

IMPORTANT BIRD
AREAS OF CANADA



LES ZONES IMPORTANTES
POUR LA CONSERVATION
DES OISEAUX AU CANADA

THE BROTHERS IMPORTANT BIRD AREA

West Pubnico, Nova Scotia,
Canada

Conservation Concerns and Measures



November 2000

In co-operation with
the Nova Scotia Bird Society



A Natural Legacy 2000 program • Un programme de La nature en héritage 2000

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1 Résumé

Du point de vue du nombre, les îles Brothers hébergent la plus significative population de Sternes de Dougal (*Sterna dougallii*) au Canada. Le toponyme «Brothers» s'applique à deux îles: North Brother et South Brother. Elles se situent au large de Pubnico Ouest en Nouvelle-Écosse. En 1999, Études d'Oiseaux Canada (ÉOC) a désigné ce site, Zone importante pour la conservation des oiseaux (ZICO) au niveau national et mondial. La Sterne de Dougal est une espèce en danger de disparition au Canada. Environ 50% de la population canadienne de la Sterne de Dougal niche sur ces îles. Nombre de biologistes, de naturalistes et de membres de la Nova Scotia Bird Society (NSBS) se préoccupent de l'avenir de cette espèce. L'écotourisme peut comporter des côtés négatifs pour ces oiseaux nicheurs, puisque les espèces menacées peuvent devenir une attraction touristique. Étant donné que la Sterne de Dougal ne niche qu'en de rares endroits, toute sa population canadienne est très vulnérable aux intrusions humaines, aux déversements d'huile ou aux prédateurs durant la couvaison. La perte d'une colonie ou deux pourrait entraîner une sérieuse diminution de la population.

Jusqu'ici, c'est surtout grâce à Ted D'Éon que des efforts ont été déployés en vue de conserver cette espèce. Il a surveillé ce site chaque année depuis 1971 et il a installé des structures dont les sternes ont profité pour y construire leurs nids. Ce travail a mené à une augmentation prononcée et constante de la population. Le ministère des Ressources naturelles de la Nouvelle-Écosse (MRNNÉ) prend des mesures visant à protéger la faune des deux îles. C'est à ce ministère qu'incombe la responsabilité de faire respecter la loi provinciale sur les espèces en danger de disparition. La Sterne de Dougal et son nid sont protégés par la loi depuis le mois de juin 2000.

Le programme de Zones importantes pour la conservation des oiseaux (ZICO) est un effort

international visant à identifier, conserver et surveiller un réseau de sites qui constituent un habitat essentiel pour les oiseaux. (voir section 6.2). Le programme ZICO pour les Maritimes a débuté en 1999 et son rôle est de fournir aux groupes et aux organisations tels que la NSBS des outils leur aidant à protéger, conserver et surveiller des sites importants en conformité avec le programme national. Le programme offre un soutien aux groupes de naturalistes et à d'autres organisations leur permettant d'entreprendre des activités impliquant la conservation, de la promouvoir sur le terrain, de faire oeuvre d'éducation et de développer leur propre approche vis-à-vis la protection des oiseaux. Des planificateurs de ZICO facilitent cette approche. Des documents rédigés en fonction de chaque ZICO font ressortir les préoccupations relatives à la conservation et indiquent des mesures à prendre.

Le présent document a été rédigé en collaboration avec la NSBS et Ted D'Éon. Le ministère des Ressources naturelles de la Nouvelle-Écosse et le Service canadien de la faune nous ont offert leur conseils. Les mesures proposées visent, pour la plupart, l'immédiat. Elles sont réalisables et on peut les appliquer à brève échéance. Nous invitons les groupes à se servir de cette documentation comme appui et comme outil dans leurs efforts futurs dans le domaine de la conservation. Le programme ZICO a collaboré avec Ted D'Éon, la NSBS et d'autres organisations dans la préparation d'un panneau d'interprétation qui sera installé sur la terre ferme à une distance permettant d'observer les îles Brothers. Ted D'Éon continuera son travail de surveillance, et d'éducation dans les écoles. Le MRNNÉ se propose de continuer d'oeuvrer vers l'établissement d'une zone de protection de la faune.

2 Introduction

The Brothers are home to the largest significant Canadian population of Roseate Terns (*Sterna dougallii*). Arctic Terns (*Sterna paradisaea*) and Common Terns (*Sterna hirundo*) also nest here. The Brothers consists of two islands, the North and South Brother, located off the coast of West Pubnico in Nova Scotia. In 1999, this site was identified as a globally and nationally Important Bird Area (IBA) by Bird Studies Canada (BSC). The Roseate Tern is an endangered species in Canada. About 50 % of the Canadian Roseate Tern population nests on the island. There are many biologists, naturalists, and members of the Nova Scotia Bird Society (NSBS) concerned about the future of this species.

Endangered species can become an eco-tourism attraction. Eco-tourism can have negative effects on nesting bird species. Since Roseate Terns breed in only a few places, the entire Canadian population is very vulnerable to human disturbance, oil spills, or predators during the breeding season. The loss of one or two colonies could cause a severe population decline.

Most of the conservation achievements to date have been undertaken by Ted D'Eon. The actions undertaken have resulted in a substantive and steady population increase. Ted D'Eon has been monitoring this site annually since 1991. The terns have used nest structures placed by Ted D'Eon, and their numbers have increased. The Nova Scotia Department of Natural Resources (NSDNR) is working to create a wildlife management area for the two islands. The Department is responsible for the enforcement of the Nova Scotia Endangered Species Act. The Roseate Tern and their nests became protected by law under the Act as of June of 2000.

The Important Bird Areas (IBA) program is an international effort to identify, conserve, and monitor a network of sites that provide essential

habitat for bird populations (see Section 7.2). The role of the Maritime IBA Program, which commenced in 1999, is to provide groups and organizations such as the NSBS with tools to protect, to conserve, and to monitor important sites that are identified as IBA's under the national program. The program provides assistance to naturalists groups and other organizations to carry out conservation activities, to promote conservation on the ground, to carry out education, and to develop their own approaches to bird conservation. IBA conservation planners facilitate this approach. Documents are written for specific IBA's, outlining conservation concerns and measures.

This present document was written in cooperation with the NSBS and Ted D'Eon, and with comments from NSDNR and the Canadian Wildlife Service (CWS). The measures proposed in this document are mostly short-term. They are achievable in a timely manner, and they are realistic. Groups are encouraged to use the plan as an advocacy and education tool to further conservation efforts in the future. The IBA program has worked with the NSBS, Ted D'Eon, and other organizations to develop an interpretation sign to be placed on the mainland in viewing distance of the Brothers. Ted D'Eon will continue his stewardship work and carry out education programs in the schools. The NSDNR plans to pursue the creation of a wildlife management area.

This document provides an overview of the site and summarizes conservation measures that can be taken to ensure the survival of the Roseate Tern population on the Brothers.

3 IBA Site Information

Site identification number: CANS003

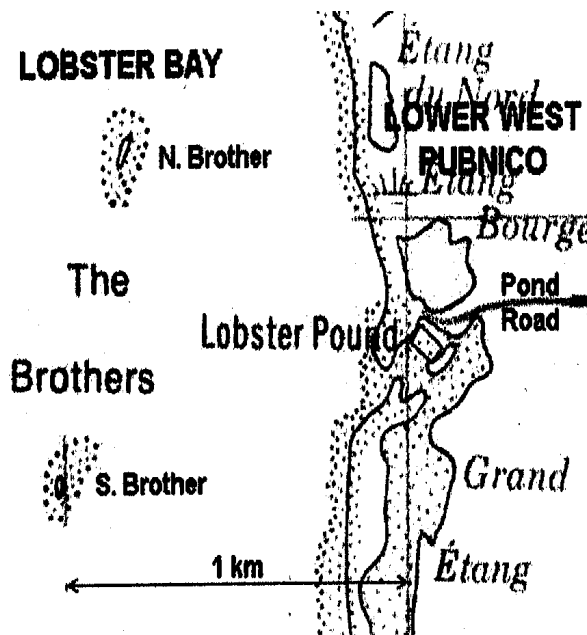
3.1 Site Description

The North Brother (43°37' 10" n, 65°49' 25" w) and South Brother (43° 37' 15" n, 65°49' 30" w) islands are located about 700 m from the southwest (Gulf of Maine) coast of Nova Scotia in Lobster Bay near West Pubnico. On the more recent charts, these islands are referred to as 'The Brothers'. On older charts, they were known as the 'Twin Islands'. The local Acadians call the northern islands 'les Îles à Vert', (l'île à Vert du nord et l'île à Vert du sud). The nearest community is West Pubnico with about 2,000 inhabitants, of which 90% are French-Acadian and the other 10% are English speaking.

The islands are low lying and drumlin-like (about three metres above sea level). They are comprised of glacial till (sandy clay) over gravel-rock beds, and are partially covered with grass and herbaceous plants. Wild Mustard (*Brassica sp.*) is very common. The tide ranges from 3 - 4 m. The northern island has a depression that floods during extreme high tides. It is 1/2 an acre in size. The southern island is about 1/3 of an acre in size. The northern island is eroding faster (a few feet per year) than the southern island and is at present the main nesting area.

3.2 Map of the IBA Site

The Brothers are in a region with a moderate climate. Being more southerly, the winters are less severe, spring arrives earlier and winter later. The summer months are warm, with temperatures averaging 17°C to 22°C. Numerous foggy days make the climate very moist. Prevailing summer winds are moderate west-southwesterlies.



from Ted D'Eon

3.3 IBA Species Information

The Roseate Tern was listed as threatened in 1986 and as endangered in May of 1999 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) (Environment Canada 1999). The U.S. Department of Interior lists the species as endangered in the U.S. and as threatened in the Caribbean (Gochfeld et. al 1998).

Roseate Terns on the Brothers represent about one half of the estimated Canadian population. The Brothers are also of international significance in that the 50 to 60 pairs of Roseate Terns recorded over the last few years represent about 1.5% of the estimated North American Roseate Tern population (see Table 2). Based on surveys completed in 1996 and 1997, the Canadian Roseate Tern population has been estimated to lie somewhere between 87 and 137 pairs. The world population is estimated to be about 50,000 pairs (Environment Canada 1999).

The Brothers' qualify as both a nationally and globally significant site under the threatened species category and under the congregatory category. Under the IBA program, one pair has to be present for the site to qualify as a nationally significant site. For global significance, there have to be forty pairs (see Table 1; for further information on this species please refer to section 7.1).

Table 1 *Population Threshold Requirements for IBA Designations*

Globally significant 1% Threshold (min. pairs required)	40 pairs
Nationally significant 1 % Thresholds (min. pairs required)	1 pair

Table 2 *Total of Roseate Tern Nests from 1991 to 2000 (based on D'Eon 1999)*

Census Year	Northern Brothers	Southern Brothers
2000	85	1
1999	61	0
1998	53	6
1997	48	6
1996	47	1
1995	33	0
1994	34	0
1993	30	0
1992	23	0
1991	20	0

3.4 *Other Elements of High Conservation Value*

While the Roseate Tern is an endangered species, the two other related Maritime tern species, the Arctic and Common Terns, have been the focus of some concern because of recent population declines. Arctic and Common Terns also nest on the Brothers, their numbers ranging from 300 to 500 pairs. Terns (unspecified species) have nested here for at least 60 years.

Other species of birds nesting on these coastal islands include Spotted Sandpipers, American Willet, and Bank Swallows. From December to April, Common Eiders and Scoters use the waters around the islands to feed. A small population of Common Eiders nests on South Brother.

The area is picturesque with its open sea, inlets and coastal features, tidal wetlands, and uninhabited offshore islands.

Table 3 *Total tern (all 3 species) nest numbers on the Brothers*

Date	Northern Brother	Southern Brother	Totals
June 7, 1990	302	28	330
June 11, 1991	441	13	454
June 11, 1992	413	0	413
June 9, 1993	367	0	367
June 8, 1994	380	0	380
June 14, 1995	457	0	457
June 16, 1996	554	12	566
June 12, 1997	630	120	750
June 11, 1998	452	151	603
June 7, 1999	399	0	399
June 10, 2000	491	0	491

3.5 *Land Ownership and Water Use*

The province recently bought the North Brothers. Ownership of the other island is unclear. The province has been working on getting clear title to this island since 1992. By the year 2002, the province of Nova Scotia expects to have clear title.

Historically, the islands were used for grazing sheep. There was an aquaculture site offshore from the North Brother until the summer of 2000 (see Section 3). Limited if any hunting occurs in the area. There have been some limited bird watching activities, which were all supervised by Ted D'Eon. Recreational boating is uncommon.

4 Conservation Concerns

Many biologists, naturalists, and birders from the NSBS and FNSN have expressed great concern about the future of this species. Below are conservation concerns raised by birders, naturalists, and biologists in order of importance (see Rothfels 1998-99 for further details).

Habitat Loss

The development of offshore islands has reduced the number of suitable nesting islands. Raising sea level and erosion may destroy existing habitat.

Vulnerability to Catastrophic Events

Roseate Terns nest on only a few islands in Atlantic Canada: three off Nova Scotia and the other off the Iles de la Madeleine in Québec. There are other scattered colonies along the coast of Maine and south to Long Island (please refer to Section 7.1 for more information.) The entire population is vulnerable to catastrophic events, such as oil spills, or disturbance during the breeding season. The low survival of the young further compounds the problem. The loss of one or two colonies could cause severe population declines or lead to extinction of the species (Lock et al. 1993). Protection of the Brothers is vital to the overall survival of the species.

Predation

The decline in Roseate Terns is thought to be primarily due to gull predation in breeding colonies and predation by humans in the wintering range. The decline of terns in eastern North America has occurred as gull numbers have increased. Gulls seem to put pressure on the terns by competing for their preferred breeding habitat (Lock et al. 1993). Roseate Terns are quick to abandon a colonial site that is disturbed by predators. At the Brothers, there has been some predation by crows, gulls, and

possibly one summer by a Snowy Owl. There is occasional predation by a Great Horned Owl (Ted D'Eon pers. com. 1999).

Toxic chemicals

There is some concern about the possible negative impacts of toxic chemicals on the reproductive success of Roseate Terns (Rothfels 1998-99). In the United States, there have been problems in the past, but they seem to be improving (Gochfeld 1998). Lock et al. (1993) state that the accumulation of chemicals is not a problem to terns in Eastern Canada. Chemical contamination locally or on their wintering grounds as a cause for the low reproductive success at the Brothers shouldn't be ruled out. Continued monitoring of toxic chemicals may reveal more concrete results.

Human Disturbance

Given the increased interest in the environment, bird watching, and outdoor adventure activities, there exists a potential negative impact from these activities. Eco-tourism activities could cause too much disturbance around the islands from boat traffic and from landings on the island. Any activity that occurs too close may cause abandonment of the colony. At present, there are no tour boats or landings. Ted D'Eon accesses the islands during his monitoring activities.

5 Conservation History

The first time Roseate Terns were noticed in the area by local birders was on May 26, 1983 when a group, on their yearly census visit to the island bird colonies, stopped at the North Brother. Delisle D'Entremont of Lower West Pubnico spotted about 40 Roseate Terns, in a colony of 1000 birds, mostly Common Terns. Since then, Ted D'Eon has been monitoring the site, and inventorying it annually since 1991. When the colony was first identified in 1982, it contained 55 to 60 pairs. Numbers declined to a low of 20 pairs in 1991 but have subsequently experienced a steady increase since Ted began active conservation efforts. When a predation problem was suspected during the breeding season, all gull nests were removed (under permit). Tern nesting boxes were installed and maintained (Roseate Terns generally prefer more nesting cover than Common or Arctic Terns). The nest boxes consist of three-sided, five-inch high boards that are turned upside down, and weighted with rocks. Other materials are also used as nest shelters, including old tires and lobster crates that often wash up on offshore islands near fishing communities. The positive impact of these efforts has been demonstrated by the increasing Roseate Tern population at this site, although intensive American Crow (*Corvus brachyrhynchos*) predation resulted in the survival of only 1 or 2 Roseate Tern chicks in 1998. Crows have since been removed under permit.

In 1993, the Nova Scotia Department of Fisheries issued a permit to local fishers to place an aquaculture structure in the waters adjacent to the North Brother. This occurred after the Nova Scotia Department of Natural Resources' Wildlife Division had already been working for a number of years on the acquisition of the sites and on clearing the titles. The plan has been to create a Wildlife Management Area. On May 9, 1994, an aquaculture pen was towed in place and anchored to the east of the island. There was concern that the aquaculture operation

would disturb the tern colony, attract gulls, and result in reduced productivity or possibly abandonment. The first fish (Steelhead Trout) were placed in the structure on May 16. The aquaculture activities did not seem to disturb the terns, and they nested well. Gulls were not attracted to the area even when the fish were being fed. 1994 was, however, a poor year for egg hatching and fledgling success. Only about 18% of the eggs hatched and very few chicks fledged. The wet and cold weather during the incubation period and the appearance of a Snowy Owl in early July were likely the major cause of the poor success. The 1995 nesting season on the North Brother was superb, although the aquaculture project had expanded to four pens (D'Eon 1999). During the summer of 2000, there were no aquaculture pens (Ted D'Eon pers. com.).

The Committee on the Status of Endangered Wildlife in Canada developed the Roseate Tern Recovery Plan in 1993 in response to the designation. The Recovery Plan identifies the following conservation objectives (Lock et al. 1993):

- ▶ Increase the Canadian population to 200 breeding pairs by the year 2010.
- ▶ Conduct Roseate Tern surveys.
- ▶ Control human disturbance and gull predation at selected sites.
- ▶ Carry out public information campaign about the reasons for culling gulls.

Much of this is on-going in Nova Scotia and is reflected in the conservation measures for the Brothers.

6 Conservation Measures

The following conservation measures have been developed in co-operation with the NSBS, Ted D'Eon, and in consultation with other individuals and groups. The list below is by no means exhaustive, but tries to provide some possible avenues for action to further the protection, conservation, and education about the Roseate Terns and their habitat.

(Please note that more information on how to contact the stakeholders can be found in Sections 7.3, 7.4, and 7.5.)

Objective 1 To increase awareness about tern species and endangered species.

People often confuse terns with gulls. Gulls are more numerous than terns. It is important to let people know that there is a difference. People need to know why these two islands are of national and global significance. Ted D'Eon has received permission from a landowner to use his land as an observational area to view the Roseate Terns and to post an interpretative panel. From the landowner's property, the Brothers are easily visible. This will offer the opportunity for people to view and learn about Roseate Terns without disturbing them.

School and community presentations can increase awareness about this species. Sharing results and information exchange is important. The largest portion of the Roseate Tern population is located in the United States. Exchange of information is important to ensure the best recovery methods are in place.

Actions	Target date, Key contact
1. Apply for funding for panel.	Done, NSBS
2. Permission from landowner to post sign and use the land.	Done, Ted D'Eon
3. Upgrade road and install sign post.	Winter/spring 2001, Ted D'Eon
4. Develop text on Roseate Tern & gulls.	Spring 2001, Ted D'Eon, to be reviewed by the NSDNR, CWS, IBA Conservation Planner
5. Develop IBA text for the panel.	winter 2001, IBA Conservation Planner
6. Translate text.	winter 2001, Ted D'Eon & IBA Conservation Planner
7. Find artist to do drawings of terns and landscape background.	Done, NSBS
8. Layout & finalise sign.	Fall 2000, NSBS, Conservation Planner
9. Financing for sign.	On-going, NSBS
10. Installation of sign	Spring 2001, Ted D'Eon.
11. School & community presentations .	On-going, Ted D'Eon
12. Contact groups in other countries.	On-going, BirdLife International, WWF Canada, CWS

Objective 2 **Continue to maintain or increase the Roseate Tern population at the Brothers.**

The Roseate Tern Recovery Plan clearly indicates the need to continue population restoration efforts on the Brothers in order to help increase the population size to a level at which the status can be downlisted to vulnerable (RENEW 1998-1999).

The placement of nesting box structures on the North and South Brothers has already shown that the population can increase. The South Brother had one nest in 2000. This second island could provide extra room for colony expansion.

Crows already prey on eggs and young, and seriously reduce fledging success. Gulls nesting on the island can also displace terns. Gull nests should be removed. Under the Nova Scotia Endangered Species Act and the Migratory Bird Act necessary permits can be obtained.

Actions	Target date, Key contact
1. Continue to place nesting box structures on both islands on a yearly basis.	On-going, Ted D'Eon
2. Determine if predators are a problem.	On-going, Ted D'Eon
3. Obtain necessary permits to remove problem predators.	On-going, Ted D'Eon
4. Continue to record the number of nests and their success during the breeding season.	On-going, Ted D'Eon

Objective 3 **To control human disturbance at the Brothers.**

Few boats come close to the island other than Ted D'Eon's, when he does his monitoring activities. Boat landings and traffic might increase in the future. A single group of people landing on the island could seriously affect the success of the terns or cause abandonment of nests.

The Migratory Bird Act and the Nova Scotia Endangered Species Act protect the birds and their nests from destruction or harassment. Unfortunately, a migratory bird officer must prove that someone deliberately destroyed or harassed the birds and/or their nests knowingly. The designation as a wildlife management area could provide additional protection by restricting access to the site to permit holders only. Under the proposed wildlife management plan for the Brothers the following restrictions would apply:

- * No boats would be permitted within 20 m of the island during the breeding season (May 1 to August 31).
- * Visits to the island could only be undertaken with a permit, providing the purpose for the visit is within the mandate of the wildlife management area: i.e. population monitoring, predator controls, and the placement of nesting structures.

Actions	Target date, Key contact
Establish a buffer or restriction zone around each island of 20 metres to exclude human activities within this zone and create a wildlife management area	NSDNR

Objective 4 **Continue to collect biological data on numbers of nests and eggs, and collect addle eggs.**

There have been some problems in the past with contaminants in terns. Collecting unhatched eggs, egg fragments, and dead terns, and subsequently sending them off for analysis, is the best way to analyse and identify any contamination and to determine if this is the cause of low fledging success. This not only benefits the birds but also warns people of potential contaminants in the environment.

Actions	Target date, Key contact
1. Conduct yearly census.	On-going , Ted D'Eon
2. Obtain salvaging permit from CWS.	yearly, Ted D'Eon
3. Collect addle eggs, shell fragments, dead terns.	On-going, Ted D'Eon

7 Background Information

7.1 IBA Species Account

Roseate Tern (*Sterna dougallii*)

Description

The Roseate Tern (*Sterna dougallii*) is a slender, medium-sized seabird with a forked tail flanked by streamers. In breeding plumage, it is silvery-grey above and white below. The roseate colour of its underside is rarely visible. This elegant bird has a black cap, orange legs, and a black bill, which may be reddish at the base. In non-breeding plumage, the legs and bill are black, and the tail loses its streamers (Tufts 1986, Gochfeld et al 1998).

Distribution

Atlantic Canada is at the northern limit of the Roseate Tern's northeastern breeding range. There remain only a few regular breeding sites: three off Nova Scotia and the other off the Iles de la Madeleine in Québec. There are other scattered colonies along the coast of Maine and south to Long Island. The birds winter off the coast of South America where they roost on sandbars, leaving themselves vulnerable to human predation (Erskine 1999, Gochfeld et al. 1998, Lock et al. 1993).

Nesting

Roseate Terns usually nest adjacent to clumps of vegetation, under boulders, under washed-up wooden boards and planks, and other driftwood where they can find shelter or seclusion. They like the proximity of others of their kind and form sub-colonies within a tern colony. Roseate Terns usually lay one or two eggs, rarely more. Both parents take part in brooding, feeding, and caring for the young. The eggs are laid two or three days apart, and hatch accordingly. The nest itself may be a shallow scrape with little nesting material. On the Brothers, the nests generally contain more plant material than those of Common and Arctic Terns. Pieces of plant stalks (6 to 15 cm long) from previous year's growth give the nest the appearance of matted straw (Gochfeld et al. 1998).

Feeding

This tern is a specialised diving bird, feeding on small, schooling, marine fish. Occasionally, the bird submerges completely underwater (Gochfeld et al. 1998).

7.2 *The IBA Program*

The IBA program is an international initiative co-ordinated by BirdLife International, a partnership of member-based organizations in over 100 countries seeking to identify and conserve sites important to all bird species worldwide. The Canadian BirdLife co-partners are the Canadian Nature Federation (CNF) and Bird Studies Canada (BSC). In the Maritime Provinces the Prince Edward Island Natural History Society, the New Brunswick Federation of Naturalists, and the Federation of Nova Scotia Naturalists sponsor the Important Bird Areas Program.

Through the protection of birds and habitats, they also promote the conservation of the world's biodiversity. There are currently IBA programs in Europe, Africa, the Middle East, Asia, and the Americas.

The Canadian IBA program is part of the Americas IBA program which includes the United States, Mexico, and 17 countries in Central and South America.

The goals of the Canadian IBA program are to:

- ▶ Identify a network of sites that conserve the natural diversity of Canadian bird species and are critical to the long-term viability of naturally occurring bird populations;
- ▶ Determine the type of protection or stewardship required for each site, and ensure the conservation of sites through partnerships of local stakeholders who develop and implement appropriate on-the-ground conservation plans; and
- ▶ Establish ongoing local involvement in site protection and monitoring.

IBAs are identified by the presence of birds falling under one or more of the following internationally agreed-upon categories:

- 1) Sites regularly holding significant numbers of an endangered, threatened, or vulnerable species.
- 2) Sites regularly holding an endemic species, or species with restricted ranges.
- 3) Sites regularly holding an assemblage of species largely restricted to a biome.
- 4) Sites where birds concentrate in significant numbers when breeding, in winter, or during migration.

The Maritimes Important Bird Areas program is a co-operative effort with the New Brunswick Federation of Naturalists, the Natural History Society of Prince Edward Island, and the Federation of Nova Scotia Naturalists. For further information on these organizations, please refer to the appendix.

Conservation plans for a number of sites in the Maritimes are being developed over the next few years in co-operation with interested groups, people, and communities. They are a tool to be used to move towards protecting species and their habitat in the long term. Although the plans are site specific, larger issues can be taken into consideration as well, if they affect the site and the species.

7.3 *Information on the Lead Organizations of the IBA Program*

Federation of Nova Scotia Naturalists

The Federation of Nova Scotia Naturalists exists to support the common interests of naturalist clubs, and to represent those clubs at the provincial level. Its primary activities include the conservation of species and spaces,

education, and the sustainable use of resources (website: <http://www.chebucto.ns.ca/Environment/FNSN/>).

New Brunswick Federation of Naturalists

The Federation is a non-profit organization formed in 1972 to encourage an understanding of nature and the environment, and to focus concern for the natural heritage of New Brunswick (website: <http://personal.nbnet.nb.ca/maryspt/NBFN.html>).

Natural History Society of Prince Edward Island

The Natural History Society of Prince Edward Island is a naturalist group that is particularly interested in natural history issues and conservation. They record natural events on the island, maintain a bird check list, offer bird identification courses, field trips, conduct bird counts and record unusual or rare sightings.

BirdLife International

A pioneer in its field, BirdLife International (BL) is the first non-government organization dedicated to promoting world-wide interest in and concern for the conservation of all birds and the special contribution they make to global biodiversity. BL operates as a partnership of non-governmental conservation organizations, grouped together within geographic regions (e.g. Europe, Africa, Americas) for the purpose of planning and implementing regional programs. These organizations provide a link to on-the-ground conservation projects that involve local people with local expertise and knowledge. There are currently 20 countries involved in the Americas program throughout North, Central, and South America. For further information about BirdLife International, check the following website: <http://www.birdlife.net/>.

The Canadian Important Bird Areas Program has been undertaken by a partnership of two

lead agencies. The Canadian Nature Federation and Bird Studies Canada are the Canadian BirdLife International partners.

The Canadian Nature Federation (CNF)

The Canadian Nature Federation is a national conservation organization with a mission to be Canada's voice for the protection of nature, its diversity, and the processes that sustain it. The CNF represents the naturalist community and works closely with its provincial, territorial and local affiliated naturalists organizations to directly reach 100,000 Canadians. The strength of the grassroots naturalists' network allows CNF to work effectively and knowledgeably on national conservation issues that affect diversity of ecosystems and human populations in Canada. The CNF also works in partnership with other environmental organizations, government and industry, wherever possible. The organizations approach is open and cooperative while remaining firm in the goal of developing ecologically sound solutions to conservation problems. CNF's website is: <http://www.cnf.ca>.

Bird Studies Canada (BSC)

The mission of Bird Studies Canada is to advance the understanding, appreciation, and conservation of wild birds and their habitats, in Canada and elsewhere, through studies that engage the skills, enthusiasm and support of its members, volunteers, staff and the interested public. BSC believes that thousands of volunteers working together, with the guidance of a small group of professionals, can accomplish much more than could the two groups working independently. Current programs collectively involve over 10,000 volunteer participants from across Canada. BSC is recognised nation-wide as a leading and respected not-for-profit conservation organization dedicated to the study and understanding of wild birds and their habitats. BSC's web site is: <http://www.bsc-eoc.org/>.

7.4 Information on Organizations and Groups

The following people and organizations have been identified as having an interest or a direct or indirect role to play in the conservation of Roseate Terns:

Ted D'Eon is the local guardian and he occasionally takes individuals to help him with his monitoring work. Ted is also a member of the Roseate Tern Recovery Team (website: <http://fox.nstn.ca/~deonted/ted.htm>).

The Nova Scotia Bird Society supports Ted D'Eon's efforts. The Society promotes bird appreciation and conservation for at least the last 40 years (website: www.chebucto.ns.ca/Recreation/N.S.-BirdSoc/).

The Nova Scotia Department of Natural Resources is responsible for the creation and administration of wildlife management areas in the province. The Department also promotes and implements the principles and ethics of conservation and sustainable use of wildlife populations, habitats, and ecosystems in Nova Scotia. The Department is responsible for the enforcement of the Wildlife Act and the Endangered Species Act (website: <http://gov.ns.ca/natr/wildlife/index.htm>).

The Canadian Wildlife Service is responsible for the Migratory Bird Act. CWS is a member of the Roseate Tern Recovery Team. Monitoring and research on migratory birds such as Roseate Terns is one of the priorities of the CWS. The CWS deals with wildlife matters that are the responsibility of the Canadian government. The role of CWS is twofold: to protect and manage Canada's migratory birds, and to co-operate with the provinces, territories, and Parks Canada in carrying out wildlife research and management projects within their jurisdictions (<http://www.cws-scf.ec.gc.ca/hww-fap/enderanger/table.html>).

Local aquaculturists had managed a fish pen near the North Brother until the year 2000.

The Roseate Tern Recovery Team is a group of government biologists, non-government biologists, and naturalists working together towards the recovery of the species. The goal of the Roseate Tern Recovery Plan is to 'maintain the integrity of the current breeding population in Canada and to increase its size to a level at which the status can be down-listed to vulnerable' (Lock et al. 1993). The biologists and naturalists not only exchange information but also oversee projects. This team is part of the Atlantic Tern Working Group.

7.5 Contacts

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7.6 *Bibliography*

D'Eon, Ted. 2000. Tern Report. P.O. Box 100,
 West Pubnico, Nova Scotia, B0W 3S0.

D'Eon, Ted. 1999, 2000. Personal
 communication. P.O. Box 100, West
 Pubnico, Nova Scotia, B0W 3S0.

Erskine, A.J. 1992. Atlas of Breeding Birds of
 the Maritime Provinces. Nimbus Publishing
 Limited and the Nova Scotia Museum. 270
 pp.

Environment Canada. 1999. Roseate Tern.
 Publications, Canada Wildlife Service,
 Environment Canada, Ottawa (Ontario),
 K1A 0H3.

Gochfeld, M., Burger, J. and Nisbet, I.C.T. 1998.
 Roseate Tern in The Birds of North America.
 NO. 370, 1998. 28 pp.

Lock, A.R., S. Boates, S., Cohrs, T.C. D, Eon,
 B. Johnson, and P. LaPorte. 1993. Canadian
 Roseate Tern Recovery Plan. Recovery of
 nationally Endangered Wildlife Report No.
 4 Ottawa: Canadian wildlife Federation. 24
 pp.

Nova Scotia Government. 1989. Regulations
 Respecting the Control and Management of
 the Brother Islands Wildlife Management
 Area made pursuant to Sections 15 and 113
 of Chapter 504 of the revised Statutes of
 Nova Scotia, the Wildlife Act. In Draft.

Rothfels, M., L. Twolan, . and S. Nadeau. 1998-
 99. RENEW Report No. 9. Minister of
 Public Works and Government Services
 Canada/1999, Cat. No. CW70-3/1999E,
 ISBN: 0-662-280880-6.

Tufts, Robie, W. 1986. Third Edition. Birds of
 Nova Scotia. Nimbus Publishing Limited,
 the Nova Scotia Museum, Halifax, Nova
 Scotia. 478 pp.

