

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

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

UPDATED* STATUS REPORT ON THE SPOTTED GAR
LEPISOSTEUS OCVLATUS

IN CANADA

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Vol. 10

BY

ROBERT R. CAMPBELL

STATUS ASSIGNED IN 1994
VULNERABLE

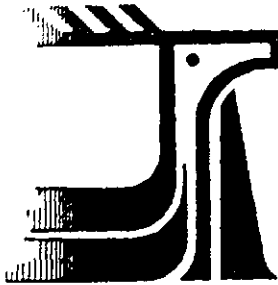
REASON: NATURALLY RARE IN CANADA. THE SPOTTED GAR IS
SUSCEPTIBLE TO LONG-TERM HABITAT DISRUPTION AND
DEGRADATION AS WELL AS TO RECREATIONAL FISHING.

OCCURRENCE: ONTARIO

***DESIGNATED RARE (VULNERABLE) IN 1983 AND RECONFIRMED AS
VULNERABLE IN 1994.**

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

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fédéraux, provinciaux et privés qui attribue un
statut national aux espèces canadiennes en péril.



Committee
on the Status
of Endangered
Wildlife
in Canada

Comité sur le
statut des espèces
menacées
de disparition
au Canada

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NOTES

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3. Additional copies of this report may be obtained at nominal cost from Canadian Nature Federation, 453 Sussex Drive, Ottawa, Ontario, K1N 6Z4.

DEFINITIONS

- SPECIES:** "Species" means any species, subspecies, or geographically separate population.
- VULNERABLE SPECIES:** Any indigenous species of fauna or flora that is particularly at risk because of low or declining numbers, occurrence at the fringe of its range or in restricted areas, or for some other reason, but is not a threatened species.
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**UPDATED STATUS REPORT ON THE SPOTTED GAR
*LEPISOSTEUS OCULATUS***

IN CANADA

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BY

**ROBERT R. CAMPBELL
CANADIAN WILDLIFE SERVICE
ENVIRONMENT CANADA
OTTAWA, ONTARIO
K1A 0H3**

**STATUS ASSIGNED IN 1994
VULNERABLE**

Updated Status of the Spotted Gar, *Lepisosteus oculatus*, in Canada

ROBERT R. CAMPBELL

Canadian Wildlife Service, Environment Canada, Ottawa, Ontario K1A 0H3

Campbell, Robert R. 1994. Updated status of the Spotted Gar, *Lepisosteus oculatus*, in Canada. Report to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Canadian Wildlife Service, Ottawa, Ontario K1A 0H3.

The Spotted Gar, *Lepisosteus oculatus*, is rare in Canada, where its range is limited to southern Ontario where populations are extremely small, and where it is considered a rare species. Previously, 13 specimens were collected from Canadian waters since it was first reported in 1913, and information on preferred habitat and general biology for the species has relied, essentially, on studies carried out in U.S. waters. Five additional specimens have been reported from four sites in the ten years since the Canadian status of the species was first considered .

Le lépisosté tacheté, *Lepisosteus oculatus*, est rare au Canada; sa distribution se limite au sud de l'Ontario où, avec sa population très restreinte, il est considéré comme une espèce rare. Depuis la première fois qu'on l'a observé et avant l'attribution de son statut actuel, treize (13) spécimens avaient été prélevés des eaux canadiennes; l'information sur les habitats de prédilection et la biologie générale de l'espèce provenait essentiellement d'études menées dans les eaux des É.-U. Cinq autres spécimens, de quatre différents endroits, ont été rapportés durant les dernières dix années, depuis que l'espèce est sujette à un statut.

Key words: Spotted Gar, lépisosté tacheté, *Lepisosteus oculatus*, Lepisosteidae, vulnerable, Ontario.

The Spotted Gar, *Lepisosteus oculatus* (Winchell, 1864), is the only shortnose gar occurring in Canadian waters. The Shortnose Gar, *Lepisosteus platostomus*, does not occur in Canada (Scott and Crossman 1973) and the Spotted

Gar is found here only rarely. The species has been described previously (Scott and Crossman 1973) and these fish (Figure 1) may reach lengths of 112 cm and weigh up to 13 kg, but more commonly range from 28 to 60 cm in length and weights of about 1 kg (Scott and Crossman 1973). The Spotted Gar is essentially a southern species, occurring in the United States in all of the states bounded by the Gulf of Mexico, but it does extend north into the Mississippi River and Great Lakes drainages.

Canadian collection records are sparse, but date to 1913 (NMC 58-0192). The status of the species was examined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in April of 1983 based on a report by Parker and McKee (1984). At that time the species was assigned a "rare" [= vulnerable, the category was redefined and renamed by the Committee in April of 1988 (see Campbell 1989)] status.

The fish and marine mammal subcommittee of COSEWIC have voluntarily included in their terms of reference, an automatic ten year review of species assigned status (where species have not already received additional attention within that time frame). Since the Spotted Gar was assigned status in 1983 and has not been reviewed since that time, the species was considered for review in 1993. This report summarizes new information on the species (in Canada) following the initial category assignment of vulnerable in 1983.

Distribution

The Spotted Gar occurs in the fresh and brackish waters of the Gulf of Mexico from northern Florida in the east to the Rio Grande River system in northeastern Mexico in the west. In the Mississippi River basin, it has been reported from Mississippi north through Louisiana, Arkansas, Tennessee, Kentucky, Oklahoma,

southeastern Kansas, Kentucky, Missouri and to Illinois, Indiana and Michigan. In the Great Lakes basin this species has been reported from Lake St. Clair and Lake Erie (Parker and McKee 1984).

Parker and McKee (1984) previously discussed the U.S. and Canadian range (Figure 2) of the species, Canadian records to date are presented in Table 1.

Protection

No specific protection measures for this species are in place in Canada.

The Spotted Gar is a protected species in Ohio and a species of special concern in Kansas and Kentucky (Johnson 1987). It was recognized as a rare and vulnerable species in Canada in 1983 (Parker and McKee 1984).

Population Size and Trends

There is very little information on the species in Canada beyond that reported by Parker et al. (1980) and Parker and McKee (1984). At the time of the study by Parker et al. (1980), only 11 occurrences had been recorded from Canadian waters, since then at least five additional specimens have been obtained (see Table 1) from Lake Erie in Rondeau Bay and Rondeau Harbour. The 1985 collection from the Bay of Quinte suggests a range extension to Lake Ontario, but Crossman (E.J. Crossman, Royal Ontario Museum, Toronto, Ontario; personal communication) indicates that this is may be an introduction (possibly from released bait fish) as the species has not previously been recorded from the Lake Ontario drainage (see Lee and Wiley 1975).

Given the uncertainty of the Sydenham River collections (Table 1) and the need to confirm the presence of the Spotted Gar in Lake Ontario, the only record since 1975 that could be considered *bona fide* is the 1986 collection from Rondeau

Bay (ROM 51555).

Scott and Crossman (1973) recognized the Spotted Gar as an established species (in Canada). The new (and possible) records since the surveys of Parker et al. (1980) confirm the continued presence of the species in Canadian waters and its continuing rarity here.

Habitat

No further information on this species in Canada is available beyond that reported by Parker and McKee (1984).

General Biology

No further information on this species in Canada is available beyond that reported by Parker and McKee (1984).

Limiting Factors

No further information on this species in Canada is available beyond that reported by Parker and McKee (1984).

Special Significance of the Species

As reported by Parker and McKee (1984).

Evaluation

It is apparent that a small, reproducing population of Spotted Gar may be present in Lake Erie, but available information does not allow definitive analysis of population structure. This (Canadian) population occurs at the northern extremity of its North American range and it is unlikely that the

Spotted Gar was ever a common species in the Great Lakes. However, the Spotted Gar may be becoming increasingly rarer in the Great Lakes basin due to long term habitat destruction in the northern U.S.

It is recommended that the Spotted Gar continue to be classified as a rare and vulnerable species in Canada.

Acknowledgements

The author acknowledges E.J. Crossman of the Royal Ontario Museum for his helpful comments and provision of museum records, Gina Cunningham and George Gale of the Ontario ministry of Natural resources for their assistance with OMNR records, and Brian Coad of the Canadian Museum of Nature. Thanks are also extended to the members of the Fish and Marine Mammal Subcommittee for their review of the manuscript and comments and to the Canadian Wildlife Service for support in preparation of the report.

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Table 1: Collection Records of *Lepisosteus oculatus* in Canada.

Location	Date	Number of Specimens	Source
Lake Erie, Essex Co. 41°54'N, 82°31'W	18 May 1913	2	NMC ^a 58- 0192
Lake Erie, Kent Co. 42°12'N, 82°13'W	June 1925	1	ROM ^b 01712
Lake Erie, Kent Co. 42°12'N, 82°13'W	05 Sept 1938	1	ROM 10498
Lake Erie, Long Point Bay 42°38'N, 80°29'W	12 Nov 1947	1	ROM 13864
Lake Erie, Rondeau Bay 42°18'N, 81°54'W	21 April 1955	1 each	ROM 17603 - 04
Lake Erie, Gerundy Creek 42°18'N, 81°54'W	23 April 1955	"	ROM 17605 - 09
Lake St. Clair, Essex Co. 42°20'N, 82°31'W	05 Mar 1962	1	ROM 21781
Rondeau Harbour, Kent Co. Northwest Shore	27 Aug 1975	?	OMNR ^c AC 655
Rondeau Harbour, Kent Co. Lagoon Adjacent to Erieau Channel	1975	?	OMNR AC 655
East Sydenham River 42°36'N, 82°02'W	18 June 1975	?	OMNRS82 ⁻
East Sydenham River 42°35'N, 82°21'W	04 July 1975	?	OMNRS82 ⁺
Rondeau Bay, Kent Co. 42°17'N, 81°57'W	10 Aug 1982 [†]	1 each	ROM 60997 & 60999
Bay of Quinte 44°12'N, 77°43'W	10 Feb 1985 [†]	1	ROM 47296
Rondeau Harbour, Kent Co. 42°04'N, 81°52'W	02 Oct 1986 [†]	2	ROM 51555

^{*} New records since the report of Parker and McKee (1984)

^a Canadian Museum of Nature

^b Royal Ontario Museum

^c Ontario Ministry of Natural Resources

[†] Field identification

⁻ Not readily identified, could be *Lepisosteus osseus*

List of Figures

Figure 1. Spotted Gar, *Lepisosteus oculatus*, - female 661 mm; Ontario Kent County, Lake Erie, April 23 1955, ROM 16707. [Drawing by Anker Odum, from Scott and Crossman (1973) by permission].

Figure 2. Canadian distribution of the Spotted Gar, *Lepisosteus oculatus*, from sources cited in the text. Closed circles represent pre-1980 collection sites, closed triangles post-1980 collection sites.

