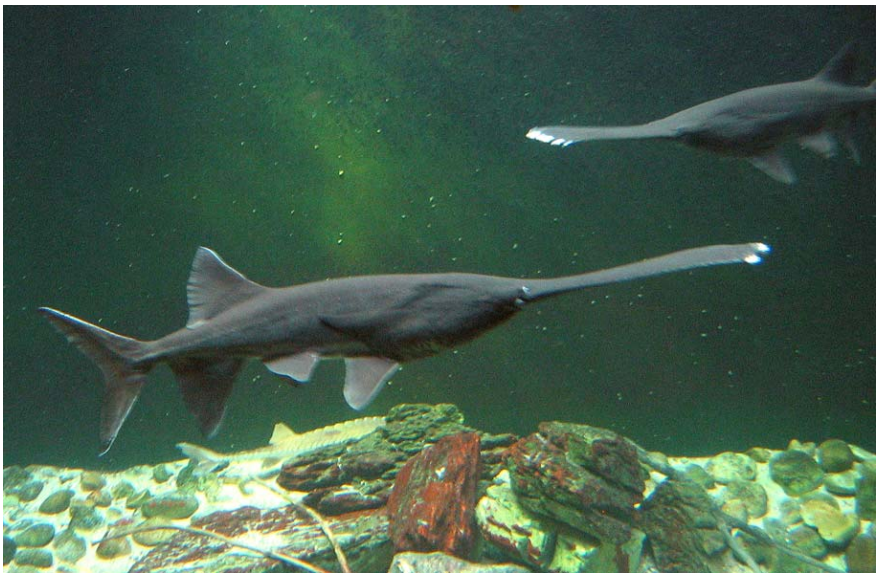
Species at Risk Act
Recovery Strategy Series

Recovery Strategy for the Paddlefish (*Polyodon spathula*) in Canada

Paddlefish



February 2008

Fisheries and Oceans Canada
Pêches et Océans Canada

Canada

About the Species at Risk Act Recovery Strategy Series

What is the *Species at Risk Act* (SARA)?

SARA is the Act developed by the federal government as a key contribution to the common national effort to protect and conserve species at risk in Canada. SARA came into force in 2003 and one of its purposes is *"to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity."*

What is recovery?

In the context of species at risk conservation, **recovery** is the process by which the decline of an endangered, threatened or extirpated species is arrested or reversed, and threats are removed or reduced to improve the likelihood of the species' persistence in the wild. A species will be considered **recovered** when its long-term persistence in the wild has been secured.

What is a recovery strategy?

A recovery strategy is a planning document that identifies what needs to be done to arrest or reverse the decline of a species. It sets goals and objectives and identifies the main areas of activities to be undertaken. Detailed planning is done at the action plan stage.

Recovery strategy development is a commitment of all provinces and territories and of three federal agencies — Environment Canada, Parks Canada Agency and Fisheries and Oceans Canada — under the Accord for the Protection of Species at Risk. Sections 37–46 of SARA (http://www.sararegistry.gc.ca/the_act/default_e.cfm) spell out both the required content and the process for developing recovery strategies published in this series.

Depending on the status of the species and when it was assessed, a recovery strategy has to be developed within one to two years after the species is added to the List of Wildlife Species at Risk. Three to four years is allowed for those species that were automatically listed when SARA came into force.

What's next?

In most cases, one or more action plans will be developed to define and guide implementation of the recovery strategy. Nevertheless, directions set in the recovery strategy are sufficient to begin involving communities, land users, and conservationists in recovery implementation. Cost-effective measures to prevent the reduction or loss of the species should not be postponed for lack of full scientific certainty.

The series

This series presents the recovery strategies prepared or adopted by the federal government under SARA. New documents will be added regularly as species get listed and as strategies are updated.

To learn more

To learn more about the Species at Risk Act and recovery initiatives, please consult the SARA Public Registry (http://www.sararegistry.gc.ca/) and the web site of the Recovery Secretariat (http://www.speciesatrisk.gc.ca/recovery/default_e.cfm).

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Recovery of this species is considered not technically or biologically feasible at this time

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Additional copies:

You can download additional copies from the SARA Public Registry (http://www.sararegistry.gc.ca/)

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DECLARATION (recovery not feasible)

This recovery strategy for paddlefish has been prepared in cooperation with the jurisdictions described in the Preface. Fisheries and Oceans Canada has reviewed and accepts this document as its paddlefish recovery strategy as required by the *Species at Risk Act*. This recovery strategy also constitutes advice to other jurisdictions and organizations on the recovery approaches and objectives that are recommended to protect and recover the species.

The recovery of paddlefish in Canada has been found to be not technically or biologically feasible at this time. Nevertheless, the species still may be the subject of recovery efforts targeted towards other species in the same geographic area or experiencing similar threats, may benefit from general conservation programs in the same geographic area, and will receive protection through SARA and other federal, and provincial or territorial, legislation, policies, and programs.

The feasibility determination will be re-evaluated as warranted in response to changing conditions and/or knowledge (e.g., better information on the species' distribution or better threat mitigation techniques). At a minimum, it will be re-evaluated every five years as part of the report on implementation of the recovery strategy.

In the spirit of the Accord for the Protection of Species at Risk, the Minister of Fisheries and Oceans invites all Canadians to join Fisheries and Oceans Canada in supporting and implementing this strategy for the benefit of the paddlefish and Canadian society as a whole. Fisheries and Oceans Canada will endeavor to support implementation of this strategy, given available resources and varying species at risk conservation priorities.

RESPONSIBLE JURISDICTIONS

Under the *Species at Risk Act*, the responsible jurisdiction for paddlefish is Fisheries and Oceans Canada. Paddlefish used to occur in Ontario, and the government of Ontario cooperated in the production of this recovery strategy

AUTHORS

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STRATEGIC ENVIRONMENTAL ASSESSMENT STATEMENT

A strategic environmental assessment (SEA) is conducted on all SARA recovery planning documents, in accordance with the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*. The purpose of a SEA is to incorporate environmental

considerations into the development of public policies, plans, and program proposals to support environmentally-sound decision making.

Recovery planning is intended to benefit species at risk and biodiversity in general. However, it is recognized that strategies may also inadvertently lead to environmental effects beyond the intended benefits. The recovery planning process, based on national guidelines, directly incorporates consideration of all environmental effects, with a particular focus on possible impacts on non-target species or habitats.

Because the paddlefish is extirpated and recovery has been determined to be not feasible, no further recovery action is considered appropriate at this time. Accordingly, this recovery strategy will have no effect on the environment.

RESIDENCE

SARA defines residence as: "*a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating*" **[SARA S2(1)]**.

Residence descriptions, or the rationale for why the residence concept does not apply to a given species, are posted on the SARA public registry:
http://www.sararegistry.gc.ca/plans/residence_e.cfm

In the case of an extirpated species for which the recovery strategy does not recommend its reintroduction into the wild in Canada, the prohibition pertaining to the damage or destruction of residence does not apply [SARA S33].

PREFACE

The paddlefish is a freshwater fish and was listed as extirpated under SARA when the Act came into force in June 2003. The *Species at Risk Act* (SARA, Section 37) requires the competent minister to prepare recovery strategies for listed extirpated, endangered and threatened species. Fisheries and Oceans Canada, Central and Arctic Region, led the development of this recovery strategy. The strategy meets SARA requirements in terms of content and process (Sections 39-41). It was developed in cooperation or consultation with:

- Ontario Ministry of Natural Resources
- United States Fish and Wildlife Service

EXECUTIVE SUMMARY

In Canada, the past occurrence of paddlefish (*Polyodon spathula*) is known from only four individuals collected from the Great Lakes basin, the most recent in 1917. Currently, paddlefish is considered extirpated from the Great Lakes basin. Disagreement exists as to whether these Great Lakes paddlefish records represent an historic resident population or were vagrants from the Ohio River and/or Mississippi River.

Paddlefish was designed as Extirpated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 1987. This status was re-examined in 2000 by applying new quantitative criteria to the information contained in the 1987 status report, and the status of Extirpated was confirmed.

The paddlefish is a large, primitive fish with a typical specimen having an average total length of 0.5-1.2 m and weighing 0.9-9 kg. Larger individuals can attain lengths of 2 m and weights of more than 80 kg. The paddlefish has a long, paddle-shaped snout which is approximately 1/3 the length of the fish, and a very long, pointed, opercular flap that nearly reaches the pelvic fin. It has no scales aside from a few rhomboid scales on the tail. Colouring is gray to blue-black dorsally and laterally and whitish ventrally.

In the United States, adult paddlefish inhabit the slow waters of medium to large rivers, channels, oxbows, impoundments, backwaters and river-margin lakes. Paddlefish are primarily zooplanktivorous, but occasionally consume small insects, insect larvae and small fishes.

Population growth is limited by late sexual maturity and intermittent spawning by females. Paddlefish require a long period of time to become sexually mature, which is estimated at 7 years for males and 9-10, possibly up to 12, years for females. While male fish are able to spawn each year, several studies suggest that females require 2 to 5 years to develop mature ova between spawning bouts.

In the spring, spawning is generally preceded by an upstream migration (sometimes over extremely long distances) to the spawning area. Successful migration to spawning habitats and initiation of spawning is dependent on barrier-free migration routes and specific water temperatures and flow levels. Paddlefish recruitment is therefore vulnerable to natural and man-made changes to these factors.

It has been determined that recovery of the paddlefish in Canada is not feasible as only four individuals have ever been found in Canada. There is no evidence that there were ever any reproducing populations in Canada, and it is likely the four individuals collected in Canada in the late 1800’s and early 1900’s represent vagrants from the United States.

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1. BACKGROUND

In Canada, the past occurrence of paddlefish (*Polyodon spathula*) is known only from four individuals collected from the Great Lakes basin, the most recent in 1917. However, some authorities question the validity of Canadian records, as authentication of the records has proven difficult (Parker 1987, 1988, COSEWIC 2000). In the United States, the paddlefish was never common in the Great Lakes; it was known with certainty only from Lake Erie, where there were at least two well-authenticated records, both before 1910 (Van Meter and Trautman 1970, NatureServe 2006). It has been extirpated from Maryland, Michigan and New York, which are all peripheral to the species range and never represented a significant portion of it's distribution (NatureServe 2006). Currently, the paddlefish is considered extirpated from the American Great Lakes basin. Canada never represented a significant part of its distribution.

Disagreement exists as to whether the Canadian Great Lakes paddlefish records represent an historic resident population or were vagrants from the Ohio River and/or Mississippi River. Becker (1983) felt that the Great Lakes populations of paddlefish were encountered on their way to natural extirpation. The 1987 Committee on the Status of Endangered Wildlife in Canada (COSEWIC) paddlefish status report states that the Canadian records represent a relict population; however, under current COSEWIC guidelines, it is likely that the species would be termed a vagrant, as there is no evidence of natural reproduction occurring in Canada.

Paddlefish was designated as Extirpated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 1987 and this designation was re-confirmed in 2000 using the same information as the 1987 designation. The International Union for the Conservation of Nature considers Paddlefish to be Vulnerable, and its American Fisheries Society Status is Special Concern.

1.1 Species Assessment Information from COSEWIC

Common Name: paddlefish

Scientific Name: *Polyodon spathula*

COSEWIC Status: Extirpated

COSEWIC Reason for designation: Last reported in Canada in 1917, the 1987 COSEWIC report on the species suggested the paddlefish was lost due to exploitation and habitat degradation.

Canadian Occurrence: Formerly Ontario

COSEWIC Status History: Last recorded in Canada in 1917. Designated Extirpated in April 1987. Status re-examined and confirmed in May 2000. May 2000 assessment based on new quantitative criteria applied to information from the existing 1987 status report.

1.2 Description

The following description is adapted from Trautman (1981) and Becker (1983). The paddlefish (Figure 1) is a large, primitive fish with a typical specimen having an average total length of 0.5-1.2 m and weighing 0.9-9 kg. Larger individuals can attain lengths of 2 m and weights of more than 80 kg. The paddlefish has a long, paddle-shaped snout which is approximately 1/3 the length of the fish, and a very long, pointed, opercular flap that nearly reaches the pelvic fin. It has no scales aside from a few rhomboid scales on the tail. Colouring is gray to blue-black dorsally and laterally and whitish ventrally. The urogenital papilla is somewhat raised in males while in females it is more flattened and softer.

Figure 1. Paddlefish (*Polyodon spathula*) (photo by B. Cudmore (DFO), 2006)

1.3 Populations and Distribution

Distribution:

Global Range: In the United States, the paddlefish occurs in larger rivers throughout 22 eastern and central states (NatureServe 2006) (Figure 2). It occurs in Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Virginia, West

Virginia and Wisconsin. It has been extirpated from Michigan, New York and Pennsylvania. It is unclear whether populations remain in North Carolina where it was found historically.

Figure 2. North American distribution of paddlefish (information from Page and Burr 1991).

Canadian Range: Very few Canadian records of paddlefish exist (Figure 3). The only records are from the late 1800s and early 1900s, when individuals were collected from Lake Huron, near Sarnia (two specimens), the Spanish River, Georgian Bay (one specimen), and in Lake Helen on the Nipigon River (one specimen) (Halkett 1913). However, authentication of these records has proven difficult and some authorities question the validity of Canadian records (Parker 1987, 1988, COSEWIC 2000). The last record of paddlefish in Canada is from 1917.

Figure 3. Canadian records of paddlefish (from Mandrak and Crossman 1992).

Percent of Global Range in Canada: This figure is unknown; however, it is likely less than 1% as very few specimens were ever collected in Canada and it would have been at the northern edge of its range.

Population Size and Status:
Global Population Size and Status: The population size of the paddlefish in the United States is unknown but is believed to range from 2500 to more than a million individuals (NatureServe 2006).

Table 1. Canadian and American national and sub-national natural heritage status ranks for paddlefish (NatureServe 2006).

Canada and US National Rank (NX) and Provincial/ State Rank (SX)	
Canada (NX)	Ontario (SX)
United States (N4)	Alabama (S3), Arkansas (S2?), Illinois (S2S3), Indiana (S3), Iowa (S3), Kansas (S3), Kentucky (S4), Louisiana (S3), Michigan (SX), Minnesota (S2), Mississippi (S3), Missouri (S3), Montana (S1S2), Nebraska (S2), New York (SX), North Carolina (SH), North Dakota (SNR), Ohio (S2), Oklahoma (S1S2), Pennsylvania (SX), South Dakota (S4), Tennessee (S3), Texas (S3), Virginia (S1), West Virginia (S1), Wisconsin (S2?)

Canadian Population Size and Status: In Canada, the paddlefish has been designated as Presumed Extirpated nationally (NX) and provincially (SX) by NatureServe, as no specimens have been collected since 1917. It has also been designated as Extirpated by the Ontario Ministry of Natural Resources.

Nationally Significant Populations: As very few paddlefish specimens were ever collected in Canada, it is unknown whether they were part of a larger population or strays that made their way into the Great Lakes basin through canals. As such there are no nationally significant populations in Canada.

1.4 Needs of Paddlefish

1.4.1 Habitat and Biological Needs

Historically Occupied Habitat: Paddlefish specimens collected in Canada at the turn of the century were captured from the inshore areas of the Great Lakes or from moderately large tributaries of the Great Lakes (Halkett 1913). Two specimens were collected from Lake Huron, near Sarnia, Ontario; one specimen was taken from the Spanish River, Georgian Bay; and one specimen was captured in Lake Helen, Nipigon River (Halkett 1913). Habitat data are not available for these capture locations.

In the United States, adult paddlefish inhabit the slow waters of medium to large rivers, channels, oxbows, impoundments, backwaters and river-margin lakes (Becker 1983, Parker 1988, Etnier and Starnes 1993, NatureServe 2006). In un-impounded, un-channelized rivers, adult paddlefish can be found downstream of submerged sandbars, typically at depths of 2 – 3 m, during late spring through early fall. Sandbars reduce the current velocity directly downstream. Preferred velocities in this situation range from 0 to 30 cm/s. From late fall through early spring, adult paddlefish are found in deeper waters (i.e. > 3 m) (Rosen *et al*. 1982,

Crance 1987). Preferred substrates are unknown but the species has been reported over mud bottoms (Becker 1983). In regulated rivers, paddlefish congregate in small areas below structures such as sandbars, protected bays, dikes, bridge supports, and eddies in the tailwaters below dams where velocities are less than 0.3 m/sec (Southall and Hubert 1984, Moen *et al*. 1992, Jennings and Zigler 2000). When these structures are unavailable to provide refuge from high current conditions, paddlefish select nearshore habitats with low current velocities (Rosen 1976; cited in Jennings and Zigler 2000).

Currently Occupied Habitat: Currently there are no known occupied habitats in Canada.

Habitat Trends: The few records of capture from the Great Lakes provide little or no information regarding the characteristics of habitats historically utilized by Great Lakes populations of paddlefish. Without knowing specifically the habitats occupied in the Great Lakes, it is not possible to identify trends in paddlefish habitat.

Habitat Protection/Ownership: Paddlefish habitat is protected under the general fish habitat provisions of the federal *Fisheries Act*. The paddlefish and/or its habitat is also protected under *Ontario's Lakes and Rivers Improvement Act*, *Environmental Protection Act*, *Environmental Assessment Act* and *Water Resources Act*.

General Biology: Nothing is known regarding the biology of the paddlefish in Canada and all available information comes from populations in the United States. Paddlefish spawn in the spring, usually during April and May, when water temperatures range from approximately 10-17°C (Purkett 1961, Wallus 1986, Lein and DeVries 1998). Spawning is preceded by an upstream migration to the vicinity of the spawning areas where the fish congregate in deep areas of the river (Purkett 1961, Pasch *et al*. 1980). Large increases in water velocity trigger paddlefish to move into spawning areas and spawning is triggered by increased water flow (Purkett 1961, Pasch *et al*. 1980, Jennings and Zigler 2000). Optimal water velocities range from 60 – 140 cm/s (Crance 1987). Paddlefish spawn over gravel bars and other hard surfaces such as rock and rip/rap, in areas with enough current to keep eggs free from silt (Pasch *et al*. 1980, Wallus 1986). Reported water depths at spawning locations range from 2 – 12 m, but optimal depths probably range from approximately 3 – 6 m (Crance 1987). In Missouri, spawning occurred after water levels rose 2.7 m and water temperatures were 16.1°C. Eggs become adhesive upon fertilization and immediately stick to the clean gravel substrate (Purkett 1961). Hatching occurs in seven days or less at 18.3°C – 21.1°C (Purkett 1961). After hatching, larval paddlefish begin swimming continuously from bottom to surface, resting only when gliding back to the bottom. This behaviour helps remove the larvae from the receding waters of temporarily flooded spawning sites (Wallus 1986). Current velocities of 30 – 122 cm/s are required to transport newly hatched larvae to nursery habitats. Velocities in nursery habitats are generally low, allowing larvae to feed without expending large amounts of energy (Crance 1987).

1.4.2 Ecological Role

Paddlefish primarily feed on zooplankton and occasionally consume small insects, insect larvae and small fishes (Jennings and Zigler 2000). Walleye (*Sander vitreus*) and sauger (*S. canadensis*) can be significant predators on young paddlefish in American reservoirs (Mero *et al*. 1994).

1.4.3 Limiting Factors

Population growth is limited by late sexual maturity and intermittent spawning by females. Paddlefish require a long period of time to become sexually mature, which is estimated at 7 years for males and 9-10, possibly up to 12, years for females (Parker 1987, 1988, NatureServe 2006). While male fish are able to spawn each year, several studies suggest that females require 2 to 5 years to develop mature ova before spawning again (Jennings and Zigler 2000).

In the spring, spawning is generally preceded by an upstream migration (sometimes over extremely long distances) to the spawning area. Successful migration to spawning habitats and initiation of spawning is dependent on barrier-free migration routes and specific water temperatures and flow levels. Paddlefish recruitment is therefore vulnerable to natural and man-made changes to these factors.

1.5 Threats

Specific factors that were a threat to any paddlefish individuals in Canada are unknown. In the United States, the primary factors responsible for changes in distribution and abundance of paddlefish across its range are: destruction of spawning grounds; blockage of movements by dams; channelization and elimination of backwater areas; dewatering of streams; industrial pollution and over-harvest (Carlson and Bonislawsky 1981). Trautman (1957) speculated that its extirpation from Lake Erie could have resulted from dams on tributaries blocking upstream spawning migrations and/or destroying its spawning habitat.

1.7 Knowledge Gaps

Unresolved Issues: It is unclear whether populations of paddlefish ever existed in Canada. Disagreement remains as to whether the four Canadian paddlefish records from the Great Lakes represent resident populations or vagrants from the Ohio River and/or Mississippi River. If Canadian records of paddlefish represent vagrants from the Ohio River or Mississippi River basins, then paddlefish populations and associated habitats never existed in Canadian waters. It is important to remember that the data used for the COSEWIC designation is over twenty years old and the species was designated as Extirpated prior to the implementation of SARA. COSEWIC's Operating and Procedures Manual is now more explicit about potential vagrancy of species, and therefore more guidance is provided to consider this species. It is likely paddlefish would not be eligible for assessment by COSEWIC as there is no evidence of natural reproduction in Canada. Therefore, it is recommended that further study be conducted to confirm paddlefish vagrancy in Canada.

Threat Clarification Research Requirements: Specific reasons as to why the paddlefish disappeared from Canada (if populations ever existed here) are unknown.

2. RECOVERY

Feasibility of Recovery

Recovery feasibility is determined according to four criteria outlined in Government of Canada (2006):

1. *Are individuals capable of reproduction currently available to improve the population growth rate or population abundance?*

Yes. Although the paddlefish is extirpated from the Great Lakes, they are still found throughout the United States and its populations are supplemented by hatcheries. Artificial propagation using individuals from extant American populations could be undertaken to re-establish Canadian populations, if deemed appropriate.

2. *Is sufficient suitable habitat available to support the species or could it be made available through habitat management or restoration?*

No. Disagreement exists as to whether Great Lakes paddlefish records represent resident populations or vagrants from the Ohio River and/or Mississippi River. Paddlefish are highly mobile and undertake extensive movements often associated with spawning. Spawning migrations of more than 300 km are common in one Missouri population (Russell 1986), and, in another study, one tagged paddlefish was recaptured almost 2000 km downstream (Rosen *et al.* 1982). A report of paddlefish in Lake Michigan, although the record was felt to be improbable, was suggested by Greene (1935; cited in Becker 1983) to be the result of the fish entering the lake through the Chicago Canal. Hubbs *et al*. (2004) identified a number of natural (floodwaters that connected Mississippi River and Great Lakes basin headwaters) and man-made connections to the Great Lakes (canals built in the early 1800s to join Lake Erie and Ohio River, and Mississippi River to Lake Michigan) that have served to change fish species distributions. Further, Cavender (1987) suggested that the lack of paddlefish remains from archeological excavations in northern Ohio was evidence of it being either exceedingly rare in Lake Erie or introduced after the European colonization. Trautman (1957) favoured a pre-Columbian invasion, with a small relict population in Lake Erie present before the canal building.

If Canadian records of paddlefish represent vagrants from the Ohio River or Mississippi River basins, then paddlefish populations and associated habitats never existed in Canadian waters. Therefore, recovery actions for habitat management or restoration for this species would not be appropriate.

3. *Can significant threats to the species or its habitat be avoided or mitigated through recovery actions?*

No. In other parts of its range, the paddlefish has declined as a result of destruction of spawning grounds, exploitation, dam construction, river channelization, dewatering of rivers and pollution (Carlson and Bonislawsky 1981). Trautman (1957) speculated that its extirpation could have resulted from dams on Lake Erie tributaries blocking upstream spawning migrations and/or destroying its spawning habitat. Alternatively, Becker (1983) felt the Great Lakes populations of paddlefish were encountered on their way to natural

extirpation. It is not known why paddlefish disappeared from Canada. Therefore, it is not feasible to identify associated recovery actions to address threats to species recovery.

4. Do the necessary recovery techniques exist and are they demonstrated to be effective?

Yes. Techniques to artificially propagate paddlefish exist (Mims 2001). Stocking of fingerlings is being used in a number of jurisdictions in the United States to supplement existing stocks where natural recruitment is insufficient to maintain populations, or to recover populations at the periphery of its native range (Graham 1997).

Regulation of river flows by dams during spring can disrupt paddlefish spawning by altering river temperatures and discharge necessary to trigger spawning. Dams can also impede upstream migrations to spawning areas (Jennings and Zigler 2000). Discharge below dams could be manipulated to more closely resemble the natural spring hydrograph. Habitat suitability curves presented in Crance (1987) provide guidance for making such adjustments. Dams that represent migration barriers to upstream spawning areas could be either removed or fitted with fish passage structures. The efficacy of fish passage structures is, however, unknown for paddlefish (Jennings and Zigler 2000).

Improvements to water quality in non-wadeable Ohio rivers have also been associated with greater abundance and distribution of paddlefish (Yoder *et al.* 2005).

However, if the four individuals found in Canada represent vagrants, recovery techniques should not be employed for this species.

In conclusion, it has been determined that recovery of the paddlefish in Canada is not feasible as only four individuals have ever been found in Canada. There is no evidence that there were ever any reproducing populations in Canada, and it is likely the four individuals collected in the Canadian Great Lakes in the late 1800's and early 1900's represented vagrants from the United States.

3. CRITICAL HABITAT

3.1 Definition

As defined by SARA, critical habitat is "*the habitat required for the survival or recovery of a listed species*". The identification of critical habitat requires a thorough knowledge of the species' environmental needs during all life stages, as well as an understanding of the distribution, quantity and quality of habitat across the species' range. This information is not available for the paddlefish, as the four individuals found in Canada were likely vagrants from the United States.

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APPENDIX 1.

RECORD OF COOPERATION AND CONSULTATION

The Paddlefish Recovery Strategy was prepared by Fisheries and Oceans Canada (DFO) and Trent University. Officials from the Ontario Ministry of Natural Resources (OMNR) and the United States Fish and Wildlife Service (USFWS) were consulted during the preparation of this recovery strategy.

DFO has attempted to engage all potentially affected Aboriginal communities in Ontario during the development of the recovery strategy for the paddlefish. Information packages were sent to the Chief and Council of Aamjiwnaang First Nation, Algonquins of Ontario - Antoine, Algonquins of Ontario - Mattawa/North Bay, Aundeck-Omni-Kaning, Batchewana First Nation, Beausoleil, Biinjitiwaabik Zaaging Anishinaabek, Chippewas of Kettle & Stony Point, Chippewas of Georgina Island, Chippewas of Mnjikaning First Nation, Chippewas of Nawash First Nation, Chippewas of the Thames First Nation, Curve L., Dokis, Fort William, Garden River First Nation, Henvey Inlet First Nation, Hiawatha First Nation, Magnetawan First Nation, M'Chigeeng First Nation, Michipicoten First Nation, Mississauga First Nation, Moose Deer Point, Ojibways of the Pic River First Nation, Pays Plat, Pic Mobert, Red Rock, Sagamok Anishnawbek, Saugeen First Nation #29 , Serpent River, Shawanaga First Nation, Sheguiandah, Sheshegwaning, Thessalon, Wahta Mohawk, Walpole Island, Wasauksing First Nation, Whitefish Lake, Whitefish River, Wikwemikong, and Zhiibaahaasing First Nation. Information Packages were also sent to Ogemawahj Tribal Council, United Chiefs & Council of Manitoulin Island, North Shore Tribal Council, Waabinoong Bemjiwang Association of First Nations, Association of Iroquois and Allied Indians, Grand Council Treaty 3, Union of Ontario Indians (Anishnabek Nation), Chiefs of Ontario, Métis Nation of Ontario (MNO), MNO Captains of the Hunt Region 2, 4, 5, 7, and 9, Métis National Council, and the Assembly of First Nations. Members of these communities may have traveled or harvested fish from the waters of the Lake Superior, Lake Huron and Lake Erie where this fish species was historically found. Follow-up telephone calls were made to each community office to ensure that packages were received and to ask if they would like to schedule a meeting to learn more about species at risk in general and recovery strategies.

No meetings were held as a result of these letters and calls. Comments were received from Chippewas of Mnjikaning First Nation, Chippewas of Aamjiwnaang and the Association of Iroquois and Allied Indians.

In addition to the above activities, DFO has established an ongoing dialogue with respect to aquatic species at risk in general with Walpole Island First Nation. Meetings have been held on several occasions with the director of the Walpole Island Natural Heritage Centre and the Fish and Game Enforcement Officer from Walpole Island First Nation. DFO also discussed SARA issues with a representative of the Six Nations of the Grand who works for the Six Nations EcoCentre and who also represents First Nation interests on the Grand River Fishes at Risk Management Plan, the Thames River Fish Management Plan and St. Clair River Management Strategy.

Information packages were sent to non-Aboriginal groups, environmental organizations and municipalities which may be impacted by the recovery strategy. As well, an announcement was placed in newspapers with circulation in the area where the paddlefish was historically found to inform landowners and the general public about the strategy and to request their comments. No comments were received.

A letter was sent to the province of Ontario and comments received were added to the recovery strategy.