

**Implications of Ship-Based Tourism for  
CWS Protected Areas and  
Other Key Migratory Bird Habitat Sites  
in the Northwest Territories and Nunavut**

**Prepared for  
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## **1.0 INTRODUCTION**

### **1.1 Background**

Seabird colonies and other congregations of arctic-nesting birds are key attractions for many cruise ships visiting the Canadian Arctic. The Canadian Wildlife Service (CWS) has recently become concerned that increasing visitation by cruise ships to certain key migratory bird habitat sites (key bird sites) in the Northwest Territories (NWT) and Nunavut could have significant long-term negative impacts on these habitats or the migratory birds who depend on them.

A permit system administered by the CWS for Migratory Bird Sanctuaries (MBS) and National Wildlife Areas (NWA) regulates ship-based visits to some seabird colonies and other key bird sites. However, not all seabird colonies are protected in MBSs or NWAs, and cruise ship companies visiting protected areas may not all obtain permits. Furthermore, there is currently no system for monitoring or regulating visits by cruise ships to numerous unprotected sites recognized as important habitats for migratory bird species.

The CWS is not opposed to cruise tourism or regulated viewing of key bird sites by tourists, but has the responsibility to ensure conservation of these sites over the long-term. This paper has been written to initiate discussion on the implications of ship-based tourism for both protected and unprotected key bird sites in the NWT and Nunavut. We hope that this discussion will help determine whether additional measures are needed to monitor or regulate ship-based tourism, to ensure long-term conservation of birds and their habitats in the Canadian Arctic. If a need for such measures is identified, the CWS intends to work with all interested stakeholders to identify appropriate measures and the best means to implement them.

### **1.2 Objectives**

The purpose of this paper is to:

- describe the scope and trends of ship-based tourism in the Canadian Arctic
- describe the conservation concerns and opportunities relating to these activities
- describe the administrative concerns relating to these activities
- propose solutions to these concerns
- provide a basis for discussion with other agencies and interests

## **2.0 HISTORY AND GROWTH OF SHIP-BASED TOURISM**

### **2.1 Recent Trends**

**Trends in Cruise Tourism.** - Cruise tourism is one of the fastest-growing segments of the travel industry (Marsh and Staple 1995). Cruises to Caribbean and other tropical destinations are clearly experiencing the highest growth rates, and this trend is likely to continue. Interest in polar destinations for cruise tourism, particularly eco-tourism, is also increasing (Hall and Johnston 1995). Antarctic cruises have become more popular and more numerous over the past few decades, increasing from less than 200 tourists in 1957-58 to more than 7,000 in 1992-93 (Hall and Johnston 1995).

**Trends in Arctic Tourism.** - Tourism in arctic and sub-arctic regions also has increased dramatically since the 1970s (Hall and Johnston 1995). By the late 1980s and early 1990s, hundreds of thousands of tourists were visiting northern polar destinations each year (Johnston 1995), and growth of tourism in the circumpolar Arctic continued through the 1990s (Johnston and Mason 1997). Tourism is a growing industry in the NWT, with potential for growth in every community (RWED 1999). A similar situation exists in Nunavut.

The number of ship-borne tourists visiting the circumpolar Arctic increased by a factor of about 27 between 1984 and 1996 (from about 100 to more than 2600 tourists), which was almost twice the rate of growth of ship-borne tourism in Antarctica during the same period (Jones 1998). Most of these Arctic tourists visited areas in Scandinavia and Alaska.

It is estimated that more than 12,000 tourists (including an undetermined number of ship-based tourists) visited the Arctic regions of the NWT and Nunavut in 1992 (Johnston 1997). Much of the recent increase in tourist visitation to the Canadian Arctic results from greater availability of tourist facilities, such as modern hotels and visitor centres (News North 1997), although improvements in technology, changes in consumer preferences, and increased accessibility are also factors (Hall and Johnston 1995).

There are relatively few choices of tourism activities in polar areas, and therefore ship-based tourism often dominates the tourism industry in the Arctic (Jones 1998). Because road access to many Arctic tourism destinations is not available, tourists travel to these places primarily by air or sea. Even in Alaska, which has a relatively extensive road network compared with most other north polar regions, most tourists arrive by ship or aircraft. For instance, in 1992/93, about 25% of almost 1 million tourists traveled to Alaska by cruise ship, 64% arrived by air, and 11% entered by road (Johnston 1995).

**Trends in Ship-based Tourism in the Canadian Arctic.** - Ship-based tourism in the Canadian Arctic has grown considerably since the first recorded tourists visited the area in the 1930s. In 1937, 15 "official tourists" out of a total of 150 registered passengers arrived aboard the Hudson Bay Company supply ship the *S/S Nascopie* (Lundgren

1995). The first real cruise in the Canadian Arctic was a 1984 crossing of the Northwest Passage by the *MS Lindblad Explorer* (Ward 1999).

The Canadian Arctic has gained significantly in popularity as a cruise destination since the early 1980s (Marsh and Staple 1995). “The link between the Northwest passage and the Arctic is successfully attracting a whole new breed of tourists” (News North 1997). To date, however, Canadian Arctic cruises service a relatively small market compared to Alaska, where hundreds of much larger ships visit communities and other destinations each year (Gleeson 1997, Marsh and Staple 1995).

Cruises offered to the Canadian Arctic between 1984 and 2000 are summarized in Table 1, based on information provided by Marsh and Staples (1995) and Ward (1999) for 1984-1998, and by CWS permit files for 1997 - 2000. Note that for the years 1999 and 2000, Table 1 includes only those cruise ships known to CWS because of inquiries and applications for permits. More detailed information on tour ships and agents operating in Arctic Canada since 1998 is provided in Appendix 1.

Table 1 indicates that visitation by cruise ships to the Canadian Arctic has increased significantly from 1984 - 2000. Only one or two ships with a maximum total of about 300 passengers visited this area each year between 1984 and 1997. This rate of visitation had increased by 1999 and 2000 to 16 voyages per year by five or six ships with a maximum total of 2000 passengers (calculated as ship capacity multiplied by number of voyages). To date, increased visitation appears to be restricted to Nunavut, as only one or two ships per year have consistently operated through the Northwest Passage in the NWT over the past five years (J. Venaas pers. comm.).

In general, all of the following have increased as the cruise industry in the Canadian Arctic has developed: the number of companies offering cruises, the selection of cruises, the passenger capacity of ships, and the range of destinations (Marsh and Staples 1995). There have also been changes in cruise ships, the companies operating them, and key Canadian Arctic destinations in the past few years. For instance, two ships visited the Canadian Arctic in most years between 1993 and 1998 - the *Kapitan Klebnikov* (1993 - 1995, 1998) and the *Hanseatic* (1995 - 1998). Starting in 1999, a number of different ships were used by various companies that offered cruises to an expanded choice of locations, including the Northwest Passage, the High Arctic, and Hudson Bay regions. In some cases the new companies (e.g., Supernova) are closely associated with others previously active in the Canadian Arctic (e.g., Quark). Other companies, such as Marine Expeditions, have developed new cruises to this region.

Table 1. Cruises offered through the Canadian Arctic from 1984 to 2000. Information is based primarily on Marsh and Staples (1995) and Ward (1999) for 1984-1998, and on CWS permit files for 1997-2000.

| <b>Year</b> | <b>Ship<sup>1</sup></b> | <b>Company<sup>2</sup></b> | <b>Route<sup>3</sup>, Comments</b>  |
|-------------|-------------------------|----------------------------|---|
| 1984        | Lindblad Explorer       | Salen Lindblad             | Northwest Passage; first real cruise in Canadian Arctic   |
| 1985        | World Discoverer        | Society Expeditions        | Northwest Passage   |
| 1986        | World Discoverer        | Society Expeditions        | Northwest Passage; unable to pass ice at Bellot Strait  |
| 1988        | Polaris                 | Special Expeditions        | Greenland and Baffin Isl.   |
| 1988        | Society Explorer        | Society Expeditions        | Northwest Passage   |
| 1991        | Frontier Spirit         | N/A                        | ship returned at Flaxman Isl.; trip cancelled   |
| 1992        | Frontier Spirit         | Seaquest Cruises           | Northwest Passage   |
| 1992        | Kapitan Klebnikov       | Blyth and Company          | farther north in Canada than any other passenger ship to date; included visit to fossil forest on Axel Heiberg Isl. |
| 1993        | Akademik Ioffe          | Blyth and Company          | 5 cruises canceled <sup>4</sup>   |
| 1993        | Kapitan Klebnikov       | Blyth and Company          | Northwest Passage and High Arctic   |
| 1994        | Kapitan Khlebnikov      | Quark Expeditions          | Northwest Passage? <sup>5</sup>   |
| 1995        | Hanseatic               | Hapag-Lloyd Seetouristik   | Northwest Passage?  |
| 1995        | Kapitan Khlebnikov      | Quark Expeditions          | Northwest Passage?  |
| 1996        | Hanseatic               | Hapag-Lloyd Seetouristik   | Northwest Passage?; grounded for 10 days; passengers taken aboard Kapitan Dranitsyn                                 |
| 1997        | Hanseatic               | Hapag-Lloyd Seetouristik   | Northwest Passage?  |
| 1997        | Kapitan Khlebnikov      | Zegrahm Expeditions        | Circumnavigation of Baffin Island   |

<sup>1</sup> See Appendix 1 for more details about ships and companies.

<sup>2</sup> Cruise line or shipping agent.

<sup>3</sup> Itineraries were available only for 1998-2000 voyages. General destinations indicated are usually NWT and Nunavut portions of more extensive voyages.

<sup>4</sup> Five cruises were canceled because the Coast Guard would not certify the ship, as it did not meet Canadian safety standards.

<sup>5</sup> "Northwest Passage?" indicates that this cruise was included by Ward (1999) in a list of "passenger ships through the Northwest Passage", but that no other information about the ship's destinations was available.



| <b>Year</b> | <b>Ship<sup>1</sup></b> | <b>Company<sup>2</sup></b>  | <b>Route<sup>3</sup>, Comments</b>  |
|-------------|-------------------------|-----------------------------|---|
| 1998        | Hanseatic               | Hapag-Lloyd Seetouristik    | Northwest Passage?  |
| 1998        | Kapitan Khlebnikov      | Adventure Canada            | 1 voyage; Resolute - East Baffin Island; trip may have been cancelled   |
| 1998        | Kapitan Khlebnikov      | Quark Expeditions           | High Arctic; 1 voyage   |
| 1998        | Kapitan Khlebnikov      | TCS                         | Northwest Passage; 1 voyage (Herschel Isl. - Resolute)  |
| 1998        | Kapitan Khlebnikov      | Zegrahm Expeditions         | Circumnavigation of Baffin Island; 1 voyage   |
| 1998        | Maria Yermalova         | Marine Expeditions          | 5 voyages (Greenland - Churchill, Churchill - Iqaluit, Baffin Island, Northwest Passage)  |
| 1999        | Akademik Ioffe          | Marine Expeditions          | Greenland - Baffin - Hudson Bay; 6 voyages (Greenland - Churchill, Churchill - Iqaluit, Iqaluit - Nanasivik, Nanasivik - Greenland) |
| 1999        | Clipper Adventurer      | Clipper Cruise Lines        | Greenland - Northwest Passage; 2 voyages (Coburg Isl.-Resolute)   |
| 1999        | Hanseatic               | Montreal Shipping           | 2 voyages planned (Coburg Isl. - Resolute, Resolute - Churchill, Resolute - Baffin Isl. - Hudson Bay); unable to obtain permits     |
| 1999        | Kapitan Dranitsyn       | Supernova Expeditions       | Northwest Passage, High Arctic; 2 voyages (N. Baffin - Resolute, Resolute - Beaufort Sea)   |
| 1999        | Le Levant               | Navitrans Shipping Agencies | Ungava Bay - Hudson Bay; 4 voyages (Akpatok Isl. - Churchill)   |
| 2000        | Clipper Adventurer      | Clipper Cruise Lines        | Greenland - Northwest Passage; 3 voyages (Coburg Isl. - North Baffin - Resolute, S. Baffin - Akpatok Isl.)                          |
| 2000        | Hanseatic               | Hapag Lloyd Cruise          | Greenland - Alaska, Northwest Passage; 1 voyage (Baffin - Resolute - Beaufort Sea)  |
| 2000        | Kapitan Dranitsyn       | Supernova Expeditions       | Northwest Passage, High Arctic; 2 voyages (N. Baffin - Resolute, Resolute - Beaufort Sea)   |
| 2000        | Le Levant               | Navitrans Shipping Agencies | Ungava Bay - Hudson Bay; 3 voyages (Akpatok Isl. - Churchill)   |
| 2000        | Lyubov Orlova           | Marine Expeditions          | Greenland - Churchill, Northwest Passage; 6 voyages (S. Baffin - Hudson Bay, Resolute - N. Baffin)                                  |

| Year | Ship <sup>1</sup> | Company <sup>2</sup> | Route <sup>3</sup> , Comments              |
|------|-------------------|----------------------|--|
| 2000 | Shearwater        | Kerr Norton Marine   | Greenland - Baffin; 1 voyage (Baffin Isl.) |

Based on information available to CWS primarily through the permitting system, it appears that four or five cruise lines currently provide cruises to the NWT and Nunavut: Clipper Cruise Lines, Le Compagnie des Iles du Ponant, Hapag Lloyd Seetouristik, Marine Expeditions, and Supernova Expeditions. Information about these companies and their shipping agents is provided in Appendix 1.2.

## 2.2 Future Trends

**Growth of Cruising in the Canadian Arctic.** - It is generally expected that tourism in the Arctic will continue to grow as the popularity and opportunities for ecotourism, adventure tourism, and cultural tourism increase (Hall and Johnston 1995, Johnston 1997), and as cruises become more affordable to more people (Marsh and Staple 1995). Although only a handful of companies currently offer ship-based tours to the Canadian Arctic, there is great potential for the industry to expand in this region. Increasing trends in ship-based tourism in the Canadian Arctic are likely, particularly as residents of Nunavut and the territorial government make efforts to attract tourists to communities and sites of ecological and/or cultural interest, and as the infrastructure available to support tourism is improved (Gleeson 1997).

**Increased Visitation by Research Vessels.** - Research vessels also visit key bird habitat sites in the Canadian Arctic. For instance, a 1999 Swedish-led research expedition aboard the Canadian Coast Guard icebreaker *Louis St.-Laurent* planned to visit numerous sites along their route between Baffin Island and Alaska for two to three days each. Thirty-five scientists planned to conduct ecological research at 37 sites in the NWT and Nunavut, including at least four key bird habitat sites.

The number of visits by research vessels to the Canadian Arctic may increase in the future as more research vessels become available. The USCGC *Healy*, which will be one of the world's largest non-nuclear polar icebreakers, will be operated by the U.S. Coast Guard primarily as an arctic research vessel beginning in 2001 (Berkson and Dupree 1999).

**Increased Ship Traffic Resulting from Climate Change.** - Climate change models predict that "the Northwest Passage may be navigable by regular ships for part of the year, or even all of it, in as little as 10 to 15 years" (Mitchell 2000), and that the Arctic may be free of all sea ice during the summer period as early as 2050 (Univ. Manitoba, Dept. Geog.). This means that ship traffic in the area will no longer be restricted to ships reinforced for breaking through ice, and that ships may be able to travel through the Canadian Arctic farther north, more easily, and during a much longer season than is presently possible.

Melting of the Northwest Passage may bring more cruise ships and research vessels north and increase visitation to key bird sites and other locations with high natural and cultural values. These activities could potentially create increased disturbance to migratory birds in the area, particularly if substantially higher levels of unregulated cruise tourism occur.

Ship-based tourism may be only a small portion of the increased ship traffic allowed through the Northwest Passage as a result of climate change, however. Shipping companies are already looking at the Passage as an attractive alternative to the Panama Canal (Leblanc 2000, Mitchell 2000, Nickerson 2000), and there is speculation that the Passage may develop as a new route for smuggling, drug trafficking, and illegal immigration. In addition, shipping of crude oil from Alaska to the eastern United States seaboard through the Passage may become economically feasible (Nickerson 2000).

Furthermore, although Canada considers the Northwest Passage to be an internal waterway, the rest of the world considers it to be an international strait (LeBlanc 2000). If the area becomes navigable for significant time periods each year, it is likely that Canadian sovereignty over the area may be lost, and Canada may not be able to regulate ship passage through it (LeBlanc 2000, Nickerson 2000).

Unregulated traffic through the Northwest Passage will elevate the risk of Arctic oil spills and other mishaps and emergencies, such as ships running aground or getting stranded in the ice, or major onboard fires. Even under current traffic levels and regulations, many such incidents have occurred. For example, *Hanseatic* was grounded for 10 days in the High Arctic in 1996 (Ward 1999), and four major accidents involving cruise ships around Alaska occurred during the summers of 1995 and 1996, including a fire-caused evacuation (Germain 1996).

Implications of this predicted climate change scenario for migratory birds and their habitats include:

- potentially greater levels of disturbance resulting from more frequent visitation to nesting colonies, possibly by larger numbers of people arriving in larger ships
- disturbance to nesting areas not previously accessible by ship
- greater probability of oil spills resulting from increased traffic and travel to lesser known areas.

This situation could present great challenges for monitoring, regulating, and assessing the effects of ship tourism on migratory birds and key habitats in the Canadian Arctic. The cumulative effects of increased disturbance from cruise ship tourism, along with other stresses that may result from climate change, may have serious ramifications for seabirds and their habitats in the Arctic.

### **3.0 CRUISE SHIP DESTINATIONS IN THE NWT AND NUNAVUT**

Appendix 2 lists all destinations included on ship's itineraries that were submitted to CWS for 1998-2000. Sixteen itineraries were available for review by CWS prior to these cruise seasons.

#### **3.1 Key Bird Habitat Sites Visited by Cruise Ships**

Table 2 summarizes planned visits by cruise ships during 1998-2000 to seabird colonies designated as key migratory bird habitat sites (key bird sites) in the NWT and Nunavut, based on inquiries and permit applications received by CWS. Both protected and unprotected key bird sites are included in this summary, although permits are required only for cruise ship visits to areas protected by legislation in Migratory Bird Sanctuaries (MBS) or National Wildlife Areas (NWA; see Sec. 3.3). Information regarding planned visits to unprotected sites is sometimes available because applicants generally provide their full itineraries with their permit applications, and because companies sometimes submit their itineraries to CWS as a courtesy. In general, however, we have very little information about visits made by cruise ships to unprotected key bird sites (see also Sec. 3.2).

#### **3.2 Knowledge Limitations regarding Key Bird Sites Visited by Cruise Ships**

Our information about cruise ship visits to key bird sites is extremely limited. A number of factors prevent determination of the number of ship visits and person-day visits per site that have occurred over the past few years, including those described below.

- We are only aware of visits by ships to protected areas and a few other sites when companies have made inquiries about CWS permit requirements, and have provided their itineraries to CWS, or to NWT or Nunavut tourism agencies (2000 cruises only; see Appendix 2). Even then we are only aware of planned visits to certain destinations specified on the itineraries. There have likely been additional visits by these and other ships to key bird sites, including unprotected sites for which there is no requirement for cruise line companies to contact CWS. Ships also can make unscheduled visits to sites as a result of unforeseen weather or ice conditions.
- There have been cruises occurring in the Canadian Arctic, which may include visits to key bird sites, for which CWS has not been supplied with any information (M. Bundgaard pers. comm., J.P. Lehnert pers. comm., J. Pagnan pers. comm., J. Venaas pers. comm.). For instance, CWS had no advance knowledge of several cruise ships monitored by NORDREG in 1998 (3 ships) and 1999 (2 ships) that travelled throughout the Canadian Arctic (J.P. Lehnert pers. comm.). Under the current process, CWS is not informed when plans for cruise ship visits to the Canadian Arctic are canceled or modified.

Table 2. Seabird colonies specified as destinations on itineraries of cruise ships for 1998-2000 voyages, based on CWS permit files.

|   |  | <b>Number of Planned Visits by Cruise Ships</b> |             |             |
|---|--|---|-------------|-------------|
| <b>Destination</b>  | <b>Specified Location (Key Bird Site)</b>                    | <b>1998</b>                                     | <b>1999</b> | <b>2000</b> |
| Bylot Island MBS <sup>1</sup>   | Bylot Island (Cape Hay, Cape Graham Moore) <sup>2</sup>      | 6   | 9           | 8           |
| Bylot Island MBS  | Cape Hay   | 1   | 2           | 1           |
| Bylot Island MBS  | Cape Graham Moore  | 3   | 1           | 0           |
| Prince Leopold Island MBS <sup>1</sup>  | Prince Leopold Island  | 4   | 6           | 8           |
| Nirjutiqavvik NWA <sup>1</sup>  | Coburg Island (Cambridge Point, Princess Charlotte Monument) | 2   | 3           | 2           |
| Devon Island  | Dundas Harbour, Radstock Bay (Cape Liddon, Hobhouse Inlet)   | 2   | 2           | 2           |
| Akpatok Island  | Akpatok Island   | -   | 5           | 4           |
| Digges Island   | Digges Island (Cape Wolstenholme)                            | 2   | 6           | 5           |
| Coats Island  | Coats Island (5 km west of Cape Pembroke)                    | 2   | 6           | 2           |
| Resolution/Edgell Islands   | Resolution/Edgell Islands (Hantzsch Island)                  | 1   | -           | 2           |
| <b>Total number of planned visits specified in itineraries available to CWS</b> |  | <b>23</b>                                       | <b>40</b>   | <b>34</b>   |

<sup>1</sup> Protected site.

<sup>2</sup> Includes specified visits to Cape Hay and Cape Graham Moore, and cruises through some or all of the following water bodies which surround Bylot Island: Navy Board Inlet, Eclipse Sound, Pond Inlet.

- Ship itineraries often do not provide enough detail to determine if visits are scheduled to key bird sites (see Appendix 2). Some companies provide more general descriptions of destinations than others, and the level of generality has increased recently in some cases.

For instance, many cruise itineraries include Bylot Island, Pond Inlet, or Navy Board Inlet on their route. However, stops at Cape Hay or Cape Graham Moore (key bird sites for Thick-billed Murres and Black-legged Kittiwakes) are specified in only a few cases, although it is likely that most ships with nature-oriented trips cruise by these seabird colonies.

- Flexibility in schedules and locations visited is the norm in the cruise industry (Ward 1999, Sach 2000). Unpredictable and variable weather and ice conditions often force changes in ship's itineraries, especially in polar regions. Ships that have obtained CWS permits may make unscheduled visits to key bird sites, including additional visits to sites on the original itinerary, and visits to additional sites not originally scheduled. CWS knows which sites were actually visited only when we have received a report on a cruise that identifies all locations visited, which is a rare occurrence.
- Some itineraries schedule time for "unscheduled stops", and we do not know if these include stops at key bird sites.
- A report on wildlife sightings made during visits to CWS conservation areas is a condition of permits for visits to MBSs and NWAs. Theoretically, CWS can refuse to issue permits to companies who have not submitted reports on wildlife sightings for previous years. However, to date no permit has been refused for this reason.
- Permittees are also encouraged, but not required, to report wildlife species and numbers seen at sites visited outside of MBSs and NWAs (i.e., legislated protected areas). Few reports have been submitted to date that provide information about wildlife sightings at all sites visited.
- Cruise ship companies that do not require permits are not required to report to CWS on their voyages. Therefore, even when these companies supply itineraries to CWS as a courtesy or when requesting information on permit requirements, we have no way of knowing how closely these cruises followed the original schedule, or if they visited key bird sites.
- Cruises on one ship may be sold by more than one operator. For instance, in 1998 four companies offered cruises on the *Kapitan Khlebnikov* (see Table 1). Only two of these companies obtained CWS permits for visits to MBSs and NWAs. The third company would have required permits for a few of its destinations, but did not apply; it is not known if this trip occurred or was cancelled. A fourth company did not appear to require permits for the scheduled stops, based on the small amount of information received by CWS.

- The variable nature of the cruise industry makes it difficult for CWS to monitor or anticipate the level of cruise activity in the Canadian Arctic each year. Over the past few years, a number of approaches have been used to offer cruises in this region: some cruise line companies handle their own logistics, and do not use the services of independent shipping agents, while others direct their shipping agents to handle all necessary arrangements (including permitting); some companies and agents use the same ship each year, while others use different ships from year-year; in some years a given company books several voyages on a single ship through a single shipping agent, and in other years several agents offer voyages on the same ship.
- We lack information about the number of people visiting key bird sites. At best we know the ships' capacity, sometimes with the numbers of passengers and crew specified. We do not know the actual number of passengers on particular voyages, the number of people visiting individual sites, or the amount of time these people spend cruising by zodiac or walking onshore close to nesting birds and sensitive habitats. Because of this lack of information, the number of person-days for each key bird site cannot be estimated at this time.

The number of planned visits summarized in Table 2, therefore, is a minimum number because it is based on incomplete information. The actual number, frequency, and timing of visits made to these and other key bird sites is not known.

### **3.3 Other Potential Key Destinations for Cruise Ships**

Environment Canada currently protects seabird colonies in six Migratory Bird Sanctuaries (MBS) and National Wildlife Areas (NWA) in the NWT and Nunavut, all of which are potential destinations for ship-based tourism (see Appendix 3, Table and Fig. 3.1). Migratory Bird Sanctuaries are established under the *Migratory Birds Convention Act*, and are administered and managed by CWS according to the Migratory Bird Sanctuary Regulations. National Wildlife Areas are established under the *Canada Wildlife Act*, and are administered and managed by CWS according to the Wildlife Area Regulations. A total of 16 MBSs and two NWAs have been established in the NWT and Nunavut.

Eight seabird colonies in the Canadian Arctic have recently been designated as "Important Bird Areas" (IBAs) as part of an effort to identify the most important sites for birds throughout the world (see Appendix 3, Table and Fig. 3.2). These sites have been designated to raise awareness of their importance to birds, and to encourage responsible jurisdictions to take measures to establish legal protection and to manage the sites with conservation as a priority (Commission for Environmental Cooperation 1999). Three of these IBAs are protected within MBSs or NWAs (see Table 3.2); the remainder are unprotected. There are currently a total of over 1,100 potential IBAs identified in Canada, including most MBSs and NWAs (Baumgarten 1999). Fifty of these sites have been described in a directory of North American IBAs (CEC 1999).

Increased interest in these sites for tourism, including visits by cruise ships with nature-oriented tours, may result from designation of sites as IBAs.

The Canadian Wildlife Service designated 80 areas in the NWT and Nunavut as “key migratory bird habitat sites” based on information available in the late 1980s (Alexander et al. 1991). Only a fraction of these formally designated areas are currently protected as bird sanctuaries or wildlife areas (7.5%, N=6) or designated as IBAs (10%, N=8).

About 12 of the 74 currently unprotected key bird habitat sites contain seabird colonies or large congregations of other bird species in coastal areas (see Appendix 3, Table and Fig. 3.3), nine of which were proposed for protection as NWAs in the early 1990s (CWS 1993). All of these areas are of potential interest for ship-based ecotourism.

Since 1998, cruise ships have regularly visited at least three areas which are protected as bird sanctuaries or wildlife areas, five of the areas designated as IBAs, and at least nine areas recognized as key bird sites (Table 2). It is likely that many more of these sites may be future destinations for cruise ships with nature-oriented tours, although some may be too remote or not easily accessible by large ships, at least under current conditions. However, as described in Sec. 2.2, climate change may allow visitation to a greater number of these sites, more frequently, and over a longer season.



## 4.0 CONSERVATION CONCERNS

Hall and Johnston (1995) and others have outlined potential impacts of ship-based tourism on polar environments. However, little is known about the impacts of repeated visits by cruise ships on marine wildlife species such as Arctic-nesting seabirds (Marsh and Staples 1995). In the Canadian Arctic, seabird colonies on cliffs adjacent to deep water are key stop-over sites for ship-based tourism. The features that make them attractive to tour operators include:

- dramatic examples of arctic fauna
- predictability in location and number of birds present
- accessibility to large ships and their landing craft (i.e., inflatable zodiacs)

### 4.1 Potential Impacts of Disturbance on Colonial Seabirds

The reproductive success of many bird species declines with repeated disturbance by humans (e.g., Klein et al. 1995). Seabirds that nest in colonies are particularly vulnerable, because colonies attract human visitors (Burger and Gochfeld 1994, Chardine and Mendenhall 1997), and disturbance to a large portion of a nesting colony can result when birds respond to the escape behavior of other birds nearby (Anderson and Keith 1980; Erwin 1980, 1989; Burger 1998).

In addition, life history theory suggests that adults of long-lived seabird species (e.g., murre) should abandon a year's production (i.e., eggs or chicks) during a disturbance event to ensure adult survival. This is because reproductive failure is much less likely than adult mortality to affect population numbers in long-lived species (Newton 1993). Although long-lived species may be more likely to habituate to disturbance during their lifetime (Nisbet 2000), repeated disturbance can lower reproductive success through accidental dislodgment of eggs and chicks, nest site desertion, and by facilitating predation (Kury and Gochfeld 1975, Ellison and Cleary 1978, Pierotti 1983, Safina and Burger 1983, Erwin 1989). Consequently, persistent disturbance can contribute to colony extirpation or slow the recovery of colonies reduced in size by other factors (e.g., oil spill, over-harvest; Ainley and Lewis 1974, Anderson and Keith 1980, Parish 1996).

### 4.2 Seabird Species Vulnerable to Disturbance by Cruise Ships

In general, the seabird species that are visited most by cruise ships in the Canadian Arctic are the Thick-billed Murre (*Uria lomvia*), Black-legged Kittiwake (*Rissa tridactyla*), Northern Fulmar (*Fulmarus glacialis*), and to a lesser extent, the Glaucous Gull (*Larus hyperboreus*) and Black Guillemot (*Cepphus grylle*).

The thick-billed murre is a cliff-nesting colonial seabird with a circumpolar distribution. In the northwest Atlantic, it breeds in the eastern Canadian Arctic and west Greenland and winters off the coasts of Newfoundland and southwest Greenland (Gaston and Hipfner 2000). Thick-billed murre typically breed in dense colonies on vertical cliffs, and several factors make murre vulnerable to disturbance while breeding. Murre build no nest and they lay their single egg directly on rock ledges. The egg often rests

on the feet of the incubating bird, and if suddenly disturbed, adults often dislodge their eggs as they fly from the cliff (Gaston and Nettleship 1981). If an egg is lost early in the season, it will often be replaced within 16 days (Gaston and Nettleship 1981). However, the probability that murrelets will be successful in rearing that second egg to fledging drops from 60-70% for the first egg to 30-40% for the replacement (Gaston and Nettleship 1981, deForest 1993). Murrelets are also vulnerable during chick departure, when the male parent accompanies the lone chick to the sea. Chicks that land alone or are separated from the male parent typically die (Gilchrist and Gaston 1997). Collectively, these factors suggest that human visitation by boats to murrelet colonies will be least likely to have negative impacts during the chick-rearing stage prior to colony departure (mid-July to mid-August). Visitation during morning and early afternoon will be less likely to affect murrelets during fledging (after mid-August), as birds typically leave the colony during late afternoon and evening.

Black-legged kittiwakes also breed in colonies on cliffs. However, they build nests of grass, mud, and guano and typically lay two eggs. Eggs occasionally roll out of nests, and later in the breeding season large chicks can be accidentally knocked from nests if adults are suddenly disturbed. Loss of chicks late in the breeding season ensures reproductive failure for that year due to seasonal time constraints. Consequently, human visitation by boats to kittiwake colonies will be least likely to have negative impacts early in the breeding season.

Northern fulmars often nest very high on cliffs. In doing so, most nest beyond the noise and visual disturbance of small zodiacs on the sea. At some locations in the Canadian Arctic, fulmars nesting on the tops of cliffs can be approached by people on foot (e.g., Prince Leopold Island, Cape Vera). However, fulmar chicks are less likely to fall from cliffs when compared to murrelets and kittiwakes.

## 5.0 ADMINISTRATIVE CONCERNS

There are two main types of administrative concerns surrounding ship-based tourism in relation to CWS protected areas and other key bird sites:

- concerns caused by a lack of information and an inability to obtain this information
- concerns resulting from the lack of influence CWS is able to have on ship itineraries and activities.

As discussed previously (see Sec. 3.2), limited knowledge prohibits us from obtaining a clear picture of the levels of visitation by ship-based tourists to key bird sites, or from assessing the extent of disturbance that may be occurring or may be likely to occur in the near future. It is difficult to determine who to contact in some government agencies to obtain information relevant to this issue. Cruise tourism industry representatives also voiced concern that it was often difficult to determine who they should contact.

CWS provides “Guidelines for Seabird Viewing by Cruise Ships” to cruise companies and their shipping agents (Fig. 1). Current guidelines discourage use of helicopters and zodiacs near nesting cliffs, visitation during late afternoon and evening (based on the degree of disturbance that may result to nesting birds), and noise produced by ships or firearms. The guidelines are very general in nature, and do not provide detailed directions for guiding tourist behaviour, such as minimum distances between nesting colonies and ships, zodiacs, or visitors on foot.

We currently have no means available to determine if these guidelines are followed by cruise ships, company staff, or passengers. The recommendation regarding timing of visitation to bird cliffs has a particularly low probability of influence, because: (a) ship itineraries and the timing of visits to key bird sites are established months before an application for a CWS permit is made, and (b) timing of visits is determined primarily by the amount of time required to travel between key destinations, and other logistical and weather-related considerations.

Based on the itineraries received by CWS for 1998-2000 cruises that provided information on timing of visits to key bird sites in the NWT and Nunavut, each year more visits were planned for the time period during which they could cause the greatest disturbance to seabird colonies (36 mid-afternoon to late evening visits) than visits during less sensitive periods (32 early morning to early afternoon visits). Although some of the cruise companies had received these CWS guidelines in previous years, this information had no apparent influence on cruise planning, and did not reduce the likelihood of visits during the period of greatest potential disturbance in subsequent years.



Environment Canada  
Environnement Canada

## GUIDELINES FOR SEABIRD COLONY VIEWING BY CRUISE SHIPS

- helicopters can cause **severe disturbance** at seabird colonies and **should not** be used near nesting cliffs;
- cruise ships should anchor well away from the breeding cliffs and the cliffs should be approached by zodiac only;
- zodiac landings are discouraged;
- zodiac visitation of bird cliffs should be limited to the morning and early afternoon (Murre chicks fledge in August, primarily in the late afternoon and evening. Disturbance during peak fledging can cause premature fledging and consequently, high chick mortality.);
- noise should be kept to a minimum during visits to the colony. Do not blow ship horns or discharge firearms in an attempt to cause a mass flight of adults from the colony. This causes heavy losses of eggs and chicks.

The Canadian Wildlife Service is interested in wildlife sightings made by nature-oriented tour groups. If you keep a record of bird sightings and where the sightings were made, we would appreciate receiving a copy of your list.

**For more information, please contact:**

Mark Mallory  
Canadian Wildlife Service  
P.O. Box 607  
Iqaluit Nunavut  
X0A 0H0  
ph: 867-975-4637  
fx: 867-975-4645  
email: [mark.mallory@ec.gc.ca](mailto:mark.mallory@ec.gc.ca)

Figure 1. CWS guidelines for seabird colony viewing by cruise ships.

Another related issue, is that there does not appear to be any communication or coordination among cruise line companies regarding scheduling of visits to key bird sites. For instance, although CWS was aware of only two scheduled visits by cruise ships to Nirjutiqavvik NWA in 1999, these visits were planned for the same day. Particularly in the Canadian Arctic, where only a few ships are cruising the same remote region at the same time, it would seem prudent for reasons related both to wildlife conservation and tourist enjoyment to avoid following the same routing and timing of visits to key bird sites.

The extended time frame for permit issuance (six weeks or longer) that has been required in the past few years (see Sec. 7.2) has created problems for several cruise line companies planning to visit protected seabird colonies in Nunavut. Applicants for CWS permits, including cruise operators, often do not understand that the lengthy time required to review applications and make decisions concerning permit issuance is not under the control of CWS. Applicants have experienced considerable frustration, and perhaps loss of revenues, because they have not made application for permits allowing for sufficient lead time. In some cases tour operators have stated that it was difficult to determine who to contact concerning CWS permits, which resulted in delays in submitting permit applications. "Guidelines for the Operation of Passenger Vessels in Canadian Arctic Waters" (Transport Canada 2000; see also Sec. 6.1) do not provide sufficient detail concerning permit requirements for access to protected areas, particularly regarding the substantial lead time required for areas in Nunavut.

## **6.0 THE REGULATORY CONTEXT**

The roles and interests of various agencies associated with ship-based tourism in the NWT and Nunavut are described briefly below. Contact information for each organization is also indicated.

### **6.1 Federal Government**

Numerous federal government agencies regulate marine activities including cruise tourism, in Canadian waters. Appendix 4 lists federal legislation for regulation of various oceans-related activities. Agencies with key responsibilities concerning ship-based tourism in the NWT and Nunavut are discussed briefly below.

#### **Transport Canada**

Transport Canada works closely with the Canadian Coast Guard and has the following major responsibilities affecting Arctic cruise ships (Transport Canada 2000):

- Approval of the specifications, schedules, and itineraries of vessels.
- Regulatory development and administration
- Arctic Ice Regime Shipping System
- Navigating equipment requirements
- Marine safety
- Pollution prevention
- Ballast water exchange
- Security
- Port State Control

Through the Canadian Marine Advisory Council, Transport Canada consults with the shipping industry and others about shipping, navigation, and marine pollution (Lien and Dunn 2000).

Transport Canada has published “Guidelines for the Operation of Passenger Vessels in Canadian Arctic Waters” (Transport Canada 2000), which provides information about government agencies that should be contacted by organizers of cruises in the Arctic, and recommended procedures for contacting these agencies. Transport Canada recommends that the first contact should be with Transport Canada’s Marine Safety offices in Edmonton and Winnipeg, followed by the Canadian Coast Guard, NORDREG, and other federal and territorial agencies. They suggest that an itinerary should be submitted to Transport Canada and the Coast Guard to enable planning for safety and icebreaking considerations. Although contact information for CWS is provided, details concerning the requirements and timelines for obtaining permits for visiting CWS protected areas are not included.

**Contact:** Peter Timonin  
Transport Canada - Prairie and Northern Region - Marine  
Ottawa, Ontario  
Tel: (613) 991-6001 Fax: (613) 991-4818  
E-mail: [TimoniP@tc.gc.ca](mailto:TimoniP@tc.gc.ca)

### **Canadian Coast Guard**

The Canadian Coast Guard has the following major responsibilities affecting Arctic cruise ships (Transport Canada 2000):

- Icebreaker escort
- Search and rescue (in conjunction with the Canadian Armed Forces)
- NORDREG (the Arctic marine traffic system) vessel traffic management and position reporting and other communications
- Pollution incident response
- Continuous monitoring of the international maritime distress and urgency radio frequencies by the Marine Communications and Traffic Services (MCTS) Centres
- Fax and e-mail services

The NORDREG system, which is free of charge, monitors all traffic north of 60 degrees North, in Ungava Bay, and in the southern part of Hudson Bay. Recommended routes and information concerning general ice conditions are provided, and cruise ship operators are encouraged to use the system. Operations are based in Iqaluit, Nunavut during the normal navigation season, and maintained from St. John's, Newfoundland in the off-season.

### ***Contacts:***

#### 1. NORDREG:

Jean Pierre Lehnert  
Marine Communications and Traffic Services  
Coast Guard - Central and Arctic Region  
Sarnia, Ontario  
Tel: (519) 383-1939 Fax: (519) 383-1989  
E-mail: [LehnertJ@dfo-mpo.gc.ca](mailto:LehnertJ@dfo-mpo.gc.ca)

#### 2. Other Coast Guard issues:

David Sitland  
Marine Programs  
Coast Guard - Central and Arctic Region  
Sarnia, Ontario  
Tel: (519) 383-3987 Fax: (519) 383-1998  
E-mail: [SitlandD@dfo-mpo.gc.ca](mailto:SitlandD@dfo-mpo.gc.ca)

## **Fisheries and Oceans Canada (DFO)**

The *Oceans Act* and Oceans Policy designate DFO as the lead federal government agency for ocean management, and the *Fisheries Act* provides the Department with authority to deal with conservation issues, including habitat protection (DFO 1999, Lien and Dunn 2000). DFO has recently increased emphasis on marine environmental quality issues, and is developing "a more integrated oceans management approach based on sustainability of ecosystems, the precautionary approach, and the integration of activities occurring in and impacting on oceans" (Lien and Dunn 2000). Under the *Oceans Act*, there will be a requirement for long-term monitoring of marine environmental quality in association with integrated management plans and marine protected areas. This monitoring will consist of collaborative arrangements and will include both science and community-based monitoring (D. Cobb pers. comm.).

DFO currently has no regulatory responsibility regarding cruise ships, and its role is limited to providing services (e.g., ice-breaking support, radio communications for search and rescue operations; S. Stringer, pers. comm.). However, DFO recognizes a number of emerging conservation issues regarding cruise ships in the Canadian Arctic, and sees a potential need for developing guidelines for the industry (D. Cobb, pers. comm.).

DFO has published a number of documents that provide information about the Canadian Arctic environment and are relevant to mariners, including cruise ship companies. The "Marine Environmental Handbook – Arctic Northwest Passage" (Fisheries and Oceans Canada 1999), which is intended for use in conjunction with DFO's Sailing Directions for Arctic Canada and appropriate nautical charts, includes:

- Lists of "areas with special ecological significance", such as Migratory Bird Sanctuaries, National Wildlife Areas, Migratory Bird Terrestrial Habitat Sites, and Key Migratory Bird Marine Habitat Sites.
- Maps indicating areas important to wildlife, including "bird colonies".
- Information concerning which areas within each region of the Northwest Passage are important for specific species and groups of birds.
- Maps showing the general environmental sensitivity of the Northwest Passage to aircraft and ships.
- Recommended mitigating measures for ship and aircraft operations, emphasizing avoidance of sensitive areas and minimum distances that ships and aircraft should stay from these sites.

Although the Handbook provides abundant information on areas that ships should avoid because of their environmental sensitivity, it does not provide guidance for cruise ship companies that want to visit these areas specifically because of their ecological value, to ensure that they minimize their ecological impacts. It also fails to indicate clearly which areas are protected by legislation and require permits for cruise ships visits.



**Contacts:**

1. Regulatory issues:

(a) NWT - Julie Dahl  
NWT Habitat Coordinator  
Fisheries and Oceans Canada  
Yellowknife, Northwest Territories  
Tel: (867) 669-4911 Fax: (867) 669-4941  
E-mail: [DahlJ@dfo-mpo.gc.ca](mailto:DahlJ@dfo-mpo.gc.ca)

(b) Nunavut - Jordan DeGroot  
Area Habitat Biologist  
Fisheries and Oceans Canada  
Iqaluit, Nunavut  
Tel: (867) 979-8007 Fax: (867) 979-8039  
E-mail: [DeGrootJ@dfo-mpo.gc.ca](mailto:DeGrootJ@dfo-mpo.gc.ca)

2. Oceans management (*Oceans Act* implementation):

(a) NWT - Doug Chipertzak  
Oceans Program Coordinator (Inuvialuit Settlement Region)  
Fisheries and Oceans Canada  
Yellowknife, Northwest Territories  
Tel: (867) 669-4922 Fax: (867) 669-4941  
E-mail: [ChipertzakD@dfo-mpo.gc.ca](mailto:ChipertzakD@dfo-mpo.gc.ca)

(b) Nunavut - Jean-Pierre Thonney  
Oceans Coordinator (Nunavut)  
Fisheries and Oceans Canada  
Iqaluit, Nunavut  
Tel: (867) 979-8011 Fax: (867) 979-8039  
E-mail: [ThonneyJ@dfo-mpo.gc.ca](mailto:ThonneyJ@dfo-mpo.gc.ca)

**Canadian Wildlife Service (CWS), Environment Canada**

A CWS permit is required for any visits to Migratory Bird Sanctuaries (MBS) or National Wildlife Areas (NWA). Migratory Bird Sanctuaries are established under the *Migratory Birds Convention Act*, and are administered and managed by CWS according to the Migratory Bird Sanctuary Regulations. National Wildlife Areas are established under the *Canada Wildlife Act*, and are administered and managed by CWS according to the Wildlife Area Regulations.

CWS reviews permit applications for visits by cruise ships to MBSs and NWAs, and submits them for screening to impact review boards established through the Nunavut and Inuvialuit land claims (i.e., Nunavut Impact Review Board, Environmental Impact

Review Board). Permits are issued by CWS following screening by these boards if no significant concerns are raised.

CWS does not currently conduct any monitoring of seabird colony visitation by cruise ships, and does not have a means for regulating visitation to seabird colonies that are not designated as legislated protected areas.

**Contact:** Kevin McCormick  
Northern Conservation Division  
Canadian Wildlife Service  
Environment Canada  
Yellowknife, Northwest Territories  
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E-mail: [kevin.mccormick@ec.gc.ca](mailto:kevin.mccormick@ec.gc.ca)

## **6.2 Government of Nunavut**

### **Department of Sustainable Development (DSD)**

Cruise ships traveling through Nunavut are licensed by DSD for the Government of Nunavut (S. Sanderson, pers. comm.). DSD issues Tourist Establishment Licences, and ensures that every ship entering arctic waters has valid insurance and WCB coverage, and has submitted a schedule of visits to communities. Each ship must also comply with the Tourist Establishment Regulations and the *Arctic Waters Pollution Prevention Act* (AWPPA). The Department of Indian Affairs and Northern Development administers the AWPPA for non-shipping activities north of 60 degrees North latitude (Fisheries and Oceans Canada 1999).

DSD Wildlife Officers have authority under the *Travel & Tourism Act* as Tourism Officers (S. Sanderson, pers. comm.). The Captain or contact person for each ship must show a valid licence when requested by a Tourism Officer. Officers can also ensure that guests of the ship will have the proper Export Permits if required.

**Contact:** Sherri Sanderson  
Regulations/Operations Coordinator  
Nunavut Department of Sustainable Development  
Government of Nunavut  
Iqaluit, Nunavut  
Tel: (867) 975-5908 Fax: (867) 975-5980  
E-mail: [ssanderson@gov.nu.ca](mailto:ssanderson@gov.nu.ca)

## 6.3 Government of the Northwest Territories

### **Department of Resources, Wildlife, and Economic Development (RWED)**

Cruise ships operating in the NWT must obtain establishment licenses from the Parks and Tourism Division of RWED. These licenses are issued under the NWT *Tourism Act*. Parks and Tourism also asks cruise ship companies to comply with regulations regarding protected areas in the NWT, including bird sanctuaries and national parks. Monitoring of cruise ships by this agency is currently limited to post-visit inquiries made to communities to identify problems, and subsequently contacting cruise ship companies with any concerns (J. Venaas, pers. comm.)

**Contact:** Gerry LePrieur  
Parks and Tourism  
NWT Department of Resources, Wildlife, and Economic Development  
Yellowknife, Northwest Territories  
Tel: (867) 873-7902 Fax: (867) 873-0163  
E-mail: [gerry.leprieur@gov.nt.ca](mailto:gerry.leprieur@gov.nt.ca)

## 6.4 Other Agencies

### **Nunavut Impact Review Board (NIRB)**

The *Nunavut Land Claims Act* (NLCA) requires CWS to submit applications for CWS permits, including permits for activities in MBSs and NWAs in the Nunavut Settlement Area (Fig. 2), to the Nunavut Impact Review Board (NIRB) for environmental screening. As part of the screening process, NIRB forwards CWS permit applications to all relevant government agencies, land claims organizations, and communities (which in many instances the ships also plan to visit). Communities submit concerns, if they have any, about the portions of the cruise through their area. If NIRB considers these concerns to be relevant and significant, they forward them on to CWS. CWS issues permits only after they have received a screening report from NIRB that states that they have no significant concerns regarding the proposed activities, and that no further review is required. The screening process can take six weeks or longer to complete.

**Contact:** Gladys Joudrey  
Nunavut Impact Review Board  
Cambridge Bay, Nunavut  
Tel: (867) 983-2593 Fax: (867) 983-2594  
E-mail: [nirb@polarnet.ca](mailto:nirb@polarnet.ca)

## **Nunavut Tourism**

Nunavut Tourism has no responsibility for regulating or monitoring cruise ships in Nunavut. However, the agency is currently playing a role as liaison between communities, service providers, and cruise ships by providing advice to service providers when requested, conducting workshops for communities, referring itineraries, and providing community contacts to cruise ship companies (M. Bundgaard, pers. comm.).

**Contact:** Sekayi Pswarayi  
Marketing Director  
Nunavut Tourism  
Iqaluit, Nunavut  
Tel: (867) 979-6551 Fax: (867) 979-1261  
E-mail: [sakayi@nunavuttourism.com](mailto:sakayi@nunavuttourism.com)

## **Environmental Impact Review Board (EIRB)**

Cruise lines require a CWS permit to visit a CWS protected area (MBS) in the Inuvialuit Settlement Region (ISR) in the NWT (see Fig. 2). Permit applications for visits to protected areas in the ISR are reviewed by the Environmental Impact Screening Committee of the EIRB, and by communities near the protected areas. To date there has not been a case in which cruise ship visits to protected areas in the ISR have been considered to have significant potential impacts (L. Graf pers. comm., P. Latour pers. comm.).

**Contact:** Linda Graf  
Inuvialuit Joint Secretariat  
Environmental Impact Screening Committee  
Inuvik, Northwest Territories  
Tel: (867) 777-2828 Fax: (867) 777-2610  
E-mail: [eisceirb@jointsec.nt.ca](mailto:eisceirb@jointsec.nt.ca)

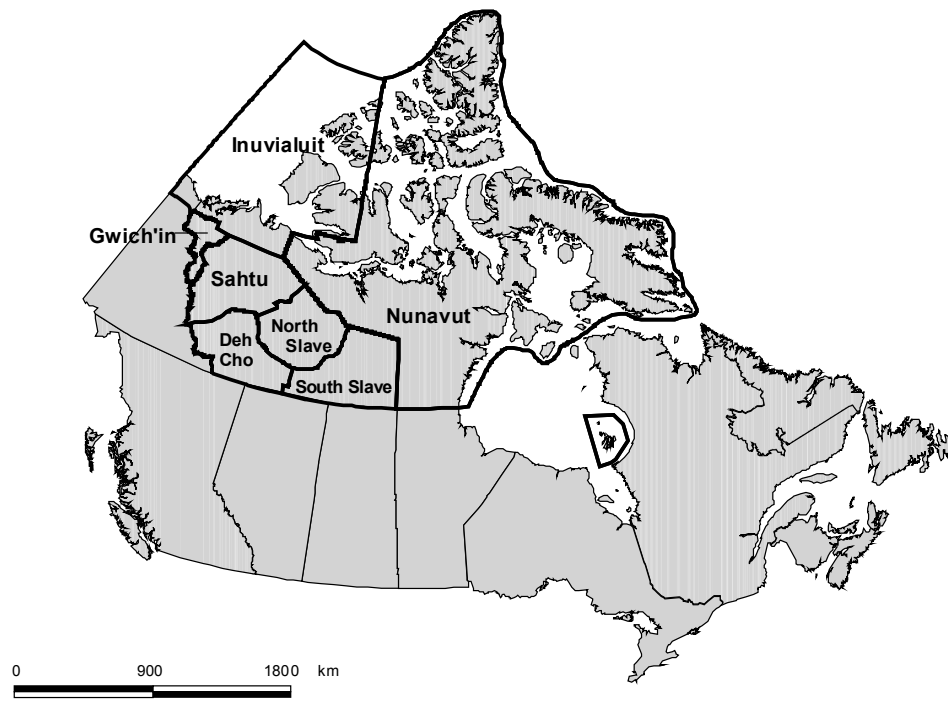


Figure 2. Land claim areas of the Northwest Territories and Nunavut.

## **7.0 POTENTIAL MEASURES FOR PROTECTION OF KEY BIRD HABITAT SITES IN THE NWT AND NUNAVUT**

It is generally recognized by all interested parties, including the tourism industry and many tourists themselves, that there is a high potential for damage to occur to environmentally sensitive areas without some control on tourist visitation, and that polar regions are especially sensitive to human-caused disturbance (Hall and Johnston 1995). Two main approaches are generally used to regulate tourists (Johnston 1998):

- attempts to control tourist behaviour through legislation, education, rules and procedures, and codes of conduct
- measures related to other tourist-related activities, such as regulations for shipping, waste disposal, and wildlife protection

Options for regulating tourists vary in the scale of jurisdiction and their degree of restrictiveness (Johnston 1998). For instance, prohibitions against tourists visiting certain areas put in place by communities are highly restrictive, but only at the local or regional level. Guidelines and codes of conduct are voluntary restrictions that may be applied at any scale, from local to international.

Numerous authors have indicated that there is a need to regulate ship-based tourism to protect the Arctic environment. However, ship-based tourism is very difficult to regulate, particularly in polar regions, because of the mobility and relative independence of ships, and their ability to visit remote locations (Hall and Johnston 1995). Whether voluntary codes of conduct are adequate, or enforceable regulations are required, is often a point of contention. Johnston and Hall (1995) argue that both forms of control are required, especially in polar regions where the size and remoteness of areas makes enforcement of regulations problematic. Johnston (1995) recommends that protection of the Arctic from detrimental effects of cruising should include development of codes of conduct for tourism operators, and use of a cooperative approach between government and industry.

### **7.1 Codes of Conduct and Guidelines for the Tourism Industry**

Codes of conduct and regulations have been developed by various tourism industry associations and non-government organizations in an attempt to minimize the potential negative environmental effects of ship-based tourism.

**General tourism guidelines.** - Numerous tourism guidelines have been developed by government and non-government organizations throughout the world. These are generally not directed specifically at the cruise tourism industry, however. The United Nations Environment Programme (UNEP 1995) summarized a host of environmental codes of conduct for tourism following the 1992 Earth Summit (the UN Conference on Environment and Development), including those developed by international treaty organizations and tourism associations, national tourism boards, environmental non-government organizations, and industry associations.

International organizations that have developed tourism guidelines include the World Travel and Tourism Council, the International Association of Antarctic Tour Operators, the Ecotourism Society, and the World Wildlife Fund. In Canada, codes of ethics for tourism have been developed by groups such as the Tourism Industry Association of Canada (1992) and the Canadian Environmental Advisory Council (Scace et al. 1992).

**Guidelines for polar tourism.** - Tourism guidelines have been developed specifically for polar tourism in Antarctica and the Arctic. A “Protocol on Environmental Protection to the Antarctic Treaty” in 1991 sets out principles and procedures for protection of the Antarctic environment, including designation of Antarctica as a natural reserve (UNEP 1995). Guidelines developed for tourism in Antarctica include those by the International Association of Antarctic Tour Operators (IAATO). A cooperative approach between industry and government is used to regulate visitors (tourists and researchers) in the Antarctic region (Johnston 1997).

The World Wildlife Fund’s (WWF) Arctic Programme, in cooperation with tour operators, conservation organizations, managers, researchers, and representatives from Arctic communities, have developed principles for Arctic tourism and codes of conduct for tour operators and tourists (Johnston and Mason 1997). These guidelines were developed as part of the program “Linking Tourism and Conservation in the Arctic” (WWF 1997). The WWF Arctic Programme initiated pilot projects in 1998 to evaluate application of the principles and codes of conduct. The program is now working “to build concrete partnerships with the tourism industry and other stakeholders on conservation issues” (WWF 1999: 21). WWF has not yet promoted the guidelines or attempted to get official acceptance from any organization in Nunavut, however (J. Laird pers. comm.).

**Guidelines for cruise ships operating in the Canadian Arctic.** - We are aware of only two sets of guidelines that have been developed specifically for cruise ships operating in the Canadian Arctic. The guidelines developed by Transport Canada (2000) and the Canadian Coast Guard are intended to provide information to cruise operators about the requirements of government agencies, and are not intended to advise tour operators or tourists on how to interact with the Arctic environment (see also Sec. 6.1).

CWS guidelines for seabird colony viewing by cruise ships (Fig. 1) provide information and advice concerning actions and time periods that should be avoided during visits to nesting cliffs (see also Sec. 4.0). These guidelines are provided each year to all cruise operators known to be planning cruises in Nunavut.

In summary, most of the guidelines developed for the tourism industry that would apply to cruise tourism are fairly general in nature, and consequently open to interpretation by respective cruise operators and tourists. Of the dozen examples referred to above, only the guidelines developed by the World Travel and Tourism Council, IAATO, and WWF refer specifically to conservation of protected areas, and only the IAATO guidelines

include advice not to use boats in ways that disturb wildlife. WWF's principles and codes encourage support for development and maintenance of protected areas, and visits to parks and nature reserves. However, the only guidelines we are aware of that include directions for minimizing disturbance to seabird colonies are those developed by CWS (Fig. 1).

Some factors outlined by Johnston (1997) and Davis (1998) that should be taken into account when developing and implementing guidelines to regulate tourists are:

- the effectiveness of guidelines depends on the willingness of tourists to comply
- people who are motivated to protect the Arctic environment may inadvertently violate guidelines
- some tourists on eco-tourism cruises are not motivated to protect the Arctic environment
- voluntary guidelines are not necessarily understood or followed by tour operators or tourists
- supervision of tourists at landing sites is important because of differences in knowledge levels and abilities of individuals to interpret guidelines
- any form of regulation, including voluntary codes of conduct, may be resisted by some parties

## 7.2 Legislation and Regulations

The Canadian government is prevented from developing comprehensive marine environmental protection measures because of international law and the issues of sovereignty and jurisdiction over the waters of the Canadian Arctic (Rothwell 1998; see also Sec. 2.2). However, cruise ships operating in the Canadian Arctic must comply with a variety of regulations under legislation enacted by various government departments, including:

- Arctic Waters Pollution Prevention Act
- Canada Shipping Act
- Canadian Environmental Protection Act
- Fisheries Act
- Oceans Act
- Migratory Birds Convention Act
- Canada Wildlife Act

As outlined previously in Sec. 6.1, the CWS regulates visitation to seabird colonies protected in Migratory Bird Sanctuaries and National Wildlife Areas through a permit system established under the *Migratory Birds Convention Act* and Regulations, and the *Canada Wildlife Act* and Regulations. These are currently the only regulations that apply to protection of seabird colonies and their habitats in the Canadian Arctic.



## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The following actions should be taken to help increase awareness by CWS and others concerning the current and possible future impacts of cruise tourism on migratory birds and key habitat sites in the NWT and Nunavut, and to improve the ability of CWS to protect these species and habitats.

### 1. **Improve communications and obtain more information on Arctic cruise**

**tourism.** - There is clearly a need for CWS to obtain more information about recent ship-based tourism activities in the Canadian Arctic, and also about likely future trends in tourist cruises to key bird sites. CWS should work with all relevant organizations (government departments, non-government agencies, land claim organizations, the cruise industry) to develop a more complete and accurate picture of the cruise industry in the Canadian Arctic.

- CWS should develop closer communications with key agencies regulating and monitoring cruise lines in the NWT and Nunavut, such as Transport Canada and the Coast Guard (including NORDREG). Opportunities to obtain information in a timely manner that is useful for conservation should be identified. For instance, itineraries for cruises could be obtained earlier in the planning process from Transport Canada, as that agency is usually the first point of contact in Canada for cruise operators.
- CWS should work with Canadian agents for Arctic cruise lines, and with cruise line companies, to identify key destinations that will be targeted by cruise tourism over the next several years. Opportunities to influence timing of visits to key bird sites (i.e., date and time of day) should also be identified.
- CWS should develop closer communications with land claims boards that screen applications for CWS permits (NIRB, EIRB), and with agencies that license or monitor tourism ventures (Nunavut Tourism and NWT Parks and Tourism ) to ensure that all agencies and communities have complete information, including scientific information on the conservation concerns regarding cruise tourism in the Arctic.

### 2. **Assess levels of disturbance to key bird sites visited by cruise ships.** - The potential levels of disturbance to birds and habitats at CWS protected areas and other key bird sites from cruise tourism should be assessed. Estimates for recent years and projections for the next few years should be developed based on information derived from all sources (see Rec. 1).

- All cruise line companies visiting key bird sites (not just companies obtaining CWS permits) should be asked to submit reports to CWS on each season's voyages. Information provided should be sufficient for determining levels of visitation to key bird sites.
- Information provided by cruise line companies should be sufficient for determining the potential levels of disturbance to seabird colonies resulting from cruise ship tourism. Information required to estimate potential disturbance includes: the number and timing of visits, the number of visitor hours per visit and per season, proximity of visitors to colonies, and types of

human activity (e.g., cruising or walking near nesting cliffs). Davis (1998) provides an instructive example using this type of information to design strategies for protection of wildlife and habitat in Antarctica.

- 3. Revise and increase distribution of CWS guidelines for cruise ship visits to seabird colonies.** - CWS should revise their guidelines for cruise ship visits to seabird colonies, to provide greater detail concerning what actions are acceptable, including group activities (e.g., cruising by zodiac) and behaviour of individuals approaching colonies on foot. Greater detail could be included concerning minimum distances ships should anchor from breeding cliffs, ways to land zodiacs on shore and disembark passengers, and minimum distances for people approaching nesting birds.

These improved guidelines should be distributed widely to cruise operators and agencies that regulate cruise ships in the Canadian Arctic. Increased efforts should be made to ensure that cruise operators are aware of the importance of adhering to the revised guidelines. At a minimum, cruise operators should be encouraged to plan their itineraries so they do not visit seabird colonies later in the day than early afternoon.

- 4. Increase conservation education efforts.** - CWS should increase efforts to ensure that cruise operators and agencies that regulate cruise ships in the Canadian Arctic are aware of conservation and permitting issues concerning cruise ship visits to key bird sites. The first step should be to ensure that the next version of the Transport Canada (2000) guidelines for cruise ships includes greater detail on permit requirements (including lead-time), current contact information, and the revised CWS guidelines.
- 5. Co-operatively develop conservation guidelines for cruise ships in the Canadian Arctic.** - CWS should work with agencies such as WWF, DFO, DSD, and RWED to develop a more extensive set of guidelines for cruise ships working in the Canadian Arctic. These guidelines should address numerous conservation issues, including protection of key bird sites and habitats important to other wildlife species. Government and non-governmental agencies and Aboriginal organizations should work with cruise operators to address this issue. All parties should make use of work conducted in this area by WWF (1999) and should benefit from lessons learned by Antarctic tourist operators (Hall and Johnston 1995).
- 6. Encourage establishment of an Arctic cruise tourism industry association.** - CWS should encourage responsible parties to establish an Arctic cruise tourism industry association and ensure that conservation issues are a priority. The association could serve as a focal point for interaction, both among cruise line companies, and between these companies and government and non-government agencies and communities in the Arctic. This association should ensure that all cruise companies and shipping agencies operating in this region receive information on the regulatory process and requirements. It could also take a lead role in

coordinating development of guidelines for cruise tourism in the Canadian Arctic, and in encouraging its members to comply with these guidelines.

7. **Determine if increased monitoring or regulation is required.** - CWS should determine if action is required to minimize the detrimental effects of cruise ship visitation on protected and unprotected seabird colonies in the NWT and Nunavut based on the results of the actions recommended above. Key questions to be considered include:

- Are current or predicted future levels of visitation to key bird sites a conservation concern?
- Are key bird sites likely to continue to be a primary attraction and key destinations for cruises in this region?
- Can CWS work directly with cruise operators, or indirectly through other regulators (e.g., Transport Canada) to ensure the revised guidelines for visits to seabird colonies are followed?
- Will communities agree to application of voluntary guidelines or codes of conduct to cruise operators (similar to WWF guidelines), and will industry agree to use them to self-regulate?
- Is monitoring of cruise ship visits to seabird colonies (e.g., via on-board observers) or more effective enforcement feasible and warranted?

## LITERATURE CITED

- Ainley, D. G. and T. J. Lewis. 1974. The history of Farallon Island marine bird populations, 1854-1972. *Condor* 76: 432-446.
- Alexander, S.A., Ferguson, R.S., and K.J. McCormick. 1991. Key migratory bird terrestrial habitat sites in the Northwest Territories. *Can. Wildlife Serv. Occas. Pap. No. 71*. 184 pp.
- Anderson, D. W. and J. O. Keith. 1980. The human influence on seabird nesting success: conservation implications. *Biological Conservation* 18: 65-80.
- Baumgarten, F. 1999 Conservation and management of Important Bird Areas. Pages 17-27 IN: Commission for Environmental Cooperation. North American Important Bird Areas. A directory of 150 key conservation sites. Commission for Environmental Cooperation, Montreal, Canada. 359 pp.
- Berkson, J. and G. Dupree. 1999. *Healy* prepares for Arctic operations. *Arctic - Chronicles of the NSF Arctic Sciences Program* 7(1): 1-3. Spring/Autumn 1999.
- Burger, J. 1998. Effects of motorboats and personal watercraft on flight behavior over a colony of common terns. *Condor* 100: 528-534.
- Burger, J., and M. Gochfeld. 1994. Predation and effects of humans on island-nesting seabirds. In: Nettleship, D. N., Burger, J., Gochfeld, M. (eds.) *Seabirds on islands: Threats, Case Studies, and Action Plans*. Birdlife International, Cambridge 39-67.
- Canadian Wildlife Service. 1993. Habitat conservation strategy and plan for the Northwest Territories, 1993-2003. *Can. Wildl. Serv., Yellowknife*. 39pp.
- Chardine, J. and V. Mendenhall. 1997. Human disturbance at Arctic seabird colonies. Circumpolar Seabird Working Group, Conservation of Flora and Fauna Program (CAFF). Iceland. Technical Report.
- Commission for Environmental Cooperation. 1999. North American Important Bird Areas. A directory of 150 key conservation sites. Commission for Environmental Cooperation, Montreal, Canada. 359 pp.
- Davis, P.B. 1998. Understanding visitor use in Antarctica: the need for site criteria. *Polar Record* 34 (188): 45-52.
- deForest, L. N. 1993. The effect of age, timing of breeding, and site characteristics on the reproductive success of the thick-billed murre, *Uria lomvia*. M.Sc. thesis. University of Ottawa.

- Ellison, L. N. and L. Cleary. 1978. Effects of human disturbance on breeding of double-crested cormorants. *Auk* 95: 510-517.
- Erwin, R. M. 1980. Breeding habitat use by colonially nesting waterbirds in two mid-Atlantic US regions under different regimes of human disturbance. *Biological Conservation* 18: 39-51.
- Erwin, M. 1989. Responses to human intruders by birds nesting in colonies: experimental results and management guidelines. *Colonial Waterbirds* 12: 104-108.
- Fisheries and Oceans Canada. 1997. The role of the federal government in the oceans sector. Department of Fisheries and Oceans, Ottawa. 38 pp.
- Fisheries and Oceans Canada. 1999. Marine environmental handbook – arctic Northwest Passage. Department of Fisheries and Oceans, Ottawa. 145 pp.
- Gaston, A. J. and M. J. Hipfner. 2000. The thick-billed Murre, *Uria lomvia*. IN: The birds of North America (A. Poole and G. Gill, eds.). Philadelphia: The academy of Natural Sciences.
- Gaston, A. J. and D. N. Nettleship. 1981. The thick-billed murre of Prince Leopold Island. Canadian Wildlife Service Report 46.
- Germain, D. 1996. Cruise ships remain safe, industry insists. *Whitehorse Star*. 27 August 1996. p. 4.
- Gilchrist, H. G. and A. J. Gaston. 1997. Factors affecting the success of colony departure by thick-billed murre chicks. *Condor* 99: 345-352.
- Gleeson, R. 1997. Making the most of the visit; communities looking for more from cruise ship visits. *New/North* 8 Sept. 1997.
- Hall, C.M. and M.E. Johnston. 1995. Introduction: Pole to pole: tourism issues, impacts and the search for a management regime in polar regions. Pages 1-26 IN: Hall, C.M. and M.E. Johnston. *Polar tourism: Tourism in the Arctic and Antarctic regions*. 329 pp.
- Johnston, M.E. 1995. Patterns and issues in Arctic and Sub-Arctic tourism. Pages 27-42 IN: Hall, C.M. and M.E. Johnston. *Polar tourism: Tourism in the Arctic and Antarctic regions*. 329 pp.
- Johnston, M.E. 1997. Polar tourism regulation strategies: controlling visitors through codes of conduct and legislation. *Polar Record* 33(184): 13-20.
- Johnston, M.E. 1998. Evaluating the effectiveness of visitor-regulation strategies for polar tourism. *Polar Record*. 34(188): 25-30.

- Johnston, M.E. and C.M. Hall. 1995. Visitor management and the future of tourism in polar regions. Pages 297-313 IN: Hall, C.M. and M.E. Johnston. Polar tourism: Tourism in the Arctic and Antarctic regions. 329 pp.
- Johnston, M.E. and P. Mason. 1997. The WWF initiative to develop guidelines and codes of conduct for Arctic tourism. Polar Record 33(185): 151-153.
- Jones, C.S. 1998. Predictive tourism models: are they suitable in the polar environment? Polar Record 34 (190): 197-202.
- Klein, M. L., S. R. Humphrey, and H. F. Percival. 1995. Effects of ecotourism on distribution of waterbirds in a wildlife refuge. Conservation Biology 9: 1454-1465.
- Kury, R. R. and M. Gochfeld. 1975. Human interference and gull predation on cormorant colonies. Biological Conservation 8: 23-34.
- Leblanc, Col. P. 2000. Sovereignty and science issues related to sea ice. Presented at "Workshop on Climate Change Impacts and Adaptation Strategies for Canada's Northern Territories", Feb. 27, 2000. Yellowknife NWT.
- Lien, J. and M. Dunn. 2000. Troubled waters: the status of wildlife habitats in Canada's oceans and coasts - August 2000 draft. A report prepared for Wildlife Habitat Canada.
- Lundgren, J.O. 1995. The tourism space penetration processes in northern Canada and Scandinavia: a comparison. Pages 43-61 IN: Hall, C.M. and M.E. Johnston. Polar tourism: Tourism in the Arctic and Antarctic regions. 329 pp.
- Marsh, J. and S. Staple. 1995. Cruise tourism in the Canadian Arctic and its implications. Pages 63-72 IN: Hall, C.M. and M.E. Johnston. Polar tourism: Tourism in the Arctic and Antarctic regions. 329 pp.
- Mitchell, A. 2000. The Northwest Passage thawed. Globe and Mail Feb. 5, 2000.
- News North 1997. High Arctic holidays. News/North 52(3): A1. 19 May 1997.
- Newton, I. 1993. Predation and limitation of bird numbers. Current Ornithology 11: 143-197.
- Nickerson, C. 2000. Sovereignty on thin ice. Edmonton Journal. 26 March 2000. P. E5.
- Nisbet, I. C. T. 2000. Disturbance, Habituation, and Management of Waterbird Colonies. Waterbirds 23: 312-332.

- Parish, J. 1996. Influence of group size and reproductive success in common murre, *Uria aalge*. *Auk* 112: 390-401.
- Pierotti, R. 1983. Gull-puffin interactions on Great Island, Newfoundland. *Biological Conservation* 26: 1-14.
- Resources, Wildlife and Economic Development. 1999. Industry Fact Sheet - Tourism in the Northwest Territories. Vol. 1 Summer 1999. Published by Economic Planning, RWED, Govt. of the NWT. 3pp.
- Rothwell, D.R. 1998. Australian and Canadian initiatives in polar marine environmental protection: a comparative review. *Polar Record* 34 (191): 305-316.
- Sach, B. 2000. A cruise for the birds. *Above & Beyond* 12(2): 28-33. March/April 2000.
- Safina, C. and J. Burger. 1983. The effect of human disturbance on reproductive success in the Black Skimmer. *Condor* 85: 164-171.
- Scace, R.C., Grifone, E., and R. Usher. 1992. Ecotourism in Canada. Canadian Environmental Advisory Council. 38pp.
- Schwartzman, M.T. (ed.) 1996. Fodor's 97 worldwide cruises and ports of call. Fodor's Travel Publications, Inc., New York.
- Tourism Industry Association of Canada. 1992. Code of Ethics and Guidelines for Sustainable Tourism. National Round Table on the Environment and the Economy.
- Transport Canada. 2000. Guidelines for the operation of passenger vessels in Canadian Arctic waters. TP13670E. First Edition October 2000. 29pp.
- United Nations Environment Program. 1995. Environmental codes of conduct for tourism. UNEP Tech. Rep. No. 29.
- Ward, D. 1999. Complete guide to cruising and cruise ships 2000. Berlitz Publ. Co., Inc., Princeton.
- World Wildlife Fund. 1997. Linking tourism and conservation in the Arctic. WWF Arctic Bull. No. 4.97. 12pp.
- World Wildlife Fund. 1999. Linking tourism: the way forward. WWF Arctic Bull. No. 2.99: 21.

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## APPENDICES

Appendix 1. Tour ships, cruise line companies, and shipping agents known by CWS to be operating in Arctic Canada, 1998-2000.

1.1 Ships known by CWS in advance to have operations planned in Arctic Canada, 1998-2000.

1.2 Cruise line companies and shipping agents known by CWS to have offered voyages in the NWT and Nunavut, 1998-2000.

Appendix 2. Cruise ship destinations in the NWT and Nunavut, 1998-2000, according to cruise itineraries.

Appendix 3. Seabird colonies and other coastal areas important to birds in the Northwest Territories (NWT) and Nunavut.

Table 3.1, Figure 3.1. Seabird colonies in the NWT and Nunavut that are protected within Migratory Bird Sanctuaries (MBS) and National Wildlife Areas (NWA).

Table 3.2, Figure 3.2. Seabird colonies in Nunavut designated as Important Bird Areas (IBA) by the CEC (1999).

Table 3.3, Figure 3.3. Coastal key migratory bird terrestrial habitat sites in Nunavut (Alexander et al. 1991) that contain significant unprotected seabird colonies and that may be of interest to ship-based ecotourism.

Appendix 4. Federal Oceans-related Legislation (Fisheries and Oceans Canada 1997).

## Appendix 1. Tour ships, cruise line companies, and shipping agents known by CWS to be operating in Arctic Canada, 1998-2000.

### 1.1 Ships known by CWS in advance to have operations planned in Arctic Canada, 1998-2000.

Information about ships was obtained from CWS permit applications and Ward (1999). See also Table 1 and Appendix 2.

**Ship:** *Akademik Ioffe*  
**Registry:** Russia  
**Capacity:** 153 (100 passengers, 53 crew)  
**Cruise Line:** Marine Expeditions (1999)

**Ship:** *Clipper Adventurer* (former name *Alla Tarasova*)  
**Registry:** Bahamas  
**Capacity:** 206 (122 passengers, 84 crew)  
**Gross Tonnage:** 5,750  
**No. Zodiacs:** 10  
**Cruise Line:** Clipper Cruise Line/New World Ship Management Company

**Ship:** *Hanseatic*  
**Registry:** Bahamas  
**Capacity:** 260 - 300 (188 passengers, although usually kept to 150 maximum; 110 - 125 crew)  
**Gross Tonnage:** 8,378  
**No. Zodiacs:** 14  
**Cruise Line:** Hapag-Lloyd Seetouristik  
**Comments:** The *Hanseatic* is described by Schwartzman (1996) as “the world’s newest, biggest, and most luxurious expedition ship”.

**Ship:** *Kapitan Dranitsyn*  
**Capacity:** 220 (including 106 passengers)  
**Cruise Line:** Supernova Expeditions

**Ship:** *Kapitan Khlebnikov*  
**Capacity:** 176 (116 passengers, 60 crew)  
**Gross Tonnage:** 12,288  
**Cruise Line:** Quark Expeditions  
**Comments:** “There is always a team of excellent naturalists and lecturers aboard.” (Ward 1999)

**Ship:** *Le Levant*  
Capacity: 90  
Cruise Line: Compagnie des Iles du Ponant

**Ship:** *Lyubov Orlova*  
Capacity: 130  
Cruise Line: Marine Expeditions (2000)

**Ship:** *Maria Yermalova*  
Capacity: N/A  
Cruise Line: Marine Expeditions (1998)

**Ship:** *Shearwater*  
Capacity: N/A  
Cruise Line: Nortec Marine Agencies Inc.

## 1.2 Cruise line companies and shipping agents known by CWS to have offered voyages in the NWT and Nunavut, 1998-2000.

**COMPANY:** Adventure Canada  
Mississauga ON  
Ship Utilized: *Kapitan Khlebnikov* (1998)  
Telephone: (905) 271-4000  
Fax: (905)271-5595

**COMPANY:** Clipper Cruise Line/New World Ship Management Company  
St. Louis, MO  
E-mail: SmallShip@aol.com  
Website: <http://www.clippercruise.com>  
Ship Utilized: *Clipper Adventurer* (1999 & 2000)  
**Canadian Agent:** Robert Reford, Montreal, Que. (1999 & 2000)  
Contact: 1999 - Andrew Digby, 2000 - Geoffrey Reford  
Telephone: (514) 845-5201 Ext. 124  
Fax: (514) 845-0891  
E-mail: ops@reford.ca

**COMPANY:** Le Compagnie des Iles du Ponant  
Nantes, France  
Telephone: 33 2 40 58 14 95  
Fax: 33 2 40 58 27 02  
E-mail: info@ponant.com  
**Canadian Agent:** Navitrans Shipping Agencies Inc.  
Montreal, Que.  
Ships Utilized: *Le Levant* (1999 & 2000)  
Contact: 1999 - Tassos Antoniadis; 2000 - Nicholas Iskandar  
Telephone: (514) 845-4595  
Fax: (514) 845-1001  
E-mail: agency@navitranscanada.com or  
chart@navitranscanada.com  
Website: <http://navishipmtl@gncomtext.com>

**COMPANY:** Hapag-Lloyd Seetouristik  
Hamburg, Germany  
Telephone: (49) 40 3001-4764  
Fax: (49) 40 3001-4761  
E-mail: sonja.bahlk@hls-cruises.com; baerbelkraemer@hlkf.de  
Website: <http://www.hapag-loyd.com>  
Ship Utilized: *Hanseatic* (1998, 1999, 2000)  
**Canadian Agent:** Montreal Shipping, Montreal (1999)  
Contact: 1999 & 2000 - Tony Scalzo  
Fax: (514) 286-9469  
E-mail: Tscalzo@Montship.ca  
Comments: Hapag-Lloyd Seetouristik won the 1998 Arctic Award for Linking  
Tourism and Conservation (see WWF website  
<http://ngo.grida.no/wwfap/tourism/codes.html>)  
- according to (Ward 1999), the company specializes in providing  
outstanding, well-planned itineraries.  
- Schwartzman (1996) reports that Zodiac explorations are the  
primary daytime event on these cruises.

**COMPANY:** Nortec Marine Agencies Inc.  
**Canadian Agent:** Kerr Norton Marine Canada  
Montreal, Que.  
Ships Utilized: *Shearwater* (2000)  
Contact: Horst Wendlandt  
Telephone: (514) 985-2319  
Fax: (514) 288-6379

**COMPANY:** Marine Expeditions  
Toronto ON  
Ships Utilized: *Maria Yermalova* (1998), *Akademik Ioffe* (1999), *Lyubov Orlova*  
(2000)  
Contact: 1998 - Andrew Prossin, 1999 & 2000 - Louise Hampson  
Telephone: (416) 964-9069 Ext. 240  
Fax: (416) 964-2366  
E-mail: louise@marineex.com  
Website: <http://www.marineex.com>

**COMPANY:** Quark Expeditions/ Supernova Expeditions Ltd.  
Isle of Man, British Isles  
Ships Utilized: *Kapitan Khlebnikov* (1998), *Kapitan Dranitsyn* (1999 & 2000)  
Contact: 1998, 1999 - Peter McDowell, 2000 - John Apps  
Telephone: + 44 1624 835295 or 1494 449739  
Fax: + 44 1624 835295 or 1494 464080  
E-mail: john@quarkexpeditions.co.uk or  
quarkexpeditions@compuserve.com  
Website: <http://www.quark-expeditions.com>

**COMPANY:** Zegrahm Expeditions  
Seattle, Washington  
Ship Utilized: *Kapitan Khlebnikov* (1998)  
Contact: Tony Berg  
Telephone: (206) 285-4000

**Appendix 2. Cruise ship destinations in the NWT and Nunavut, 1998-2000, according to cruise itineraries.**

Destinations listed for each voyage were obtained from cruise ship itineraries submitted to CWS with inquiries or applications for permits for 1998-2000. (See Appendix 1 for information about ships.)

**1998**

**Ship:** *Hanseatic*

**No. voyages:** N/A

**Shipping Company or Agent:** Hapag-Lloyd Seetouristik

**NWT and Nunavut destinations specified on cruise ship itineraries:**

(not available)

**Ship:** *Kapitan Khlebnikov*

**Shipping Company or Agent:** Adventure Canada

**No. voyages:** 1 (#824 Resolute/Sondre Stromfjord)

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                                    |                   |
|------------------------------------|-------------------|
| Coburg Isl. (Nirjutiqavvik<br>NWA) | Pond Inlet        |
| Resolute                           | Clyde Inlet/River |
| Devon Isl.                         | Broughton Island  |
| Navy Board Inlet                   | Davis Str.        |
| Eclipse Sound                      |                   |

**Ship:** *Kapitan Khlebnikov*

**Shipping Company or Agent:** Quark Expeditions

**No. voyages:** 1 (#823 - High Arctic (Resolute/Resolute))

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                 |                     |
|-----------------|---------------------|
| Resolute        | Pond Inlet          |
| Lancaster Sound | Navy Board Inlet    |
| Dundas Harbour  | Prince Leopold Isl. |
| Smith Sound     | Beechey Isl.        |
| Coburg Isl.     |                     |

**Ship:** *Kapitan Khlebnikov*

**Shipping Company or Agent:** TCS

**No. voyages:** 1 (#821 - Provideniya/Resolute)

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|               |                     |
|---------------|---------------------|
| Herschel Isl. | Bellot Str.         |
| Tuktoyaktuk   | Fort Ross           |
| Amundsen Gulf | Prince Regent Inlet |
| Holman        | Cunningham Inlet    |
| Johansen Bay  | Beechey Isl.        |
| Cambridge Bay | Resolute            |
| Cape Felix    |                     |

**Ship:** *Kapitan Khlebnikov*

**Shipping Company or Agent:** Zegrahm Expeditions

**No. voyages:** 1 (#822 - Baffin (Resolute/Resolute))

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                           |                     |
|---------------------------|---------------------|
| Bylot Isl. MBS - Cape Hay | Kekerten Isl.       |
| Prince Leopold Isl. MBS   | Frobisher Bay       |
| Resolute                  | Kodlunarn Isl.      |
| Eclipse Sound             | Cape Dorset         |
| Gibbs Fjord               | Foxe Basin          |
| Home Bay                  | Fury and Hecla Str. |
| Cape Dyer                 | Fort Ross           |
| Pangnirtung               | Bellot Str.         |
| Auyuittuq                 | Beechey Isl.        |



**Ship:** *Maria Yermalova*

**Shipping Company or Agent:** Marine Expeditions

**No. voyages:** 5 (Greenland-Churchill, Churchill-Iqaluit, Best of Baffin, Northwest Passage (2))

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                             |                       |
|-----------------------------|-----------------------|
| McConnell R. MBS            | Pangnirtung           |
| Harry Gibbons MBS           | Auyittuq (Brodie Bay) |
| Prince Leopold Island MBS   | Isabella Bay          |
| Resolution Isl./Edgell Isl. | Bylot Island MBS      |
| Lake Harbour                | Pond Inlet            |
| Digges Isl. /Cove           | Milne Inlet           |
| Erik Cove                   | Nanasivik             |
| Coats Isl.                  | Beechy Isl.           |
| Walrus Isl.                 | Baffin Bay            |
| Churchill                   | Cape Graham Moore     |
| Cape Dorset                 | Resolute              |
| Iqaluit                     |                       |

## **1999**

**Ship:** *Akademik Ioffe*

**No. voyages:** 6

**Shipping Company or Agent:** Marine Expeditions

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                                 |                        |
|---------------------------------|------------------------|
| Bylot Isl. MBS                  | Danile Island Cove     |
| Prince Leopold Isl. MBS         | Iqaluit                |
| Walrus Isl.                     | Broughton Isl./Ayuituk |
| Cairn Cove/Coats Isl.           | Isabella Bay           |
| Digges Island (Cove,<br>Cliffs) | Pond Inlet             |
| Eric Cove                       | Milne Inlet            |
| Cape Dorset                     | Beechy Isl.            |
| Lake Harbour                    | Nanasivik              |
| Shaftesbury Inlet               | Lancaster Sound        |
|                                 | Cape Graham/Bylot Isl. |

**Ship:** *Clipper Adventurer*

**No. voyages:** 2

**Shipping Company or Agent:** Clipper Cruise Line

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                         |                         |
|-------------------------|-------------------------|
| Bylot Isl. MBS          | Crocker Bay             |
| Prince Leopold Isl. MBS | Navy Board Inlet        |
| Nirjutiqavvik NWA       | Eclipse Sound           |
| Smith Isl.              | Pond Inlet              |
| Cone Isl.               | Baffin Isl.             |
| Devon Isl.              | Low Pt.                 |
| Belcher Pt.             | Butterfly Bay           |
| Dundas Harbour          | Kimmirut                |
| Crocker Bay             | Lake Harbour            |
| Radstock Bay            | Beechey Isl./Erebus Bay |
| Griffin Inlet           | Lower Savage Isl.       |
| Sophia's Cove           | Akpatok Isl.            |

**Ship:** *Hanseatic*

**No. voyages:** 2

**Shipping Company or Agent:** Montreal Shipping

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|  |                               |
|--|-------------------------------|
| Cornwallis Isl. - Resolute                                   | Hudson Bay - Walrus Isl.      |
| Baffin Isl. - Arctic Bay, Pond<br>Inlet, Eclipse Sound, Cape | Marble Isl., Churchill        |
| Dorset, Isabella Bay   | Coburg Isl. - Lady Ann Strait |
| Ungava Bay - Akpatok Isl.                                    | Devon Isl. - Dundas Harbour   |
|  | Beechey Isl. - Barrow Strait  |

**Ship:** *Kapitan Dranitsyn*

**No. voyages:** 2

**Shipping Company or Agent:** Supernova Expeditions

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|   |                               |
|---|-------------------------------|
| Bylot Isl. MBS - Cape Hay                             | Banks Island - Sachs Harbour  |
| Prince Leopold Isl. MBS                               | Amundsen Gulf                 |
| Resolute  | Herschel Island               |
| Beechey Island  | Beaufort Sea                  |
| Cunningham Inlet                                      | Baffin Bay                    |
| Somerset Island                                       | Pond Inlet                    |
| Fort Ross   | Nungavik                      |
| Larsen Sound  | Devon Island - Dundas Harbour |
| Victoria Strait                                       |                               |
| Victoria Island - Cambridge Bay, Johansen Bay, Holman |                               |

**Ship:** *Le Levant*

**No. voyages:** 4

**Shipping Company or Agent:** Navitrans Shipping Agencies

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                          |              |
|--------------------------|--------------|
| Baffin Isl.- Cape Dorset | Marble Isl.  |
| Digges Isl.              | Churchill    |
| Coats Isl.               | Akpatok Isl. |
| Walrus Isl.              |              |

**2000**

**Ship:** *Clipper Adventurer*

**No. voyages:** 3

**Shipping Company or Agent:** Clipper Cruise Line

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                         |                 |
|-------------------------|-----------------|
| Bylot Isl. MBS          | Cornwallis Isl. |
| Prince Leopold Isl. MBS | Lancaster Sound |
| Nirjutiqavvik NWA       | Cape Sparbo     |
| Coburg Isl.             | Jones Sound     |
| Devon Isl.              | Grise Fiord     |
| Queen Harbour           | Ellesmere Isl.  |
| Erebus Bay              | Butterfly Bay   |
| Bylot Island            | Lake Harbour    |
| Navy Board Inlet        | Hudson Bay      |
| Beechy Isl.             | Button Isl.     |
| Barrow Str.             | Carey Islands   |
| Resolute Bay            | Akpatok Isl.    |

**Ship:** *Hanseatic*

**No. voyages:** N/A

**Shipping Company or Agent:** Hapag-Lloyd Seetouristik

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                  |                 |
|------------------|-----------------|
| Baffin Bay       | Queen Maud Gulf |
| Pond Inlet       | Cambridge Bay   |
| Navy Board Inlet | Roas Point      |
| Beechey Isl.     | Holman Isl.     |
| Resolute Bay     | Amundsen Gulf   |
| Barrow Str.      | Smoking Hills   |
| Peel Sound       | Franklin Bay    |
| Franklin Str.    | Herschel Isl.   |
| Larsen Sound     | Beaufort Sea    |
| Victoria Str.    |                 |

**Ship:** *Kapitan Dranitsyn*

**No. voyages:** 2

**Shipping Company or Agent:** Supernova Expeditions

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                             |                                  |
|-----------------------------|----------------------------------|
| Bylot Isl. MBS - Cape Hay   | Victoria Island - Cambridge Bay, |
| Prince Leopold Isl. MBS     | Holman                           |
| Baffin Bay                  | Coronation Gulf                  |
| Navy Board Inlet            | Johansen Bay                     |
| Bylot Isl.                  | Dolphin & Union Str.             |
| Devon Isl. - Dundas Harbor, | Prince of Wales Str.             |
| Radstock Bay                | Banks Isl.                       |
| Beechey Isl.                | Jesse Harbour                    |
| Resolute                    | Amundsen Gulf                    |
| Cunningham Inlet            | Franklin Bay                     |
| Peel Sound                  | Smoking Hills                    |
| Franklin Strait             | Herschel Isl.                    |
| Larsen Sound                | Beaufort Sea                     |
| Victoria Strait             |                                  |

**Ship:** *Le Levant*

**No. voyages:** 3

**Shipping Company or Agent:** Navitrans Shipping Agencies

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|              |               |
|--------------|---------------|
| Akpatok Isl. | Erik Cove     |
| Digges Isl.  | Salsbury Isl. |
| Walrus Isl.  | Marble Isl.   |

**Ship:** *Lyubov Orlova*

**No. voyages:** 6

**Shipping Company or Agent:** Marine Expeditions

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                            |                         |
|----------------------------|-------------------------|
| Bylot Isl. MBS             | Digges Island/Eric Cove |
| Prince Leopold Isl. MBS    | Walrus Isl.             |
| Davis Str.                 | Coats Isl.              |
| Resolution/Edgell Isl.     | Baffin Bay              |
| Shaftsbury/High Bluff Isl. | Milne Inlet             |
| York Sound                 | Lancaster Sound         |
| Lake Harbour               | Navy Board Inlet        |
| Hudson Str.                | Beechy Island           |
| Charles Isl.               |                         |

**Ship:** *Shearwater*

**No. voyages:** N/A

**Shipping Company or Agent:** Kerr Norton Marine Canada

**NWT and Nunavut destinations specified on cruise ship itineraries:**

|                   |                    |
|-------------------|--------------------|
| Cape Dyer         | Pritzler Harbour   |
| Butterfly Bay     | Lady Franklin Isl. |
| Lower Savage Isl. | Pangnirtung        |
| Lake Harbour      | Kekerten Isl.      |
| Cape Dorset       |                    |

**Appendix 3. Seabird colonies and other coastal areas important to birds in the Northwest Territories (NWT) and Nunavut.**

Table 3.1. Seabird colonies in the NWT and Nunavut that are protected within Migratory Bird Sanctuaries (MBS) and National Wildlife Areas (NWA). MBS and NWA locations are indicated on Figure. 3.1.

| <b><u>Name</u></b>        | <b><u>Location</u></b>                  | <b><u>Reference on Fig. 3.1</u></b> |
|---------------------------|---|-------------------------------------|
| Cape Parry MBS            | Inuvialuit Settlement Region, NWT       | 3                                   |
| Seymour Island MBS        | Queen Elizabeth Islands, Nunavut        | 7                                   |
| Prince Leopold Island MBS | Lancaster Sound, Nunavut                | 9                                   |
| Nirjutiqavvik NWA         | Coburg Island, Lady Ann Strait, Nunavut | 10                                  |
| Bylot Island MBS          | off NE coast Baffin Island, Nunavut     | 11                                  |
| East Bay MBS              | Southampton Island, Nunavut             | 14                                  |



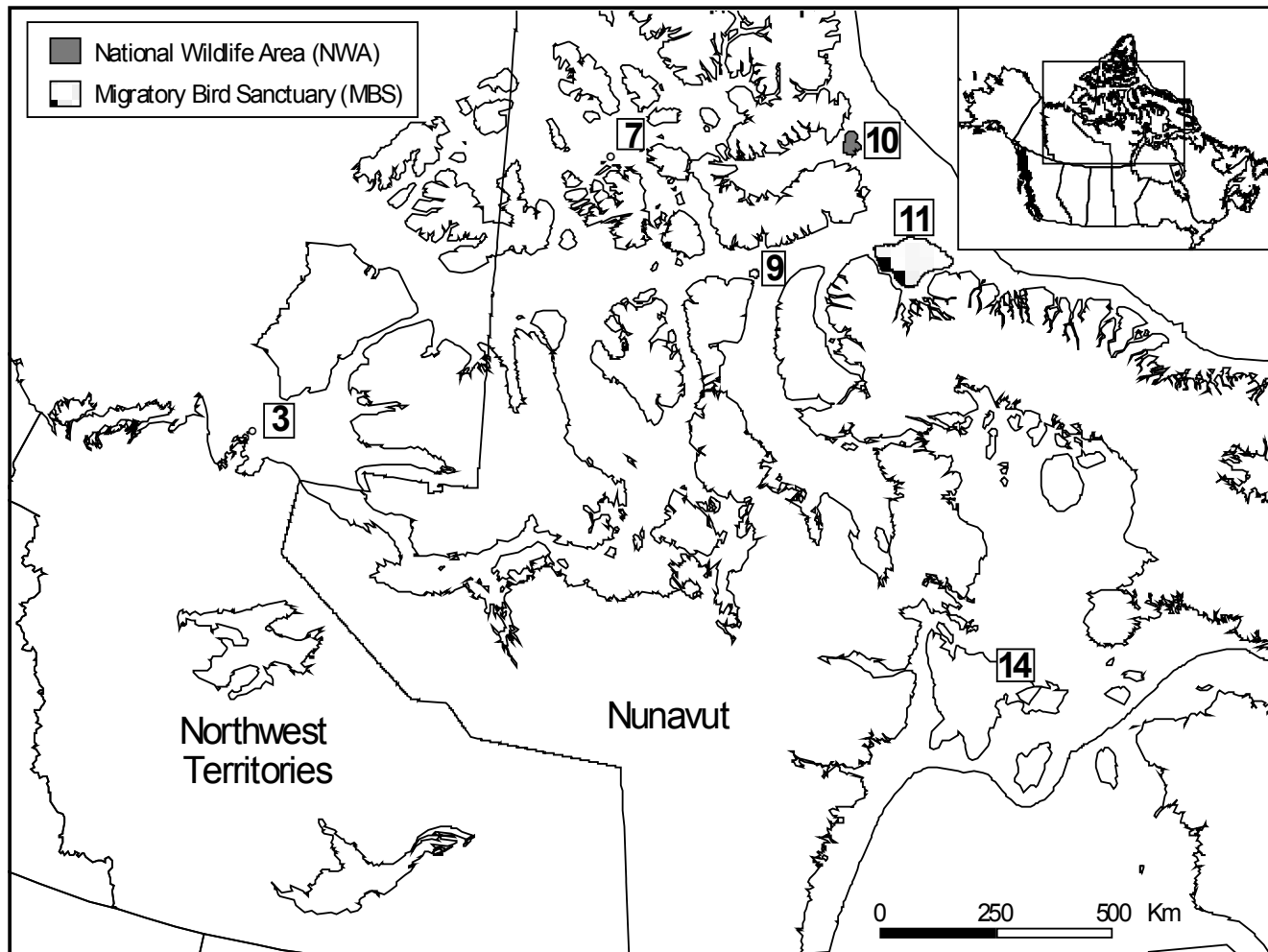


Figure 3.1. Seabird colonies in the NWT and Nunavut that are protected within Migratory Bird Sanctuaries (MBS) and National Wildlife Areas (NWA). See Table 3.1 for MBS and NWA names.

Table 3.2. Seabird colonies in Nunavut designated as Important Bird Areas (IBA) by the CEC (1999). IBA locations are indicated on Figure. 3.2.

| <u>Name</u>                | <u>Location</u>                      | <u>Reference<br/>on Fig.<br/>3.2</u> |
|----------------------------|--------------------------------------|--------------------------------------|
| Prince Leopold Island<br>+ | Lancaster Sound                      | 27                                   |
| Cape Pembroke              | Coats Island, Northern<br>Hudson Bay | 29                                   |
| Cape Hay *                 | Bylot Island                         | 30                                   |
| Cambridge Point #          | Coburg Island                        | 32                                   |
| Digges Sound               | Northeastern Hudson Bay              | 35                                   |
| Foxe Basin Islands         | Foxe Basin                           | 37                                   |
| Akpatok Island             | Ungava Bay                           | 39                                   |
| Cape Searle                | Northeastern Baffin Island           | 45                                   |

+ Protected by Prince Leopold Island MBS.

\* Protected by Bylot Island MBS.

# Protected by Nirjutiqavvik NWA.

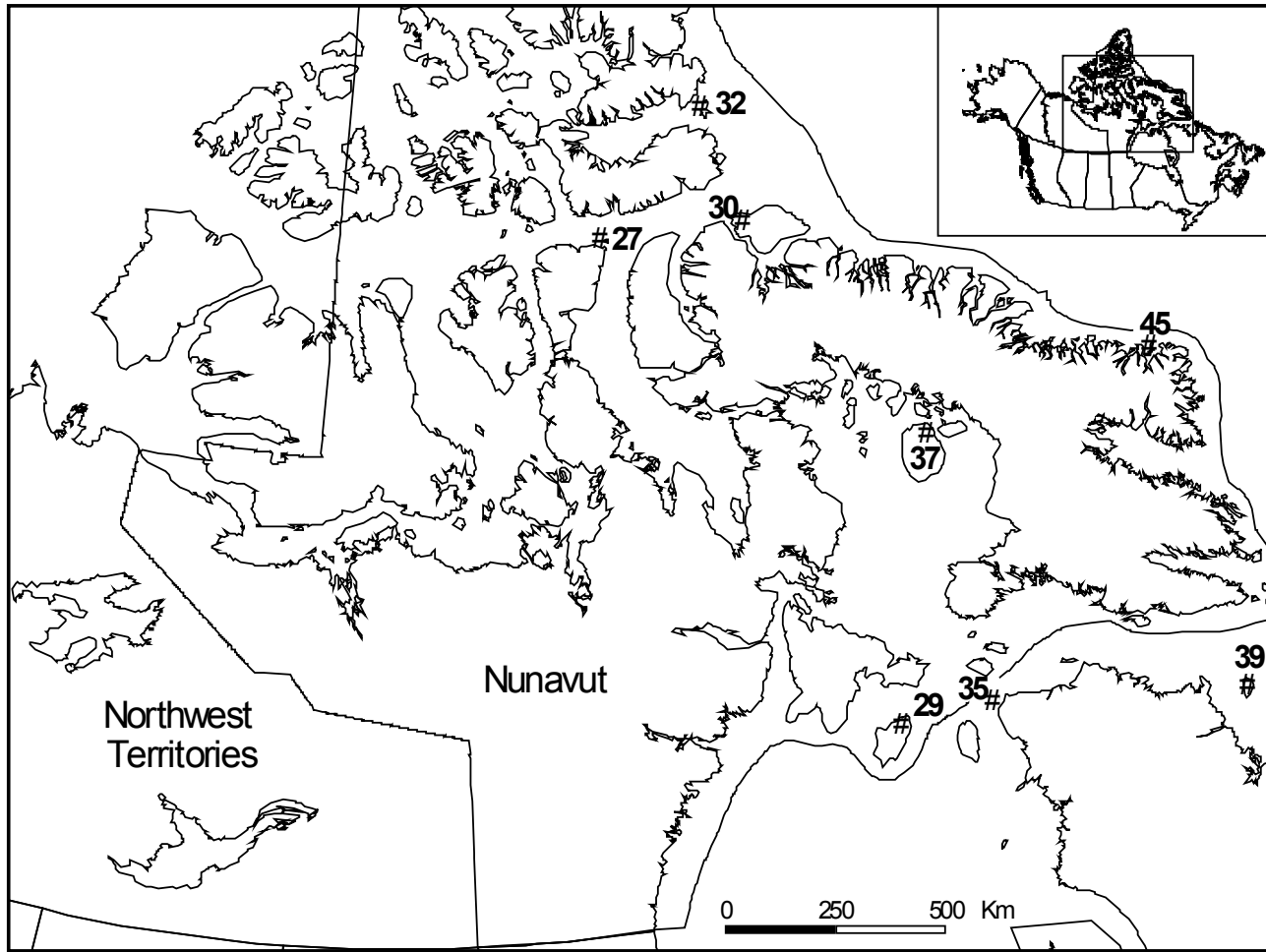


Figure 3.2. Seabird colonies in Nunavut designated as Important Bird Areas (IBA) by the CEC (1999). See Table 3.2 for IBA names.

Table 3.3. Coastal key migratory bird terrestrial habitat sites in Nunavut (Alexander et al. 1991) that contain significant unprotected seabird colonies and that may be of interest to ship-based ecotourism. Site locations are indicated on Figure. 3.3.

| <u>Name</u>                      | <u>Location</u>              | <u>Reference<br/>on Fig.<br/>3.3</u> |
|----------------------------------|------------------------------|--------------------------------------|
| Batty Bay                        | E. coast Somerset Island     | 24                                   |
| Baillarge Bay                    | N. coast Baffin Island       | 28                                   |
| Buchan Gulf                      | NE coast Baffin Island       | 32                                   |
| Scott Inlet                      | NE coast Baffin Island       | 33                                   |
| Cape Searle + *                  | Baffin Island - Davis Strait | 35                                   |
| Reid Bay                         | Baffin Island - Davis Strait | 36                                   |
| Foxe Basin Islands +             | Foxe Basin                   | 38                                   |
| East Bay                         | Southampton Island           | 60                                   |
| Cape Pembroke + *                | Coats Island                 | 61                                   |
| Digges Sound + *                 | Northeastern Hudson Bay      | 64                                   |
| Hantzsch and Edgell<br>islands * | SE tip of Baffin Island      | 66                                   |
| Akpatok Island + *               | Ungava Bay                   | 67                                   |

+ Sites designated as Important Bird Areas (IBA); see also Table 3.2 and Fig. 3.2.

\* Sites listed as destinations on cruise ship itineraries submitted to CWS since 1998 (see also App. 2).

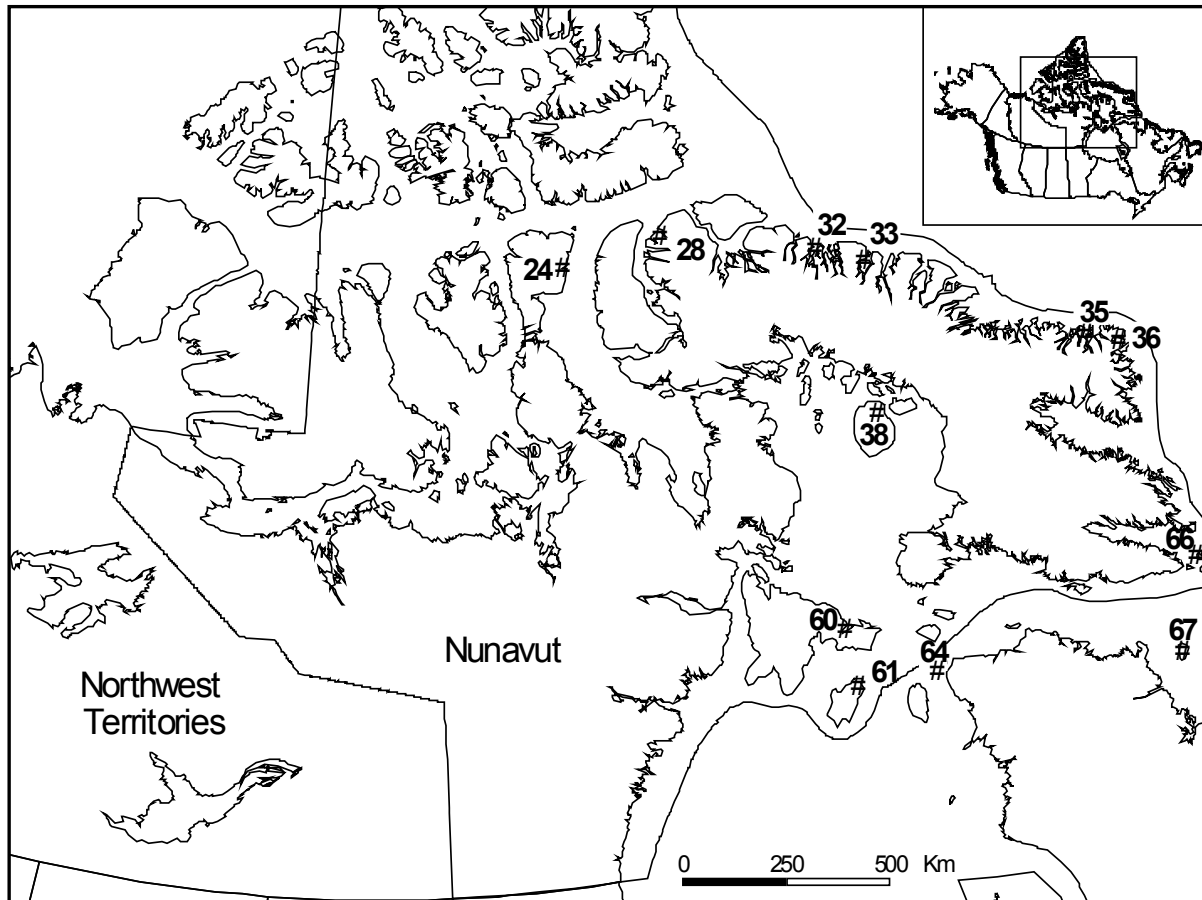


Figure 3.3. Coastal key migratory bird terrestrial habitat sites in Nunavut (Alexander et al. 1991) that contain significant unprotected seabird colonies and that may be of interest to ship-based ecotourism. See Table 3.3 for site names.



**Appendix 4. Federal Oceans-related Legislation (Fisheries and Oceans Canada 1997).**

| <b>Legislation</b>                           | <b>Purpose as it relates to Ocean Programs</b>   |
|--|--|
| <b>Minister of Canadian Heritage</b>         |  |
| <i>National Parks Act</i>                    | Provides for the establishment of marine parks   |
| <b>Minister of Environment</b>               |  |
| <i>Canada Wildlife Act</i>                   | Wildlife conservation, research and interpretation, especially through partnerships and establishment of protected marine areas for wildlife   |
| <i>Canadian Environmental Assessment Act</i> | Integration of environmental factors into federal planning and decision-making   |
| <i>Canadian Environmental Protection Act</i> | Provides for establishment of Marine Environmental Quality Guidelines; Ocean Disposal; and control of land-based sources of pollution, offshore oil and gas, and toxic substances                            |
| <i>Fisheries Act (subsections 36-42)</i>     | Control of pollution from land-based sources, toxic substances, offshore oil and mineral resources development   |
| <i>Government Organization Act</i>           | Assigns responsibility for ice services, marine weather and marine climate   |
| <i>Migratory Birds Convention Act</i>        | Migratory bird conservation  |
| <b>Minister of Fisheries and Oceans</b>      |  |
| <i>Canada Shipping Act</i>                   | Marine navigation, marine search and rescue, pleasure craft safety, marine ship-source pollution prevention and response, lighthouses, receiver of wrecks, support to other federal departments and agencies |
| <i>Coastal Fisheries Protection Act</i>      | Monitoring, control and surveillance   |
| <i>Fisheries Act</i>                         | Conservation and management of fisheries and habitats, licensing, enforcement, international fisheries agreements  |
| <i>Fisheries Development Act</i>             | Fisheries enhancement and development, aquaculture and resource development research   |
| <i>Fishing and Recreational Harbours Act</i> | Small craft harbours   |
| <i>Fish Inspection Act</i>                   | Promotes and supports the value,   |

|  |   |
|--|---|
| <i>Government Organization Act</i>                         | wholesomeness and marketability of fish products produced or sold in Canada<br>Assigns responsibility for physical oceanography, chemical oceanography, marine ecology, oceans policy development   |
| <i>Navigable Waters Protection Act</i>                     | Protects the public right of navigation by providing for removal of obstructions and provides an approval mechanism for planned obstructions  |
| <i>Oceans Act</i>  | Declares Canada's maritime zones in accordance with the provisions of the United Nations Convention on the Law of the Sea; provides for the development and implementation of a national oceans management strategy; and provides for the consolidation and clarification of federal responsibilities for the management of Canada's oceans |
| <b>Minister of Foreign Affairs and International Trade</b> |   |
| <i>Coasting Trade Act</i>                                  | Governs the granting of authority to foreign vessels wishing to conduct marine research within Canada's Exclusive Economic Zones  |
| <i>Foreign Affairs and International Trade Act</i>         | Maritime boundary disputes, Law of the Sea  |
| <i>Oceans Act</i>  | Establishes Canadian maritime boundaries  |
| <b>Minister of Health</b>                                  |   |
| <i>Food and Drugs Act</i>                                  | Ensures safe use of marine species for human consumption  |
| <b>Minister for Indian and Northern Affairs</b>            |   |
| <i>Arctic Waters Pollution Prevention Act</i>              | Regulations controlling the deposit of waste north of 60° latitude  |
| <i>Canada Petroleum Resources Act</i>                      | Regulates interest in petroleum in relation to frontier lands   |
| <i>Nunavut Land Claims Agreement</i>                       | Puts into effect land claim agreement   |
| <i>Western Arctic (Inuvialuit) Claims Settlement Act</i>   | Puts into effect land claim agreement   |
| <b>Minister of Industry</b>                                |   |
| <i>Government Organization Act, Atlantic Canada 1987</i>   | Regional economic development   |
| <i>National Research Council Act</i>                       | Established NRC, which includes marine  |



|  |   |
|--|---|
| <i>Natural Sciences and Engineering Research Act</i>                             | engineering, marine biology research  |
| <i>Western Economic Diversification Act</i>                                      | Established NSERC, which provides grant support to universities<br>Regional economic development  |
| <b>Minister of Justice</b>   |   |
| <i>Department of Justice Act</i>   | Conduct of litigation (including international)   |
| <i>Oceans Act</i>  | Some federal and provincial laws can be applied in some parts of the sea to regulate activities that fall under Canadian jurisdiction (e.g. oil and gas exploration and exploitation)                                       |
| <b>Minister of National Defence</b>  |   |
| <i>Canada Shipping Act</i>   | Search and rescue   |
| <i>Emergencies Act</i>   | Permits temporary measures to ensure safety and security of Canadians   |
| <i>International Convention for the Safety of Life at Sea</i>                    | Search and rescue   |
| <i>National Defence Act</i>  | Maritime command  |
| <b>Minister of Natural Resources Canada</b>                                      |   |
| <i>Arctic Waters Pollution Prevention Act</i>                                    | Provisions concerning natural resources in areas of the Canadian Arctic for which the Minister has administrative responsibility  |
| <i>Canada-Newfoundland Atlantic Accord Implementation Act</i>                    | Development of offshore resources in Newfoundland   |
| <i>Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act</i> | Development of offshore resources in Nova Scotia  |
| <i>Canada Oil and Gas Operations Act</i>   | Regulation of exploration and exploitation of oil and gas   |
| <i>Canada Petroleum Resources Act</i>  | Regulates interest in petroleum in relation to frontier lands   |
| <i>Resources and Technical Surveys Act</i>                                       | Provides for surveys  |
| <b>Minister of Public Works and Government Services</b>                          |   |
| <i>Department of Public Works and Government Services Act</i>                    | Provides for the acquisition services for goods and materiel, major Crown projects, Crown assets distribution and disposal, marine architecture and engineering, dredging, fleet services, and other real property services |
| <b>Minister of Transport</b>   |   |
| <i>Canada Shipping Act</i>   | Services for the safe, economical and efficient movement of ships in Canadian waters  |

*Coasting Trade Act*

Reserves cabotage in Canadian waters to domestic ships and provides for temporary use of foreign ships when no suitable Canadian ship is available. Applies to transportation of passenger and cargo and activities of a commercial nature.

*Government Organization Act*  
*International Convention for the Safety of Life at Sea*  
*National Transportation Act (1987)*

Includes control of ship-source discharge  
Search and rescue

Review of mergers and acquisitions of marine undertakings. Licensing of northern marine resupply. Dispute resolution mechanisms for shippers and carriers in the marine mode.

*Pilotage Act*

Marine pilotage in certain waters of Canada

*Public Harbours and Port Facilities Act*

Provides for the management of public harbours and port facilities

*St. Lawrence Seaway Authority Act*  
*Shipping Conference Exemptions Act, 1987*

Seaway operations  
Provides an exemption from Canadian competition law to national and international shipping lines to collectively set prices, terms and conditions for international marine transportation. Does not apply to domestic marine transportation.

**Privy Council Office**

*Canadian Transportation Accident Investigation and Safety Board Act*

Transport accident investigation

