the equivalent of the natural resources injured, destroyed, or lost as a result of contamination from the T/V Bow Mariner Oil Spill located 37-52.8N/074-15.3W, about 45 nautical miles east of Virginia.

Planned activities include seeking to establish a new breeding colony of razorbills in Maine and increasing the total number of islands occupied by breeding razorbills to seven in the United States. The U.S. Fish and Wildlife Service's Maine Coastal Islands National Wildlife Refuge will be responsible for carrying out the restoration efforts, and has demonstrated a highly successful seabird restoration program over the past 25 years. Refuge islands now support the highest percentages of razorbills, Atlantic puffins, and common and Arctic terns in Maine.

The public was notified of the availability of the Draft DARP/EA for review and comment on July 25, 2009 by publication of a notice in the *The Ellsworth American* and *The Bangor Daily News*. No comments were received during the 30-day public comment period.

Based on a review and evaluation of the information contained in the Final DARP/EA, I have determined that the proposed actions do not constitute a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969. Accordingly, the preparation of an environmental impact statement on the proposed action is not required.


Acting Regional Director

2-26-10
Date

Supporting Reference:

Final Damage Assessment and Restoration Plan and Environmental Assessment: *T/V Bow Mariner*, February 2010

UNITED STATES FISH & WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and have determined that the action of the Final Damage Assessment and Restoration Plan and Environmental Assessment for the T/V Bow Mariner Oil Spill:

- ☐ is a categorical exclusion as provided by 516 DM 6 Appendix 1 and 516 DM 6, Appendix 1. No further documentation will therefore be made.
- ☒ is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.
- ☐ is found to have significant effects, and therefore further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.
- ☐ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.
- ☐ is an emergency action within the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents (list):

- ☒ Final Damage Assessment and Restoration Plan and Environmental Assessment
- ☒ FONSI

Acting

Marvin E. Moriarty
Regional Director

Date

2-26-10