COMMITTEE ON THE
STATUS OF ENDANGERED
WILDLIFE IN CANADA

OTTAWA, ONT. K1A 0H3
(819) 997-4991

COMITÉ SUR LE STATUT
DES ESPÈCES MENACÉES
DE DISPARITION AU
CANADA

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UPDATED STATUS REPORT ON THE BLACK TERN *CHLIDONIAS NIGER* IN CANADA

BY

ROBERT ALVO

AND

ERICA DUNN

STATUS ASSIGNED IN 1996
NOT AT RISK

REASON: LONG-TERM DECLINE HAS BECOME NON-SIGNIFICANT IN RECENT YEARS - STILL WIDESPREAD AND COMMON IN MANY AREAS BUT NEEDS WATCHING AND IS OF PARTICULAR CONCERN TO ONTARIO AND QUEBEC.

OCCURRENCE: ALBERTA, BRITISH COLUMBIA, MANITOBA, NEW BRUNSWICK, NOVA SCOTIA, NORTHWEST TERRITORIES, ONTARIO, QUEBEC, AND SASKATCHEWAN

COSEWIC - A committee of representatives from federal, provincial and private agencies which assigns national status to species at risk in Canada.

CSEMDC - Un comité de représentants d'organismes fédéraux, provinciaux et privés qui attribue un statut national aux espèces canadiennes en péril.

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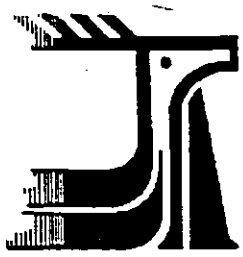

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NOTES

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DEFINITIONS

SPECIES:	"Species" means an indigenous species, subspecies, variety or geographically defined population of wild fauna and flora.
VULNERABLE: (V)	A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
THREATENED: (T)	A species likely to become endangered if limiting factors are not reversed.
ENDANGERED: (E)	A species facing imminent extirpation or extinction.
EXTIRPATED: (XT)	A species no longer existing in the wild in Canada, but occurring elsewhere.
EXTINCT: (X)	A species that no longer exists.
NOT AT RISK: (NAR)	A species that has been evaluated and found to be not at risk.
INDETERMINATE: (I)	A species for which there is insufficient scientific information to support status designation.

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Introduction

Gerson (1988) examined the status of the Black Tern (Chlidonias niger) in Canada and concluded that "threatened" status should be assigned. However, COSEWIC decided that no designation was required. At that time it was known that:

- The species was widespread and apparently abundant in much of Canada and the United States (Gerson 1988).
- Nevertheless, the species had been on the Blue List of American Birds since 1978 because Breeding Bird Survey (BBS) data had shown a population decline of 7.9% per year in Canada and 8.0% percent per year throughout North America over the period 1966-1985. BBS data were also analyzed on a province-by-province basis, but Saskatchewan was the only province for which enough BBS data were available and that showed a significant decrease (10.6 % per year; $p<0.01$) (Gerson 1988).
- Wetland habitat loss was thought to be the main factor responsible for the decline, but environmental contamination was also thought possibly to be involved (Gerson 1988).
- Black Terns had been noted to abandon breeding sites, usually in response to changing water levels or vegetation density, but also when the habitat seemed to be unchanged (Gerson 1988).
- Although extremely sensitive to habitat loss, the Black Tern was quick to exploit newly available suitable habitat (Gerson 1988).

Population Size and Trend

As shown in Figure 1, there were about 1/3 the numbers in Canada in the early 1990s as there were in the late 1960s. Although the rate of decline in Canada since 1980 is not statistically significant, the negative trend persists.

In many provinces Black Terns are not recorded on enough BBS routes for trends to be calculated. Quebec is one such area, despite the fact that the Black Tern is considered a common breeder (Robert 1989). An analysis of birders' checklists (ÉPOQ: Étude des populations d'oiseaux du Québec) for the period 1970-1991 indicates that Black Terns are less than 1/5 as abundant as they were, and that they are observed less than 1/4 as often (Lacombe 1995, Fig. 2). Numbers have remained steady where the species is present (Fig. 2A), but the percent of checklists with observed terns has decreased steadily (with no levelling off in the 1980s; Fig. 2B),

suggesting disappearance from many areas. The overall result is a persistently declining trend in abundance (Fig. 2C). One should keep in mind, however, that these results may partly reflect a change in the birdwatching pattern that has occurred in Quebec in the last twenty years (Michel Gosselin, pers. comm.).

In a thorough review of the status of the Black Tern in Ontario, Austen and Cadman (1994) documented declines and recommended that the species be designated "threatened" in the province.

Novak (1990) estimated 260 pairs at 37 sites in New York and quoted a source reporting 4 times that many at a single site in the 1950s. Maximum numbers in fall migration on the upper Niagara River were 2000-5000 in the 1960s, fewer than 1000 in the 1970s and fewer than 100 by the mid-late 1980s (Carroll 1988).

Many U.S. jurisdictions, especially on the southern edge of the Black Tern's breeding range around the Great Lakes, have given the species special status, from "endangered" to "watch" (Hands et al. 1989, Novak 1992). The Black Tern is listed federally in the U.S. as a Category 2 Candidate Species (U.S. Fish and Wildlife Service 1991). This means there is not enough information available to list the species formally, which would require land managers to consider the impact of their activities on the species. Candidate listing nonetheless alerts everyone that vigilance and further data are needed.

Ridgley (pers. comm.) noted a marked reduction in Black Tern numbers on wintering grounds in Panama since the 1960s.

Habitat

Black Terns are mainly insectivorous and/or piscivorous on the breeding grounds and on migration through the continental U.S. (depending on what is locally available). In winter they eat mainly small marine fishes, concentrating off the Pacific coast of Panama (Dunn and Agro 1995). Stocks of small pelagic fishes in that area collapsed in 1972, and overfishing since then has evidently prevented the stocks from rising above half their previous levels (Patterson et al. 1992). Although the 1972 fisheries collapse coincides with the onset of the major Black Tern decrease (Fig. 1), no causal link has been established.

Studies of contaminant levels in eggs since 1972 (7 studies) indicate that DDE, PCB and dieldrin levels are below danger levels (Dunn and Agro 1995), but pesticide use, acid rain and water pollution in general may have reduced abundance of insect and minnows on the Black Tern's breeding grounds and migration routes (Dunn and Agro 1995).

Purple Loosestrife (Lythrum salicaria) is an exotic, invasive emergent plant of wetlands that has been considered as a possible threat to Black Terns (Novak 1990). However, the main decline in terns occurred before this plant became a problem, and Black Terns care little about plant types as long as water depth and stem density are suitable for nesting (Dunn and Agro 1995). In Manitoba, Trembling Aspen (Populus tremuloides), another invasive species, may have more of an impact on Black Terns than does Purple Loosetrife (Bob Jones, pers. comm.).

In New Brunswick, there appears to be more habitat than before in the St. John River valley, the main area in the province for Black Terns, because of the construction by Ducks Unlimited of impoundments, which often create stable water levels through the nesting period. In fact, until recently, Black Terns were nesting almost exclusively in such impoundments in that province (Pat Kehoe, pers. comm.). In the last decade, however, they have largely retreated to their traditional area along the Saint John River (David Christie, pers. comm.).

Overview

We discussed the Black Tern's status with biologists and naturalists throughout Canada. While some feel that the species is in decline in their jurisdiction (e.g. Doug McRae, Ontario; Peter Taylor, Manitoba), others feel that there is little cause for concern in their jurisdiction (Pierre Laporte, Quebec; Bob Jones, Manitoba; Dale Hjertaas, Prairies; Bob Bromley and Jacques Sirois, Northwest Territories).

Clearly, there is not a consensus regarding the Black Tern's status in the different parts of the country, even for the core areas of abundance in Canada (Manitoba and Saskatchewan). Many individual assessments are based on local knowledge. As illustrated by the Quebec data (Fig. 2), much regional population decline could occur without being detected at all localities.

Evaluation and Proposed Status

The Black Tern population in North America has clearly decreased over the past three decades, as has also been documented in Europe, where in addition the range is known to have decreased (Cramp 1985). North American evidence comes not only from BBS data, but also from independent sources.

The BBS decreases occurred largely prior to 1980. However, BBS data are not reliable unless there are at least 15 (preferably 25) routes on which the species is recorded, and adequate data are lacking for most provinces. Any population decline in these less populated parts of the breeding range could go undetected (as they would have in Quebec without ÉPOQ data, and perhaps in Ontario

without intensive collation of historic records). It would be useful to have better information on regional trends, based on standardized surveys (e.g. Stewart and Kantrud 1972, Novak 1990), or by broad-scale monitoring such as Ontario's new Marsh Monitoring Program or checklist programs.

We recommend the species be listed as "vulnerable" in Canada for the following reasons:

- Canada holds about half the range of the North American breeding population, which continues to decline significantly in the core part of the U.S. range (BBS data for North Dakota, Minnesota), and which has reached levels of management concern in many areas along the southern and eastern parts of the breeding range. Canada therefore bears some responsibility for keeping a watch to ensure Canadian declines do not steepen or persist indefinitely in a negative direction.

- The species is declining also in Europe.

- Loss and degradation of wetlands, probably a key factor in Black Tern abundance, is a continuing problem.

- The much slowed decline of Black Terns in the last 10-15 years, and the relative abundance of this species even now, suggests that "Threatened" status is unwarranted for Canada as a whole. Extinction is not "inevitable if present trends are not reversed". Habitat will remain in the foreseeable future in at least some parts of the country, for example in the Northwest Territories, where recent surveys suggest that thousands of Black Terns nest near Great Slave Lake (Sirois et al. 1995). Similarly, there is no indication that all of the species' wintering habitat will be lost.

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Acknowledgements

Funding for this report was provided by the Canadian Wildlife Service. We thank the following people for providing information on the status of the Black Tern in their jurisdiction:

Newfoundland: Joe Brazil, Troy Wellicome.

PEI: Rosemary Curley.

Nova Scotia: Sherman Boates, Gerald Dickie, David Nettleship.

New Brunswick: Pat Kehoe, Rod Cumberland, Bruce Johnson.

Quebec: Yves Aubry, Jacques Larivée, Michel Huot, Pierre Laporte, Guy Jolicoeur.

Ontario: Ross James, Irene Bowman, George van Drunen, Doug McRae, Paul Prevett, Mike Cadman, Richard Pratt.

Manitoba: Bob Nero, Peter Taylor, Bob Jones, Jim Duncan.

Saskatchewan: Jeff Keith, Dale Hjertaas, Al Smith.

Alberta: Roger Edwards, Bill Hall.

B.C. Bill Harper, Gary Kaiser, Syd Cannings.

NWT: Chris Shank, Bob Bromley, David Kay.

Yukon: David Mossop.

Others who provided information were: Colleen Hyslop, Joe Jehl, Barry Hughson, Theresa Aniskowicz, Sarah Climenhaga, Tony Erskine, Bruce Peterjohn, Robert Ridgley.

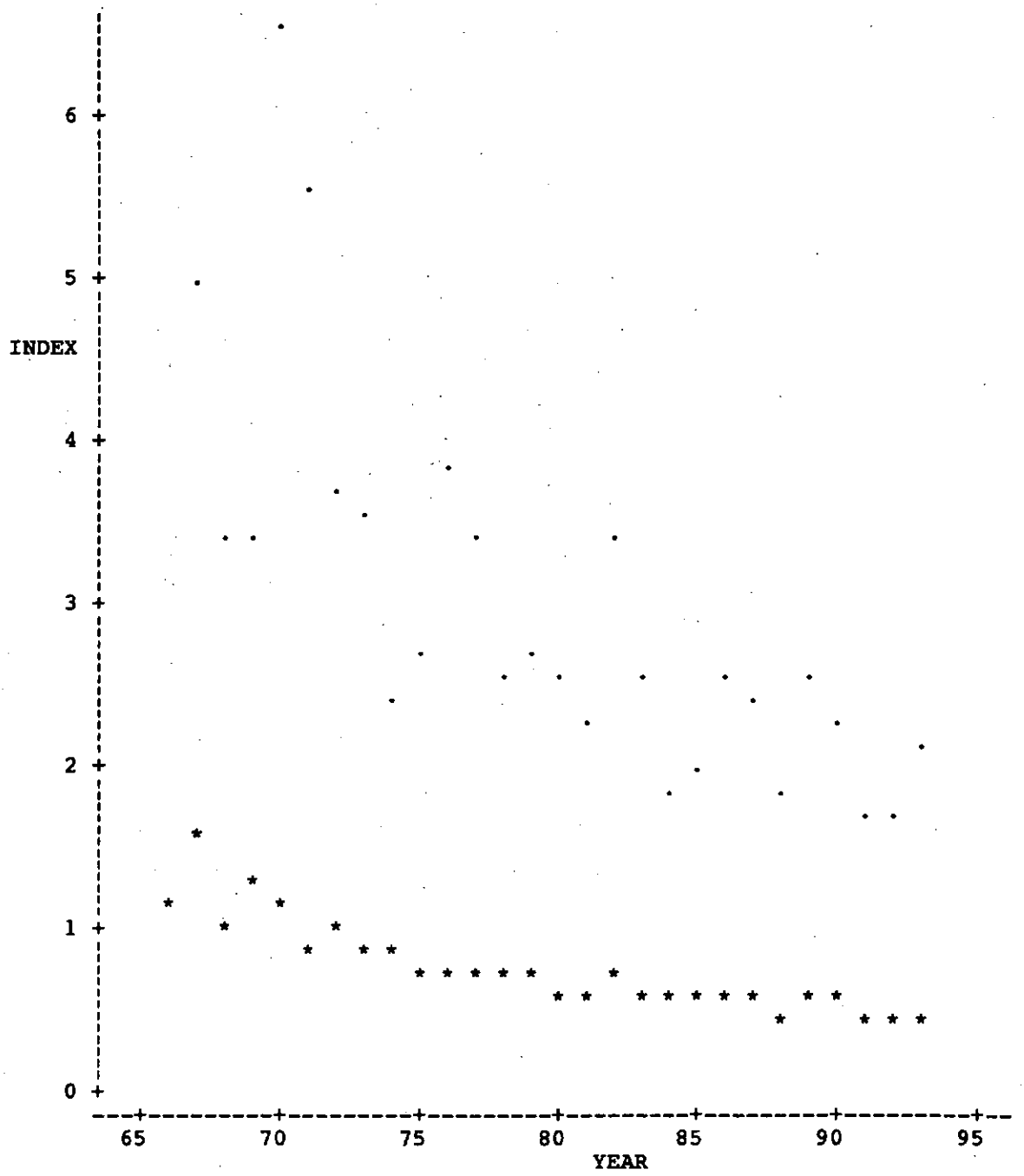
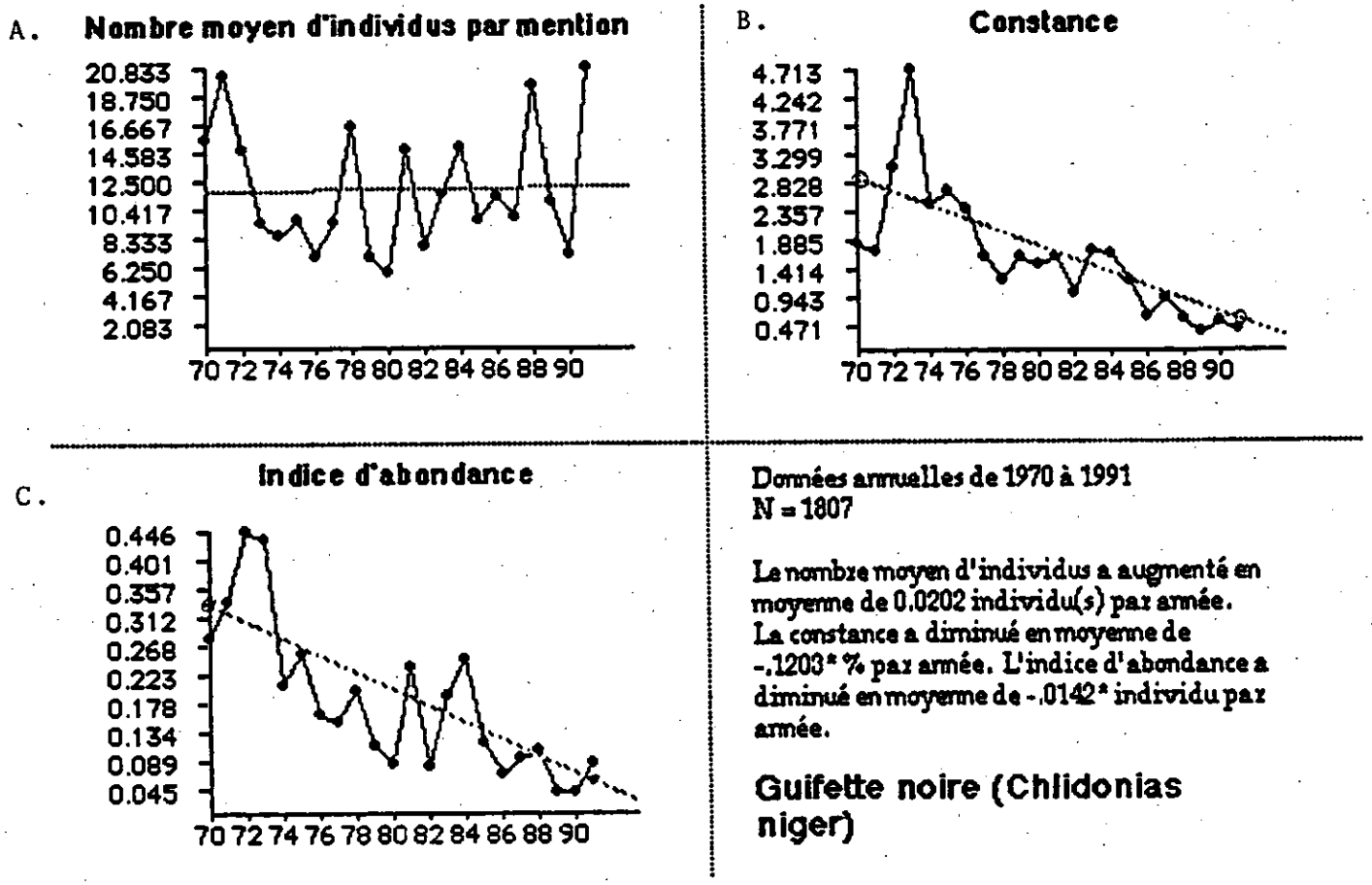


Fig. 1. BBS indices for Black Tern in Canada (.) and the U.S. (*). Annual index is mean number per BBS route on which the species was present. Data courtesy of Bruce Peterjohn (U.S. National Biological Service).



Légende
Constance : fréquence d'observation exprimée en pourcentage
Indice d'abondance : nombre total d'individus / nombre total de feuillets

Fig. 2. Black Tern trends in Quebec (Lacombe 1995). A: Mean number of terns when seen at all, by year. B: Percent of checklists each year on which species was recorded. C: Annual mean abundance per checklist.