Fisheries and Oceans Canada | Pêches et Océans Canada

INTEGRATED GASPEREAU FISHERY MANAGEMENT PLAN

EASTERN NEW BRUNSWICK AREA
GULF REGION

2007–2012

Canada

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDIXES

GLOSSARY

Coastal fisher: Designates a fisher who is not a member of a core enterprise and who holds at least one key non-vessel-based commercial fishing licence. In the Eastern New Brunswick Area, key non-vessel-based commercial licences are for the following species: clams (bar clams, bay quahogs and soft-shell clams), eel, gaspereau, oyster and smelt.

Core enterprise: Means a fishing unit composed of a fisher (head of enterprise), one or more registered vessel(s) and the licences he holds, and which has been designated as such in 1996 under the following criteria:

For bonafide fishers: who have bonafide fisher status and hold a key fishing licence (snow crab, Category A lobster, groundfish (all gear other than handline), scallop, tuna or herring).

For non-bonafide fishers: who hold two key fishing licences (shrimp, snow crab, Category A lobster and ITQ groundfish only) or who hold one key fishing licence, have fished for a full season and have made landings with a value of at least $25,000 under their own licences, for two years between 1993, 1994 and 1995.

Ecosystem: Basic ecological unit formed by the natural environment and the organisms, animals and plants that live there.

Integrated Fisheries Management Plans: Aimed at conservation and sustainable use of fisheries resources. Plans incorporate conservation, management and scientific requirements for a fishery and also spell out the process and implementation of resource management, conservation and protection measures. The process provides the basis for a more integrated approach between DFO sectors as well as for a more meaningful participation of all stakeholders. Integrated Fisheries Management Plans in effect set the stage for co-management arrangements by ensuring transparency, establishing overall allocations between sectors and fleets, providing relevant contextual information and ensuring that clients and stakeholders are consulted on the overall goals and strategies for the management of each fishery.

Watershed: Geographic concept designating a territory whose land is drained by any one body of water, such as a bay (Caraquet Bay watershed) or a river (Aboujagane River watershed), and which includes groundwater, surface water and wetlands.

INTEGRATED GASPEREAU FISHERY MANAGEMENT PLAN

Eastern New Brunswick Area

2007–2012

INTRODUCTION

This six-year management plan covers the commercial gaspereau (*Alosa pseudoharengus and Alosa aestivalis*) fishery in the Eastern New Brunswick Area, including the watersheds between Dalhousie and Baie Verte (Appendix 1) or statistical districts 63 to 80 (Appendix 2), for the period 2007 to 2012 inclusive. It is centered on the principles of sustainable development, an ecosystems approach, integrated management and a precautionary approach in keeping with the spirit of the *Oceans Act* and *Species at Risk Act*.

This plan is designed to be implemented in conjunction with an annual update that adjusts specific fishery management measures—relating to fishing areas, seasons and catch limits—to meet conservation imperatives. This update will be issued as a notice to fishers before the start of the fishing season.

1. OVERVIEW OF THE FISHERY

Since colonial times, the gaspereau fishery has been an important factor in the economy of the Maritime Provinces. These fish are found in almost every Maritime stream and river, and are used for local subsistence and export. Some fishers use them for bait.

Important gaspereau fisheries exist in most of the Atlantic coastal regions of the United States as well as in the Maritime Provinces, particularly New Brunswick and Nova Scotia. The gaspereau has been used both as food, either fresh or salted, and as bait.

The gaspereau (*Alosa pseudoharengus*) and a closely related species, the blueback herring (*Alosa aestivalis*), are known under various names on the Atlantic coast of Canada and the United States. While the two species have different runs, fishers make no distinction between the two, nor do the statistics on commercial catches. Since the appearance and biology of these species are quite similar, the term “gaspereau” will be used for both.

As the Maritimes developed, there was a marked decline in the abundance of gaspereau. As early as the mid-1880s, one concerned official wrote that “the gaspereau fishery has been considered of so much importance that various Acts of Assembly have, from time to time, been passed for its regulation and protection. But these laws have either been neglected, or not properly enforced, and this fishery is rapidly declining.”

Modern fishery regulations are more comprehensive and better enforced, but environmental deterioration has worsened with the expansion of human population and industry, and pollution, such as acid rain, threatens stock abundance.

Landings for the Atlantic region for 1994 to 1998 totalled about 20 000 t for a value of $8.5 million. The Eastern New Brunswick Area accounts for 50% of total landings in the Atlantic region.

In 2000, in the Eastern New Brunswick Area, about 57% of landings came from the Miramichi River, 29% from the Richibouctou/Bouctouche Rivers, and 11% from the Pokemouche/Big Tracadie Rivers. In 2004, 47% of landings came from the Miramichi River, 26% from the Richibouctou/Bouctouche Rivers, and 19% from the Pokemouche/Tracadie Rivers.

1.1 Participants

In 2004, there were 129 licence holders (down 3 from 2000) sharing 337 trap nets and 700 fathoms of gill net. The following tables provide an overview of the participants in the fishery.

It is interesting to note that there are no gaspereau licence holders in statistical districts 63, 64, 65, 66, 78 and 80, or watersheds 1, 14 and 15. In summary, for all the coastal fishers in the Eastern New Brunswick Area, 2 fishers hold a gaspereau licence only, 9 hold a gaspereau licence and at least 1 other licence, 9 hold a gaspereau licence and at least 2 other licences, and 16 hold a gaspereau licence and at least 3 other licences. None of the coastal fishers holds a gill net licence.

Table 1. Distribution and number of trap nets by coastal fisher, by statistical district, 2000

Stat. Dist.	**1**	**2**	**3**	**4**	**7**	**8**	**10**	**11**	**12**	**18**
67					1		1	1	1	1
68				1		1	1			
70	1							1		
71	8	1	1							
73	7	3	2							
75	1									
76			1							
77		1								
Total	17	5	4	1	1	1	2	2	1	1

Table 2. Distribution and number of trap nets by coastal fisher, by watershed, 2004

Water-shed	1	2	3	4	8	10	11	12	18
2			1						
4		1				1	1	1	1
5	1			1	1	1	1		
6		1							
8	10	4	4	1					
9	2								
10		2							
13		1							
Total	**13**	**9**	**5**	**2**	**1**	**2**	**2**	**1**	**1**

Table 3. Number of licences (all types) issued, 1987–2004

Year	Number of Licences	Year	Number of Licences
1987	179	**1994**	155
1988	171	**1995**	153
1989	169	**1996**	149
1990	165	**1997**	142
1991	161	**1998**	140
1992	158	**1999**	137
1993	155	**2000**	132
		2004	129

The 129 licences issued in 2004 represent a decrease of 50 since 1987.

Aboriginal fishery

Aboriginal groups (Elsipogtog First Nation, Bouctouche First Nation, Eel Ground First Nation, Indian Island First Nation, Red Bank First Nation and New Brunswick Aboriginal Peoples Council) hold communal commercial gaspereau licences.

The Marshall decision confirmed a treaty right of Mi'kmaq and Maliseet First Nations to fish for limited commercial purposes. Commercial fishing licences reallocated to Aboriginal organizations affected by the Marshall decision are the result of the voluntary buy-back of traditional communal fishing licences. These licences are subject to the management measures in place in the commercial fishery.

The Aboriginal Fisheries Strategy provides a regulatory framework for the management of fisheries for food, social and ceremonial purposes. Licences issued for these purposes include conditions relating to catch limits, fishing areas, gear and fishing seasons.

In total, 18 licences were issued to Aboriginal groups for the communal commercial fishery and for food, social and ceremonial purposes.

Table 4. Number of fishers, type of licence, amount of gear by statistical district in Eastern New Brunswick, 2000

STATISTICAL DISTRICT	TOTAL LICENCES	COASTAL	CORE	# TRAP NETS	# FATHOMS OF GILL NET
63	0	0	0	0	0
64	0	0	0	0	0
65	1	0	1	1	0
66	1	0	1	0	150
67	7	5	2	63	0
68	8	3	5	29	0
70	3	2	1	14	0
71	13	10	3	21	0
73	29	12	17	40	0
75	16	1	15	30	0
76	27	1	26	63	450
77	21	1	20	46	0
78	6	0	6	21	0
80	0	0	0	0	0
TOTAL	**132**	**35**	**97**	**328**	**600**

A map and description of statistical districts can be found in Appendix 2.

Table 5. Number of fishers, type of licence, amount of gear by watershed in Eastern New Brunswick, 2004

WATERSHED	TOTAL LICENCES	COASTAL	CORE	# TRAP NETS	# FATHOMS OF GILL NET
1	0	0	0	0	0
2	2	1	1	4	0
3	1	0	1	0	150
4	6	5	1	60	0
5	10	5	5	41	0
6	1	1	0	2	0
7	1	0	1	1	0
8	47	19	28	78	0
9	14	2	12	28	0
10	25	2	23	64	450
11	9	0	9	25	0
12	1	0	1	2	0
13	6	1	5	16	0
14	4	0	4	16	0
15	0	0	0	0	0
16	0	0	0	0	0
Not specified	2	0	2	0	100
TOTAL	**129**	**36**	**93**	**337**	**700**

A map and description of watersheds can be found in Appendix 1.

1.2 Location of the fishery

Table 6. Potential Commercial Fishing Effort, 2000

Ecosystem	# Fishers	# Gear	Details	Ecosystem	# Fishers	# Gear	Details
Caraquet Bay	2	4	trap nets	Portage River	1	1	trap net
Rivers, streams and bays of Lamèque and Miscou Islands	1	150 fathoms	gill nets	Miramichi Bay	4	4	trap nets
Saint-Simon Bay	1	4	trap nets	Richibouctou River	20	50	trap nets
Pokemouche River above the railway bridge at Inkerman	6	60	trap nets	Richibouctou River	1	450 fathoms	gill nets
Big Tracadie River	9	40	trap nets	St. Charles (Aldouane) River	3	8	trap nets
Little Tracadie River	1	1	trap net	Kouchibouguac River within the National Park	8	11	trap nets
Tabusintac River	1	2	trap net	Kouchibouguacis River outside of the National Park	5	15	trap nets
Napan River	4	5	trap nets	Bouctouche River	5	15	trap nets
Miramichi River	13	17	trap nets	Little Bouctouche River	5	10	trap nets
Northwest Miramichi River	6	12	trap nets	Cocagne River and Bay	1	2	trap nets
Black River	8	14	trap nets	Shediac River	8	20	trap nets
Eel River	9	13	trap nets	Aboujagane River	2	5	trap nets
Bay du Vin River	9	11	trap nets	Scoudouc River	2	7	trap nets
French River	1	1	trap net	No licence conditions	2	2	trap nets

Table 7. Potential Commercial Fishing Effort, 2004

Ecosystem	# Fishers	# Gear	Details	Ecosystem	# Fishers	# Gear	Details
Caraquet Bay	4	4	trap nets	French River	1	1	trap net
Rivers, streams and bays of Lamèque and Miscou Islands	1	150 fathoms	gill nets	Napan River	2	3	trap nets
Pokemouche River above the railway bridge at Inkerman	6	60	trap nets	Richibouctou River	20	52	trap nets
Big Tracadie River	9	40	trap nets	Richibouctou Harbour	1	450 fathoms	gill nets
Little Tracadie River	1	1	trap net	St. Charles (Aldouane) River	4	12	trap nets
Portage River	1	1	trap net	Kouchibouguac River within the National Park	5	5	trap nets
Tabusintac River	1	2	trap nets	Kouchibouguacis River outside of the National Park	6	17	trap nets
Miramichi River	11	18	trap net	Bouctouche River	5	15	trap nets
Northwest Miramichi River	8	15	trap nets	Little Bouctouche River	4	10	trap nets
Southwest Miramichi River	1	2	trap nets	Cocagne River and Bay	1	2	trap nets
Miramichi Bay	4	4	trap nets	Shediac River	6	19	trap nets
Black River	5	10	trap nets	Aboujagane River	4	7	trap nets
Blanc River within the National Park	1	2	trap nets	Scoudouc River	2	6	trap nets
Eel River	9	13	trap nets	Kouchibouguac River (Westmorland)	2	4	trap nets
Bay du Vin River	7	11	trap nets	No licence conditions	2	100 fathoms	gill nets

1.3 Fishing seasons

Gaspereau fishing seasons are established under the *Maritime Provinces Fishery Regulations* and are modified by order, as required, in consultation with the Advisory Committee members. The incidence of bycatch of non-target species or species identified as being at risk may affect the fishing seasons or lead to a fishery closure.

Fishers have a choice between the following three types of seasons:

- a five-week season with closure during the first two weekends;

- a six-week season with closure every weekend; or

- a four-week season with no closure on weekends.

1.4 Fishing methods

The Regulations allow fishing for gaspereau using various types of gear. Eastern New Brunswick fishers mainly use trap nets (Appendix 3).

1.5 Landings, value and market

The main source of landings data is purchase slips. Although the statistics do not accurately reflect actual landings, many fishers do not report or under-report landings. The introduction of a mandatory logbook in 1999 was aimed at ensuring accuracy of data in this fishery. However, since the logbook program required the ongoing co-operation of fishers, the program was discontinued in 2006 and alternative methods will have to be implemented to determine actual landings in the fishery.

Table 8. Landings and landed value in Eastern New Brunswick, 1988–1998

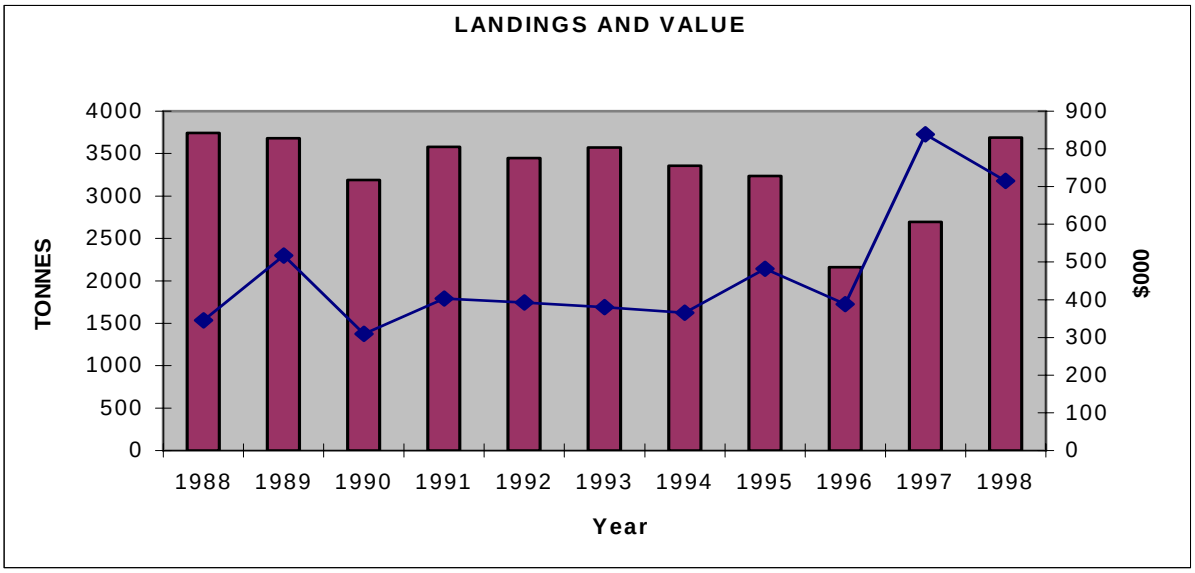


Table 9. Landings and landed value in Eastern New Brunswick, 1999–2004

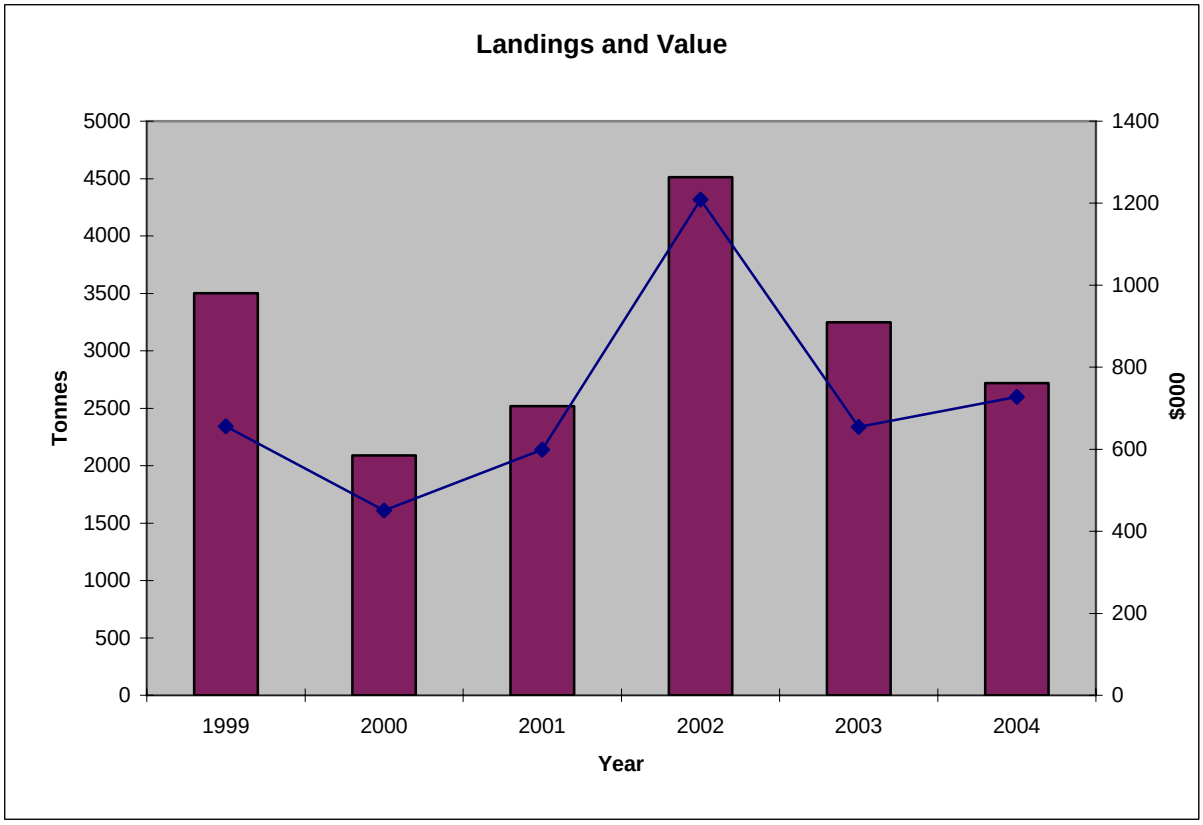


Table 10. Landings and landed value by statistical district, 1994–1998

STAT. DIST.	t	$ (000)	t	$ (000)	t	$ (000)	t	$ (000)	t	$ (000)
	1994	1994	1995	1995	1996	1996	1997	1997	1998	1998
63	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0
67	377	42	233	31	52	9	159	49	431	57
68	148	17	110	15	48	8	56	13	89	14
70	0	0	0	0	21	3	85	26	1	0
71	1,984	207	2,342	361	1,150	210	739	223	2,262	450
73	26	3	0	0	36	6	216	42	74	16
75	66	9	39	6	0	0	25	8	14	3
76	574	65	444	58	704	124	1,275	435	616	132
77	175	21	38	6	120	22	142	43	145	29
78	6	1	11	1	20	3	0	0	55	14
80	0	0	21	4	12	3	0	0	0	0
TOTAL	**3,356**	**365**	**3,238**	**482**	**2,163**	**388**	**2,697**	**839**	**3,687**	**715**

Table 11. Landings and landed value by statistical district, 1999–2004

STAT. DIST.	t	$ (000)	t	$ (000)	t	$ (000)	t	$ (000)	t	$ (000)	t	$ (000)
	1999	1999	2000	2000	2001	2001	2002	2002	2003	2003	2004	2004
63	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	1	0	0	0	6	2	0	0	32	11
66	0	0	0	0	0	0	1	0	0	0	0	0
67	278	74	232	61	190	59	552	170	446	137	385	135
68	42	8	5	1	92	24	228	56	122	24	125	35
70	16	4	34	12	94	25	96	25	66	15	47	12
71	2,579	455	788	153	602	140	2,787	732	1,835	331	1,124	279
73	9	2	36	8	142	43	126	66	50	9	249	65
75	81	16	58	9	61	11	21	5	33	6	27	7
76	244	44	534	105	707	155	341	90	523	94	542	130
77	223	47	256	38	394	79	146	38	82	16	156	43
78	23	5	139	63	228	62	71	25	90	22	33	11
80	7	1	7	1	7	1	2	0	0	0	0	0
TOTAL	**3,502**	**656**	**2,090**	**451**	**2,517**	**599**	**4,512**	**1,209**	**3,147**	**651**	**2,720**	**728**

Catches have undergone large fluctuations over time in response to environmental changes (mostly man-made) and market demand. In the past, gaspereau were prized as food fish because they were easily salted for shipping to distant markets. With the advent of refrigeration and the availability of other foods, tastes changed and the use of gaspereau as human food declined. However, salt fish are still shipped from the Maritimes to the Caribbean and Middle East. During the late 1970s, canned filets and a marinated product were also produced. They have also been used for pet food and for reduction to fishmeal, but these uses have declined recently. Most of the gaspereau processed by smokehouses is in the form of buckets of pickled gaspereau for the Haitian market.

1.6 Advisory process

The Gaspereau Fishery Advisory Committee consists of representatives of the ecosystems, the Maritime Fishermen's Union, the New Brunswick Department of Agriculture, Fisheries and Aquaculture, Aboriginal groups and various DFO departments. The Committee generally meets every two years or as required.

The representatives, appointed by their peers or by fishers' organizations such as the Maritime Fishermen's Union to sit on the Gaspereau Fishery Advisory Committee, inform the Committee of the status of the fishery in their area, provide recommendations for the management of the fishery and propose changes to the regulations and policy. They tell DFO of any existing problems and conflicts requiring action by DFO. They provide a link between all the fishers and users of the resource, the various watershed management committees and the federal and provincial governments. To reflect this broad base, the recommendations made to DFO are reached through consensus, rather than by vote. DFO requires that appointed representatives consult with users of their respective areas beforehand and inform them of the results of Committee discussions. Fishers who are not satisfied with their representative or with the other Committee members should inform DFO in writing as soon as possible.

In addition, fishers and Advisory Committee representatives take part in science workshops on the gaspereau fishery, which are organized periodically by the Science Branch.

The list of Advisory Committee members can be found in Appendix 4.

1.7 Type of management

Among the measures taken to reestablish the gaspereau runs, the most important is probably that which requires the provision of adequate passage at various locations where obstructions, such as industry and hydro dams, are found. Furthermore, changes within the industry have resulted in the removal of several of these dams on small watercourses. The creation of fishing seasons, closure during certain days of the week and the regulation of fishing gear are other means used to maintain the level of gaspereau stocks.

Currently, the fishery is managed by means of a limited number of fishing licences, seasons, mesh size for gill nets, the amount and location of fishing gear as well as the Commercial Fisheries Licensing Policy for the Gulf Region (Appendix 5).

2. INTEGRATED ECOSYSTEM-BASED MANAGEMENT

With the objective of supporting sustainable coastal fisheries, the ecosystem-based management approach seeks to achieve the active participation of licence holders in respect of all harvested species in a given marine environment (watershed). This approach differs from the traditional integrated species-based management approach, in that it is focused on ensuring biological diversity and ecosystem productivity.

In the future, it is desirable that consultations be organized on a watershed basis rather than on a species basis. This approach will encourage the establishment of measures for a sustainable fishery within a watershed, rationalizing the number of licences and amount of gear for each coastal species and minimizing the impact of harvesting one species on another. Specific, well-founded management measures will be able to be applied depending on the particular characteristics of the marine environment. Consultations with users will enhance their sense of belonging to their respective ecosystems.

The integrated management plans for various watersheds already contain a number of specific management measures. They include gear limits for gaspereau fishers in the Miramichi watershed, leader length, the various fishing seasons, prohibitions against reallocating licences inside Kouchibouguac National Park, the closure of certain smelt fisheries, etc. The Advisory Committee members often take into account particular factors in their respective regions and propose, in consultation with local users, management measures regarding seasons, prohibitions, and distance between fishing gear.

The ecosystem-based approach will ensure effective management and sustainable development of coastal fisheries, while also taking into account the specific needs of watersheds and their users. Furthermore, an ecosystem-based approach to the management of coastal species means that other stakeholders with a potential impact on these species can be included in the future.

3. SPECIES AT RISK ACT

The *Species at Risk Act* is a federal act, the result of several years' work to reach an agreement with the provinces and territories. It came into effect in June 2003 and its prohibition provisions in June 2004. SARA contains the official list of species at risk and the designation assigned to each species.

The Act is co-ordinated by three major federal bodies. Environment Canada has general responsibilty for wildlife species and migratory birds, while Fisheries and Oceans Canada is responsible for aquatic species and Parks Canada Agency is responsible for species found in national parks and national historic sites.

The objectives of SARA are to prevent wildlife species from becoming extirpated in Canada, to enable the protection and recovery of extinct, endangered or threatened species, and to manage species of special concern in order to prevent them from becoming endangered or threatened.

A species is designated extinct when it no longer exists anywhere, and extirpated when it no longer exists in the wild in Canada. An endangered species is a species that is facing imminent extinction or extirpation. A threatened species is a species that is likely to become endangered if limiting factors are not reversed, and a species of special concern is a species that is sensitive to human activity or natural phenomena.

SARA confers certain powers on the Committee on the Status of Endangered Wildlife in Canada (COSEWIC – www.cosewic.gc.ca). COSEWIC is responsible for assessing the status of species, identifying the threats posed by human activity to the species, and producing status reports on species thought to be at risk.

The list currently includes several aquatic species: Atlantic salmon (Inner Bay of Fundy population), leatherback seaturtle, Atlantic whitefish, Lake Utopia dwarf smelt, northern wolffish, spotted wolffish and Atlantic wolffish.

The process of adding a species to the official list involves the following steps:

- COSEWIC species assessment

  sent to the Minister of Environment

- Government response

  explains in detail how the government will respond to the assessment

- Consultation phase

  gathers information on the potential costs and benefits of adding the species to the list

- Analysis phase

examines and assembles the information obtained in the consultations

- Recommendation to the Minister

  recommendation to the Minister of Environment

- Government of Canada decision regarding addition to the list

  accepts the assessment and adds the species to the list

  decides not to add the species to the list

  refers the matter back to COSEWIC for further information or review

In order to protect species that are designated extinct, endangered or threatened, the Act makes it an offence to:

kill, harm, harass, capture or take an individual of such a species;

possess, collect, buy, sell or trade an individual or any part of an individual of such a species;

damage or destroy the residence of one or more individuals of such a species;

destroy the critical habitat defined in the recovery strategy of such species.

The Act also allows the Minister to issue a permit to allow for incidental harm to a listed species if it is determined that:

all reasonable alternatives have been considered and the best solution has been adopted;

all feasible measures have been taken to minimize the impact of the activity on the species;

the activity will not jeopardize the survival or recovery of the species.

The addition of a species to the SARA list triggers the application of prohibitions and mandatory recovery measures. For extinct, endangered or threatened species, a recovery strategy and action plan must be implemented. For a species of special concern, a management plan is required.

The following species are candidates for addition to the SARA list: cusk, harbour porpoise, yellow lampmussel, Atlantic cod (Maritimes population), striped bass and eel.

4. STOCK STATUS REPORT

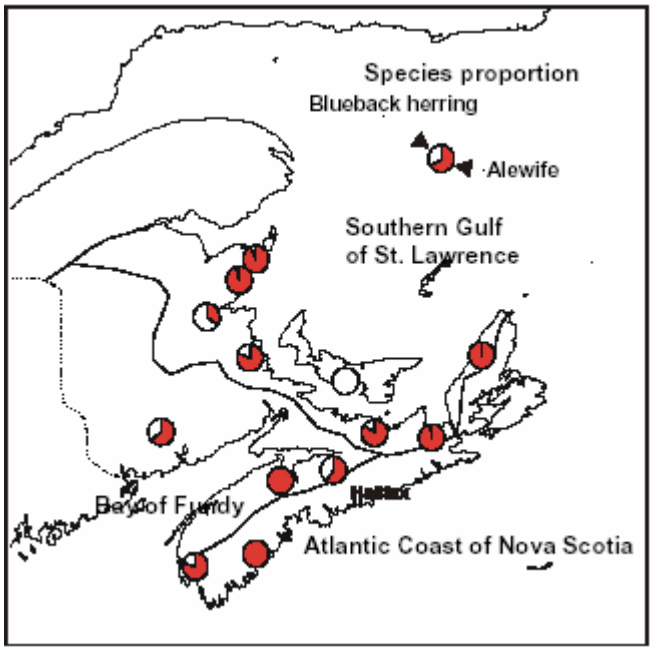
4.1 Biology, Environment and Habitat[1]

The gaspereau or alewife, which somewhat resembles the herring, is small, usually less than 30 cm in length and 400 g in weight. The term "gaspereau" is commonly used to refer to two related species: *Alosa aestivalis* (blueback herring) and *Alosa pseudoharengus* (gaspereau). Morphological characteristics are generally used to distinguish between the two species, primarily the color of the lining of the body cavity, which is pale pink to speckled grey in the gaspereau, whereas in the blueback herring it is dark grey to black. Its body is laterally compressed and has a deep keel edged with saw-like keel scutes. Its has silvery, iridescent sides, a grayish-green back and a single black spot on its shoulder immediately behind the gill cover at the level of the large eye. Sea-run fish may have a golden or brassy sheen. There may be several variegated dark stripes along the sides above the midline. The lining of the body cavity is pale grey to pinkish white, whereas in blueback herring it is a sooty black. The flesh is sweet, firm and white, but rather bony.

Both species of gaspereau range along the Atlantic coast of North America southward from Newfoundland to South Carolina. In the Maritimes, they are abundant in large rivers such as the Miramichi, Margaree, LaHave, Tusket, Shubenacadie and Saint John and proportionately less abundant in most small streams, though in the Eastern New Brunswick Area, the Pokemouche/Big Tracadie and Richibouctou/Bouctouche rivers account for a significant share of landings. Gaspereau are present but relatively scarce in the Restigouche River and the Chaleur Bay area. The relative abundance of the two species varies according to the river, with larger proportions of blueback herring in the large rivers.

[1] taken from ***Underwater World – The Alewife*** published by the DFO Communications Branch

Table 12. Species Proportion



General information about gaspereau:

- Gaspereau may be anadromous or landlocked.
- Anadromous gaspereau use freshwater streams for spawning but spend most of their lives at sea, whereas landlocked individuals spend their entire lives in freshwater.
- The transition from saltwater to freshwater is not difficult but does require certain physiological adjustments to maintain the water-salt balance of the body.
- The timing of the spawning migration of anadromous gaspereau seems to depend on water temperature and thus begins earlier in the south than in the north.
- Upriver migration by blueback herring occurs 10 days to two weeks after that of gaspereau, in all rivers where both species are found.
- In New Brunswick, in streams tributary to the Gulf of St. Lawrence, spawning migration occurs in May and June.
- The run occurs primarily in daylight.
- It appears that gaspereau return to their natal stream, as do Atlantic salmon, although some fish go astray.
- Smell plays an important role in the homing process.

- In large rivers, some fish migrate hundreds of kilometers upstream to spawn.

- Gaspereau can negotiate small rapids but rarely jump over obstructions.

Usually, the female is larger than the male, matures later and lives several years longer. Female sea-run gaspereau may release 60,000 to 200,000 or more yellow-orange eggs, depending on their size. The randomly broadcast eggs are slightly adhesive when first released and tend to settle and stick to bottom materials for a short time. When water hardened, the eggs are about 1 mm in diameter. Spawning last only a few days. Hatching requires 3 to 6 days at water temperatures between 15º and 22ºC.

Factors such as water temperature, food availability and predation level are believed to influence the survival of larval gaspereau during the first few weeks of life and largely determine the abundance of young gaspereau that year. In turn, the numbers of young gaspereau produced is related positively to the number of returning adults four to five years later. Although downstream migration by young gaspereau may begin in late July, most migrate during August and September and some remain as late as November.

Once at sea, young gaspereau typically remain there four to five years before maturing and beginning the reproductive cycle anew. Gaspereau generally mature a year earlier than blueback herring. Although adult mortality following spawning may be high (40 to 60 per cent) the surviving adults may spawn annually for several years. The ability of gaspereau to spawn more than once helps to stabilize their numbers by protecting against the occurrence of years when the survival of young fish is poor.

Gaspereau are opportunistic feeders, foraging primarily on zooplankton (small crustaceans) at the surface, yet under certain conditions consuming items such as bottom-dwelling insect larvae, adult insects, fish eggs and larval fish. They can also effectively filter-feed by swimming with their mouth agape and non-selectively straining the water with their gill rakers (comb-like projections from the gill arch).

4.2 Species interactions[2]

The movements of gaspereau at sea are poorly known. Fish of similar size congregate in large schools but some may be found mixed with schools of Atlantic herring and menhaden. They are often caught in gear set for herring and mackerel, especially during the spring inshore fisheries. Both species are important prey for several marine predators, such as seals and gulls and, off the coast of the United States, striped bass.

[2] taken from ***Underwater World – The Alewife***, published by the DFO Communications Branch

4.3 Stock assessment[3]

An annual biological survey of the fisheries on the Miramichi (New Brunswick) and Margaree (Cape Breton) rivers has been conducted since 1983. Gaspereau returns in the Saint John River to Mactaquac have also been studied and every year, over a million gaspereau are released above the dam to spawn. The biological survey of gaspereau populations in the river has revealed that gaspereau are harvested at a higher rate than blueback herring. This difference can be explained by the fact that the spawning run of the blueback herring occurs later than that of the gaspereau and that the fishery on the Miramichi River, which is generally only open from May 15 to June 15, only harvests part of the run. However, all of the gaspereau run is vulnerable to this fishery.

4.4 Research

The proposed research framework for the next five years is to continue the voluntary logbook program for the index fishers in the gaspereau fishery. Research and systematic sampling for two of the fisheries that have been monitored for quite some time, that is the Miramichi River fishery in New Brunswick and the Margaree River fishery in Nova Scotia, will continue, in order to define reference points for the conservation of gaspereau and evaluate harvesting levels in regard to these reference points. The plans are to conduct official assessments every five years, starting in 2000.

A non-exhaustive list of scientific and technical publications can be found in Appendix 7.

4.5 Outlook

There are no forecasts of gaspereau abundance in New Brunswick rivers.

[3] taken from ***Underwater World – The Alewife***, published by the DFO Communications Branch

5. LONG-TERM MANAGEMENT OBJECTIVES

Long-term management objectives for the gaspereau fishery in the Eastern New Brunswick Area are defined as follows:

Science

- define biological reference points for gaspereau and ensure that they are consistent with the principles of the precautionary approach
- using catch, effort and sampling data, assess catch levels with respect to the defined biological reference points

Statistics

- mandatory use of logbooks would have provided better information on actual landings; because the co-operation of fishers is essential, the logbook program was discontinued in 2006
- the information from purchase slips should clearly identify the fishing area rather than the landing site
- account for all gaspereau landings from the commercial and Aboriginal fisheries on the basis of watershed

Fisheries Management

- establish the carrying capacity of each watershed
- rationalize the number of licences and amount and placement of gear
- map an inventory of the locations of commercial fishing gear on the basis of watershed
- specify the types of fishing gear and gear locations in the licence conditions
- document and quantify the recreational and tourist fishing efforts
- implement a recreational fishery licensing program

Conservation and Protection

- quantify the regulation enforcement activities of fishery officers

Habitat Management

- identify instances of harmful alteration, disruption or destruction of gaspereau habitat;

- document and release to watershed management committees the number of cases of damaged habitat, projects referrals, permits and restored habitats

- consider gaspereau habitat when assessing project referrals

- promote environmental stewardship

Oceans

- foster the development of ecosystem-based integrated resource management mechanisms, within an ongoing, multi-species, transparent decision-making process developed by the parties concerned

- identify, with the assistance of concerned groups, important sites for gaspareau for the establishment of Marine Protected Areas (MPA) so as to grant certain ecosystems special protection for the reasons outlined in the *Oceans Act*

- develop and introduce, in consultation with the groups concerned, Marine Environmental Quality (MEQ) criteria for estuaries and coastal waters

Aboriginal Fisheries

- continue to provide eligible Aboriginal groups with a level of access to the gaspareau fishery for food, social and ceremonial purposes that meets their needs, subject to resource conservation considerations

- continue to support the participation of Aboriginal groups in the communal commercial gaspereau fishery and promote the establishment of the Aboriginal fishing capacity

- facilitate the integration of Aboriginal groups into the communal commercial gaspereau fishery and their inclusion in the fisher community

- encourage and increase the participation of Aboriginal groups in gaspereau fishery Advisory Committee meetings

6. CONSERVATION-BASED MANAGEMENT MEASURES AND HARVESTING PLANS

6.1 Conservation and sustainable fishing

- Quantify and control the fishing effort while ensuring the the conservation and protection of the species and considering the economic, social and environmental impact as well as market demand.

- Collect timely and accurate data essential for stock assessment.

- Ensure the optimal use of the resource between the user groups—commercial, Aboriginal, recreational and tourist—while maintaining an inventory of landings, fishing gear and gear locations and quantifying landings in the recreational and tourism fishery.

- Establish a selective fishery by season (spawning period, bycatch and market demand), mesh size or other means in order to reduce the bycatch of non-target species.

- Promote the guiding principle of *no net loss* of habitat productive capacity.

6.2 Commercial fishery

- Minimize bycatch of striped bass, trout, salmon (black and smolt), plaice, shad, smelt, lamprey, eel, white sucker and rainbow trout by requiring the immediate release of all non-target species, setting an appropriate mesh size and participating in gear selectivity trials.

- Maintain the fishing effort by limiting licences and the amount and location of fishing gear.

6.3 Aboriginal fishery

- Continue to provide eligible Aboriginal groups with a level of access to the gaspereau fishery for food, social and ceremonial purposes that meets their needs, subject to resource conservation considerations.

- Continue the initiatives taken following the Marshall decision, i.e., supporting the participation of Aboriginal groups in the communal commercial gaspereau fishery by promoting a program for voluntary buy-back of traditional commercial licences and adopting the management measures in place in the commercial fishery.

6.4 Exploratory gear

- Although no request for the use of exploratory gear has been granted for several years, requests may be submitted to DFO and will be evaluated on a case-by-case basis.

6.5 Recreational fishery

- The daily catch limit is set at 20 gaspereau.
- No licence is required for the recreational gaspereau fishery. However, DFO would like a licensing program to be implemented in the recreational fishery for coastal species.
- Quantify the recreational and tourism fishery.

6.6 Aquaculture

- There is no gaspereau aquaculture activity in Eastern New Brunswick.

6.7 Bait fishery

- There are two bait-fishing licences for gaspereau. No new licences will be issued to fish bait for the lobster fishery. Lobster fishers can already obtain bait-fishing licences for herring and mackerel. The two licences issued can be renewed but not issued as replacement licences.

6.8 Gaspereau habitat

- Identify gaspereau habitat to minimize the negative impact on this resource.

Promote the guiding principle of no net loss of habitat productive capacity.

7. CURRENT MANAGEMENT PROBLEMS

7.1 Reporting of landings

Issue

The reporting of actual landings is very important to fishery biologists and managers in assessing and managing the fishery based on actual fishing effort. There still seem to be oversights in reported landings, according to the data compiled from purchase slips. When a licence holder fishes away from his place of residence, catches are sometimes reported at the landing site and sometimes in the statistical district of the licence holder's residence. The result is a variation in the level of landings by statistical district from one year to another.

A mandatory logbook was introduced in 2001. Since then, fisher co-operation has decreased year by year, even though the changes requested by fishers were made. Less than half the logbooks are returned annually.

Approach

The logbook will be discontinued and alternative ways of obtaining actual landings data may be implemented in order to ensure the effective management of this species.

7.2 Mesh size of trap nets, leaders and gill nets

Issue

Although mesh size for gill nets is regulated (minimum of 38 mm), it is not regulated for trap nets and leaders. Some fishers use a gill net as a leader. Trout and other non-target species are observed enmeshed in gill nets and leaders on a regular basis.

Approach

Fishing seasons are now established to control bycatch, and mesh size could be added to the licence conditions for trap nets and leaders, if required. However, fishers are invited to submit their recommendations for the mesh size of traps and leaders that would prevent bycatch of non-target species.

7.3 Length and positioning of leaders

Issue

Leader length is not regulated, with the exception of a few trap nets fished in the Miramichi watershed, where the length is regulated by a condition of the licence and can range from 20 to 30 fathoms, depending on the location. There are no regulations stipulating how to position leaders or how to measure their length when a maximum length is listed on the licence.

Approach

A condition will be added to the gaspereau fishing licences where the maximum leader length is not indicated, stating the maximum leader length according to the location and the river and specifying that leaders must be positioned in a straight line. Leaders will be measured from the trap net to the opposite end of the leader. Fishers are invited to make recommendations for leader length.

7.4 Limit on the amount of fishing gear per licence

Issue

There is a limit of two pieces of fishing gear per licence on the Main Miramichi River and certain other ecosystems are subject to a limit of two to five pieces of gear. In watercourses that have no gear limit, a gaspereau licence holder may increase the amount of gear on his licence if a replacement gaspereau licence is obtained. This means that the amount of gear authorized by the replacement licence is added to the amount indicated on the initial licence. In theory, a single licence holder may find him- or herself in possession of all the gear authorized for a particular watercourse.

Approach

DFO will maintain the current limits and impose a freeze on the amount of gear that may be added to another licence for watercourses where no reasonable maximum limit has yet been established.

7.5 Bycatch

Issue

It appears that the location chosen for a trap net can affect the size of trout, salmon and striped bass bycatch.

Approach

DFO designates as a condition of licence the location of trap nets in the various ecosystems to reduce bycatch.

7.6 Seasons

Issue

Over the years, several changes have been made to the fishing seasons in order to minimize bycatch and adapt to the gaspereau runs. Seasons have been delayed or limited to enable to non-target species to migrate upstream and since runs differ from year to year, species to species and river to river, seasons differ from one ecosystem to another. In the past, test fisheries were conducted on the Pokemouche River and the Tracadie River to pinpoint the start of the gaspereau runs, but this measure has proved too costly because of the costs associated with the publication of multiple orders.

Approach

Fishers can choose between a five-week season with closure during the two first weekends, a six-week season with closure every weekend, or a four-week season with no closure on weekends. A variation order setting out the seasons in each ecosystem is published annually. The fishing seasons will always begin at 6:00 p.m. on Sunday.

7.7 Issuance of replacement licences valid for the Miramichi River

Issue

Seven fishers hold licences with valid conditions for the Miramichi River or the Northwest Miramichi River who do not reside adjacent to the lobster fishing area for which their licences are valid. This is contrary to the licensing policy for the other species. The commercial fisheries licensing policy provides that:

Subject to item (1) below, for Gulf New Brunswick, replacement gaspereau licences for species other than mackerel, tuna and snow crab, can only be issued to the head of a core enterprise (vessel-based or non vessel-based licences), to a coastal fisher (non vessel-based licences) or to a qualified new entrant:

a) residing adjacent to the Lobster Fishing Area for which the gaspereau licence is valid, and

b) whose area of historical fishing* is in the Lobster Fishing Area for which the gaspereau licence is valid.

(1) For gaspereau licences held by fishers not residing adjacent to the Lobster Fishing Area for which the gaspereau licences are valid, replacement licences can only be issued to the head of a core enterprise (vessel-based or non vessel-based licences), to a coastal fisher (non vessel-based licences) or to a qualified new entrant:

a) residing adjacent to the Lobster Fishing Area for which the gaspereau licence is valid, or

b) whose area of historical fishing is in the Lobster Fishing Area for which the gaspereau licence is valid.

*AREA OF HISTORICAL FISHING: refers to a fishing area where a fisher has participated in the gaspereau fishery during a period of not less than 24 months[1] unless a longer period is provided under a management plan.

[1] A period of 24 months means that the fisher will have fished two complete seasons of a minimum of four weeks.

Approach

The licensing policy in effect must be enforced. The number of licences held by fishers who do not reside adjacent to the lobster fishing area for which their licences are valid can decrease, but cannot increase.

7.8 Registration of boats used in coastal fisheries

Issue

Many small boats are used in the gaspereau fishery. Some are used to remove the fish from the traps and others are used to transport the fish.

Approach

According to the regulations, all boats used in the commercial fishery must have a vessel registration card.

7.9 Gear placement at the start of the season

Issue

Because of the structures and work required to set gear, fishers begin to deploy part of the gear structures before the start of the season.

Approach

This practice is contrary to the Regulations. Fishers must wait for the official start of the season to begin deploying their gear.

7.10 Gear congestion in some rivers

Issue

At the present time, the amount of gear in some rivers may exceed the available space for gear placement established by the Regulations, or the river may not have enough suitable sites for gaspereau fishing.

Approach

The carrying capacity of these rivers will have to be established and fishers will have to help find a solution to the gear limit.

8. DETAILED MANAGEMENT MEASURES

8.1 Identification of fishing gear

The gear no longer has to be tagged, but must be identified in accordance with the regulations. The requirements are listed in Appendix 6 of this document.

8.2 Bycatch

No bycatch except for shad is authorized.

8.3 Opening of the fishing seasons

The opening of the fishing seasons may be varied by order upon yearly consultation with advisory committee members.

8.4 Licences, gear and location of gear

The number of licences and amount of gear are limited. Changing the location of gear is not permitted.

8.5 Issuance of replacement licences

Subject to item (1) below, for Gulf New Brunswick, replacement gaspereau licences for the gaspereau fishery can only be issued to a coastal fisher, the head of a core enterprise, or to a qualified new entrant:

a) residing adjacent to the Lobster Fishing Area for which the gaspereau licence is valid, and

b) whose area of historical fishing* is in the Lobster Fishing Area for which the gaspereau licence is valid.

For gaspereau licences held by fishers not residing adjacent to the Lobster Fishing Area for which the gaspereau licences are valid, replacement gaspereau licences can only be issued to a coastal fisher, the head of a core enterprise, or to a qualified new entrant:

a) residing adjacent to the Lobster Fishing Area for which the gaspereau licence is valid, or

b) whose area of historical fishing is in the Lobster Fishing Area for which the gaspereau licence is valid.

*AREA OF HISTORICAL FISHING**:** refers to a fishing area where a fisher has participated in the gaspereau fishery during a period of not less than 24 months[1] unless a longer period is provided under a management plan.

[1] A period of 24 months means that the fisher will have fished two complete seasons of a minimum of four weeks.

8.6 Limit on amount of gear per licence

A freeze has been imposed on the amount of gear that may be added to any other licence, pending the results of a review of the situation by the advisory committee and any subsequent decision by DFO as to how to proceed in regard to the amount of gear to be listed on a gaspereau fishing licence.

8.7 Commercial gaspereau fishing licences for the waters of Kouchibouguac National Park

With the creation of Kouchibouguac National Park in 1969, all commercial fishing activities within park boundaries were abolished and the fishers compensated. In the fall of 1979, pressure was brought to bear to reinstate fishing in the park and the Minister responsible for Parks Canada granted, in 1980, the right to fish for smelt, eel and gaspereau under certain conditions. Licences were issued to fishers with a home port at Cap St-Louis or Loggiecroft (within park boundaries) in 1979 or 1980 and to commercial fishers who had held licences in 1967, 1968 or 1969. The commercial fishery will be phased out gradually when there are no more fishers eligible for replacement licences.

8.8 Logbook

The logbook program was discontinued in 2006. Landings must be reported where they were caught.

9. CONSERVATION AND PROTECTION PROGRAM AND STRATEGIES

The Conservation and Protection Branch will ensure compliance with the management plan, by carrying out all the activities necessary to enforce the regulations and the management plan, such as:

- monitoring bycatch;

- verifying proper identification of gear;

- ensuring compliance with open and close times;

- ensuring compliance with the specified distance between gear;

- ensuring compliance with licence conditions.

10. INDUSTRY RESPONSIBILITIES

Fishers are showing more and more interest in how to manage the gaspereau fishery and are interested in evaluating and proposing new management measures. Fishers' associations should play a greater role in the management of this fishery. The associations should form a group to deal with gaspereau conservation and management, thus becoming a partner in co-management. Consultations would be conducted by this group, with meetings chaired by the industry, and DFO would address management issues directly with this group.

In addition, to support the principles of the *Oceans Act*, the partners involved in such a group should represent the coastal communities, the fishing industry, non-governmental organizations, environmental groups, the Aboriginal peoples, provincial governments, federal departments, the academic community, in short, all the potential users of this resource and its habitat.

11. DFO ROLES AND RESPONSIBILITIES

Fisheries Management

- direct and consolidate consultations with the various divisions of DFO in order to develop management options
- responsible for consultations with the Industry and the governments
- responsible for management before, during and after the season
- responsible for licensing

Habitat Management

- evaluate potential impacts on habitat of project referrals and major projects
- assist local groups with watercourse rehabilitation
- assist watershed management committees and Industry with best practices and guidelines for fish habitat protection

Science – Diadromous Fish

- define biological reference points for diadromous fish in the southern Gulf
- assess the exploitation rates of selective fisheries with respect to the points of reference
- conduct research into species biology, population dynamics and ecological associations with population numbers and sustainability
- provide advice on the appropriateness of possible management measures in order to address conservation concerns
- accurately define the data needed to make adjustments during the fishing season and to do the post-season assessments

Science – Other

- provide opinions on water quality
- provide opinions on contaminants
- help determine causes of fish mortality
- provide opinions during evaluation of major projects

- provide information on the location of essential habitats

Aboriginal Affairs

- continue to develop harmonious relations with Aboriginal groups, paying special attention to food, social and ceremonial fisheries, commercial communal fisheries, follow-ups to DFO policies and programs and a transparent advisory process

Conservation and Protection

- ensure follow-up, control and monitoring of regulatory programs that require fishery officers to be deployed on land, sea and air

- the division's activities aim to comply with legislative policies, plans and programs related to conservation and protection of the fisheries resources of Canada

- responsible for initiating applications to change regulations that are necessary to support DFO management plans and programs

Oceans

- encourage the development and implementation of an Oceans Strategy that will allow Canada to give shape to its vision of management of estuarine, coastal and marine ecosystems. This strategy must ensure the sanitation, safety and prosperity of the oceans for the benefit of the Canadians of today and tomorrow

This strategy encourages application of the guiding principles of the *Oceans Act*, namely:

- conservation, which under an ecosystem-based approach is of fundamental importance for safeguarding the biological diversity and productivity of the marine environment

- prevention, that is, erring on the side of caution when fishing, so as to protect these resources and preserve the marine environment

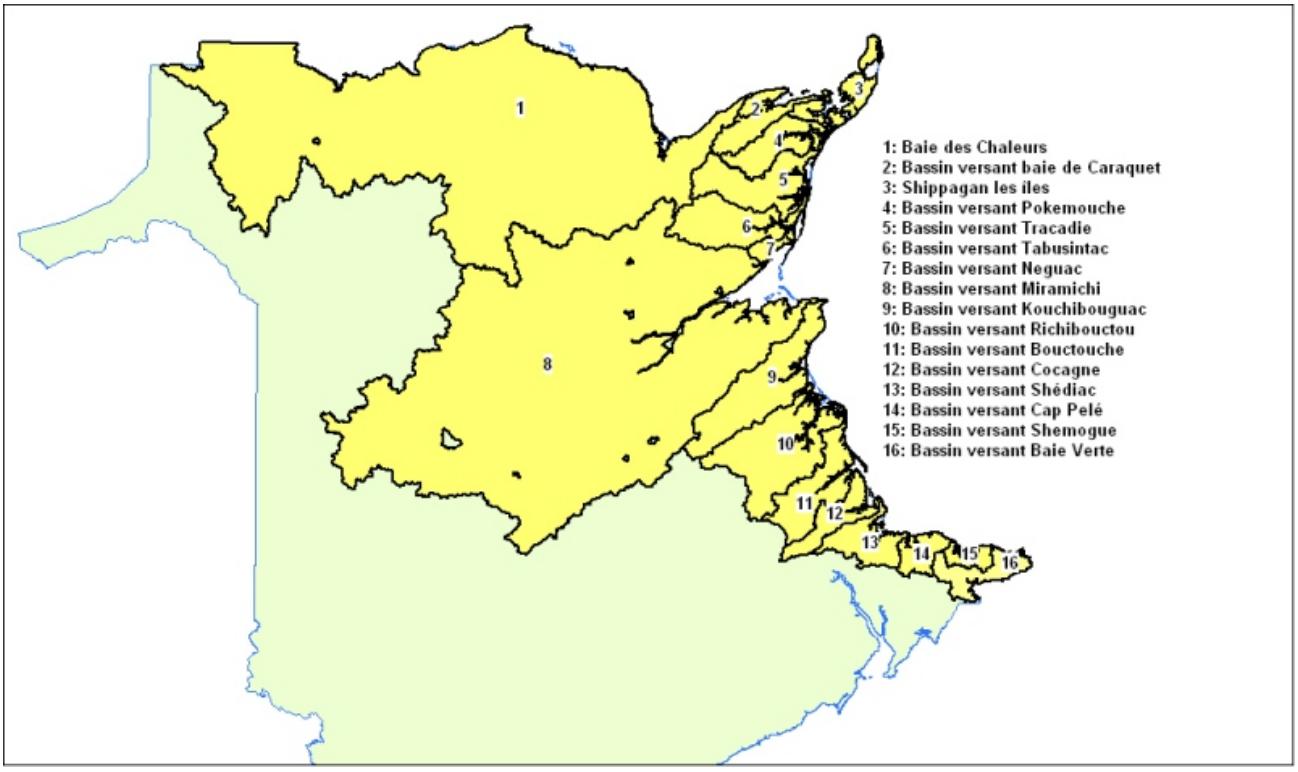
- sustainable development, that is, development that meets the needs of the present without compromising the ability of future generations to meet their own needs

This strategy will be implemented in collaboration with the other federal departments and agencies, provincial and territorial governments, Aboriginal organizations, coastal communities and other stakeholders.

Communications

- provide advice on communication strategies for management plans

Appendix 1. Map and description of Watersheds



1: Chaleur Bay
2: Caraquet Bay watershed
3: Shippagan les Îles
4: Pokemouche watershed
5: Tracadie watershed
6: Tabusintac watershed
7: Neguac watershed
8: Miramichi watershed
9: Kouchibouguac watershed
10: Richibouctou watershed
11: Bouctouche watershed
12: Cocagne watershed
13: Shédiac watershed
14: Cap Pelé watershed
15: Shemogue watershed
16: Baie Verte watershed

Watershed Boundaries

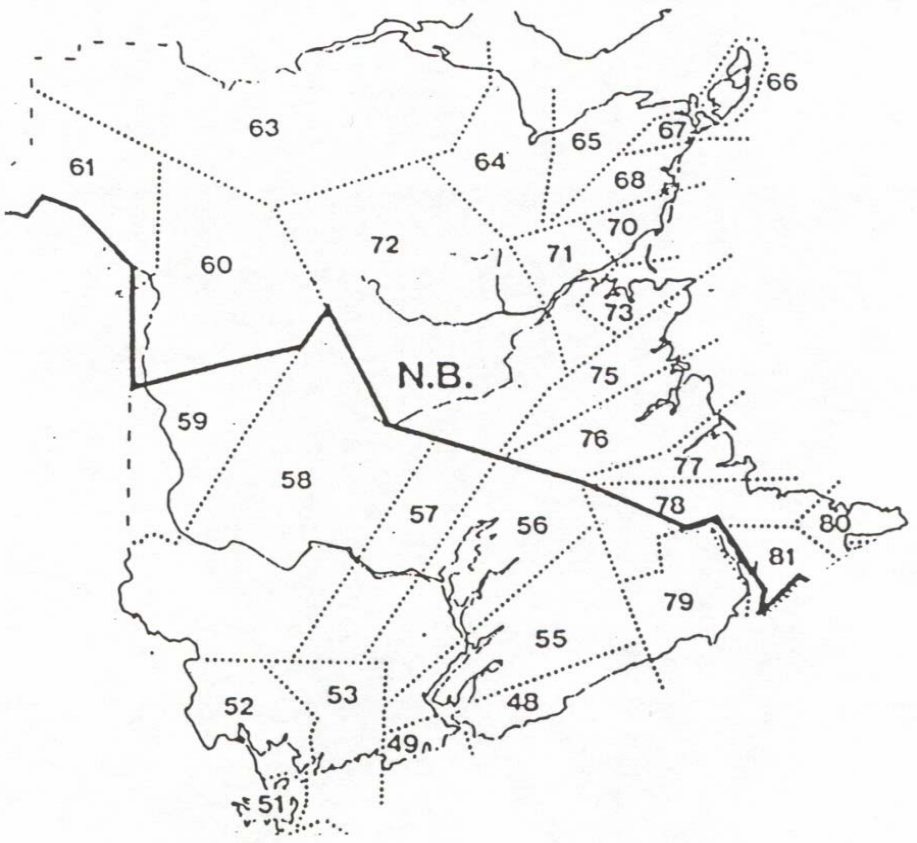
Zone	Description	Comments
1	From Dalhousie to Pokeshaw	Includes Pokeshaw
2	From Grande Anse to Pointe de Pokesudie	Ends at Pointe de Pokesudie of the Island. The eastern coast of Pokesudie is in the next zone
3	From Pointe de Pokesudie up to and including Petit Pokemouche Bay	Includes Lamèque and Miscou Islands
4	Pokemouche Bay to Green Point	
5	Green Point to Pointe à Barreau	Just after Val Comeau
6	From Chemin de la Cédrière to Swinging Gully	Swinging Gully is between Tabusintac and Neguac Bays
7	From Swinging Gully to Rivière des Caches	Includes the saltwater region of its mouth
8	Pointe Morin to Pointe Escuminac	
9	From Saint Camille up to and including Baie de Saint-Louis	
10	From the southern tip of north Richibouctou dune up to and including Richibouctou Cape	A small part of St. Louis Bay could be considered part of the Richibouctou Bay watershed, but since this bay belongs to the KFN, it is not identified in its territory
11	From Cap Gras up to and including Saint-Thomas-de-Kent	
12	From Bar de Cocagne to Cocagne Cape	
13	From Caissie Cape to Cap Bimet	
14	From Barachois to Trois Ruisseaux	
15	From Petit Cap up to and including the area of Murray Beach Provincial Park	
16	From Murray Corner to Baie Verte	

LANDING PORTS BY WATERSHED

1 – Dalhousie	2 - Morais	3 - Pointe Canot	7 – Lower Néguac
1 – Jacquet River	2 – Middle Caraquet	3 - Upper Shipppagan	7 - Malpeque
1 – New Mills	2 - Pokesudie	3 - Ste Cécile	7 – Malpeque Bay
1 – Eel River	2 – Pokesudie Island	3 – Chiasson Office	7 - Néguac
1 – Heron Island	2 – Blanchard Settlement	4 - Inkerman	7 - Portage River
1 – Bathurst	3 – Lamèque	4 – Inkerman Ferry	8 – Point Gardiner
1 – Belledune	3 – Petit Shippagan	4 - Pokemouche	8 - Burnt Church
1 – Pointe Verte	3 – Miscou	4 – Pokemouche River	8 – Miramichi Bay
1 – Petit Rocher	3 – Miscou Centre	4 - Evangéline	8 – Chatham
1 – Stonehaven	3 – Miscou Harbour	5 – Big Tracadie River	8 – Douglastown
1 – Miller Brook Wharf	3 – Little Lamèque	5 - Pont Lafrance	8 – Loggieville
1 - Benjamin River	3 – Pigeon Hill	5 – Tracadie	8 - Lower Newcastle
1 – Charlo	3 – Point Alexandre	5 – Tracadie Bay	8 - Napan Bay
1 – Nigadoo	3 - Ste. Marie sur Mer	5 – Tracadie River	8 – Napan
1 – Restigouche	3 – Savoy Landing	5 - Val Comeau	8 – Napan River
2 – Caraquet	3 – Shippagan	5 – Four Roads	8 – Newcastle
2 – Anse Bleue	3 - St. Simon	5 – Sheila	8 – Oak Point
2 – Caraquet Bay	3 - Le Goulet	6 – Brantville	8 – Point au Carr
2 – Grande -Anse	3 - Pointe Brûlée	6 – Tabusintac	8 – Miramichi River
2 – Bas Caraquet	3 - Cap Bateau	6 – Tabusintac River	8 – Black River
2 - Maisonnette	3 – Miscou Island	6 – McEachern Point	8 – Baie Ste. Anne

8 – Bay Du Vin River	9 - St. Louis Cape	11 - St. Edouard	14 – Aboujagane
8 – Black River Bridge	9 – Lower St. Louis	11 – Ste Marie	14 – Aboiteau
8 - Escuminac	9 – Ste Anne de Kent	11 - St. Thomas	14 – Kouchibouguac River
8 - Hardwicke	10 – Cap Lumière	11 – Cote Ste. Anne	14 - Barachois
8 - Miramichi	10 - Richibucto	11 – Cormierville	15 – Petit Cap
8 – Eel River Bridge	10 – Richibucto Cape	11 – Comeau Point	15 – Little Shemogue
8 – Victoria Bridge	10 – Big Cove	12 – Cocagne	15 – Amos Point
8 – Egg Island	10 – Nicholas River	12 – Cocagne Cape	15 – Shemogue
8. – Point Gardiner	10 - St. Charles	12 – Cocagne River	15 – Upper Cape
8 – Fox Island	10 – Indian Island	12 – Cocagne Bar	16 – Baie Verte
8 – Mill Bank	10 – Grande Aldouace	13 – Caissie's Cape	16 – Bayfield
8 – East Point	10 – Rivière Richibucto	13 – Grand Digue	16 - Cap Tormentin
8 – Escuminac Point	10 – Aldouane	13 – Pointe du Chêne	16 – Murray Corner
8 – New Jersey	10 – Bass River	13 – Shédiac	16 - Peacock Cove
9 - Kouchibouguac	10 – Richibouctou Village	13 – Shédiac Bridge	16 – Port Elgin
9 - Loggiecroft	11 - Bouctouche	14 – Cap Pelé	16 – Botsford
9 – Point Sapin	11 – Bouctouche Bay	14 - Bas Cap Pelé	
9 – St. Louis	11 – Bouctouche River	14 – Robichaud	

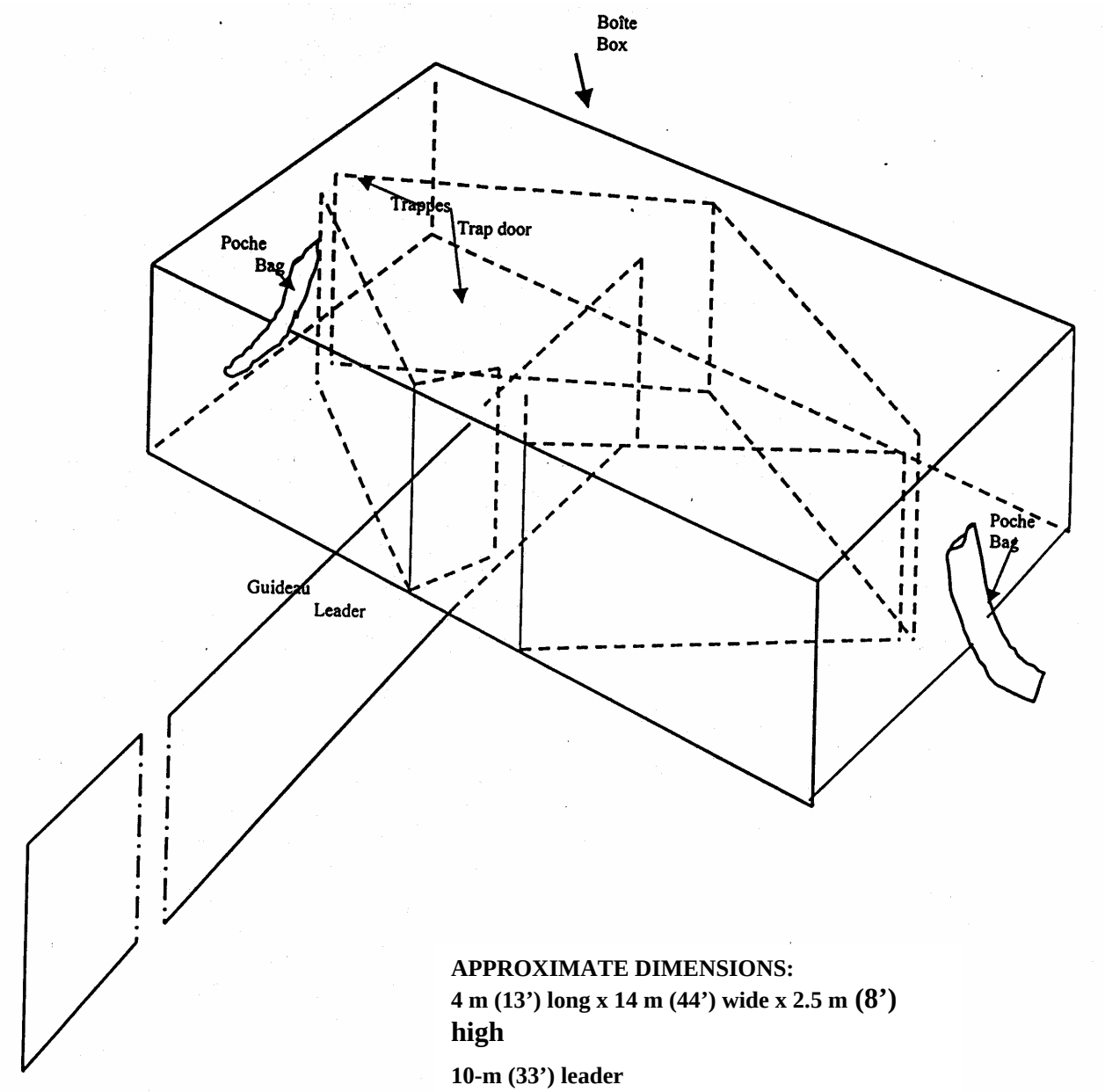
Appendix 2. Map and Description of Statistical Districts



63 – Restigouche County
64 – Restigouche County line to Bass River (incl.)
65 – Bass River (excl.) to Pokesudie Island (incl.)
66 – Lamèque Island and Miscou Island
67 – Shippagan to Pokemouche Gully (incl.)
68 – Pokemouche Gully (excl.) to Northumberland County line
70 – Northumberland County line to Grand Dune Island (incl.)
71 – from Grand Dune Island to Morrisey Bridge on the north side of the Miramichi River and Morrisey Bridge to Point au Carr (incl.) on the south side
73 – Point au Carr (excl.) to Kent County line
75 – Kent County line to the south side of the St. Louis River (incl.)
76 – south side of St. Louis River (excl.) to Chockpish River
77 – south side of Chockpish River to Westmorland County line
78 – Westmorland County line to Bas Cap Pelé (incl.)
80 – Bas Cap Pelé (excl.) to N.B./N.S. border

Appendix 3. Models of Fishing gear

MODEL OF TRAP NET



APPROXIMATE DIMENSIONS:
4 m (13') long x 14 m (44') wide x 2.5 m (8') high

10-m (33') leader

Appendix 4 Eastern New Brunswick Gaspareau Fishery Advisory Committee Members

Camille Cormier St.-Louis-de Kent	**Chief** Bouctouche First Nation	**Chief** Eel Ground First Nation	**Chief** Elsipogtog First Nation
Chief Indian Island First Nation	**Chief and President** NB Aboriginal Peoples Council	**Chief** Red Bank First Nation	**Réginald Comeau** MFU – Tracadie-Sheila
Paul Cormier NBDAFA – Caraquet	**Guy Doucet** Baie Sainte-Anne	**Edmond Drysdale** MFU – Shediac	**Gerald A. Dutcher** Miramichi
Raoul Gaudet Grand Digue	**Richard Godin** Rivière-du-Portage	**Laurie Jaillet** Bouctouche	**Léophane LeBlanc** Kouchibouguac National Park
Emmanuel Moyen MFU - Tracadie-Sheila	**David N. Richard** Grand Digue	**Eugène Richard** Richibouctou-Village	**Earl Rivers** Pokemouche
Allison Robichaud Aldouane	**Daryl G. Trevors** Miramichi	**Kenneth Williston** Bay du Vin	**Area Director** DFO – Tracadie-Sheila
Chief, Resource Management DFO – Tracadie-Sheila	**Chief, Conservation and Protection** DFO – Tracadie-Sheila	**Chief, Oceans and Habitat** DFO – Tracadie-Sheila	**Coordinator, Licensing** DFO – Tracadie-Sheila
Fisheries Officer Conservation and Protection DFO – Tracadie-Sheila	**Officer, Resource Management** DFO – Tracadie-Sheila	**Officer, Statistics** DFO – Tracadie-Sheila	**Science Branch** DFO – Moncton

Appendix 5. Licensing Policy for the Commercial Gaspereau Fishery in the Gulf Region

The following is a summary of the commercial fisheries licensing policy for the Eastern New Brunswick Area as it concerns gaspereau fishing:

- No new commercial gaspereau fishing licence may be issued.

- Replacement licences may be issued:

  for transfers from coastal and core fishers to other coastal fishers and core fishers or to new entrants (all the licences must be replaced).

- To qualify as a new entrant and obtain a replacement licence for gaspereau fishing, it is necessary:

  1 - to have fished commercially for at least five weeks out of each of the last two years;

  2 - to be registered as a commercial fisher for each of the last two years;

  3 - to be recognized as a commercial fisher in his community;

- When a replacement licence is issued, the conditions of the replacement licence are the same as the conditions of the licence replaced.

- A licence holder cannot have a licence validated for a river other than the one indicated on the licence.

- When a replacement licence is issued, it must contain the same amount of gear as contained in the licence it replaces, so that the fishing effort does not increase.

- Subject to item (1) below, for Gulf New Brunswick, replacement licences for species other than mackerel, tuna and snow crab, can only be issued to the head of a core enterprise (with vessel-based or non-vessel-based licences), to a coastal fisher (with non vessel-based licences only) or to a qualified new entrant:

  a) residing adjacent to the Lobster Fishing Area for which the gaspereau licence is valid, and

  b) whose area of historical fishing* is in the Lobster Fishing Area for which the gaspereau licence is valid.

  (1) For gaspereau licences held by fishers not residing adjacent to the Lobster Fishing Area for which the gaspereau licences are valid, replacement gaspereau licences can only be issued to the head of a core enterprise (with vessel-based or

non vessel-based licences), to a coastal fisher (with non vessel-based licences only) or to a qualified new entrant:

a) residing adjacent to the Lobster Fishing Area for which the gaspereau licence is valid, or

b) whose area of historical fishing is in the Lobster Fishing Area for which the gaspereau licence is valid.

*AREA OF HISTORICAL FISHING**:** refers to a fishing area where a fisher has participated in the gaspereau fishery during a period of not less than 24 months[1] unless a longer period is provided under a management plan.

[1] A period of 24 months means that the fisher will have fished two complete seasons of a minimum of four weeks.

- In 2001, a freeze was imposed on the amount of gear that may be added to any other licence, pending the results of a review of the situation by the advisory committee and any subsequent decision by DFO as to how to proceed in regard to the amount of gear to be listed on a gaspereau fishing licence.

Appendix 6. Regulations Governing the Gaspereau Fishery in the Eastern New Brunswick Area

The following sections are taken from various provincial and federal regulations and are subject to change without notice.

The Department of Fisheries and Oceans assumes no responsibility for the accuracy or reliability of any reproduction of federal legislative documents that are in this plan's appendix. These documents are prepared only for the convenience of the reader and have no official sanction. For the purpose of interpreting and applying the law, the reader must consult:

a) the Acts as passed by Parliament which are published in the "Assented to" Acts service, Part III of the Canada Gazette and the annual Statutes of Canada; and

b) the regulations as registered by the Clerk of the Privy Council and published in Part II of the Canada Gazette.

- No person shall fish for or catch and retain any fish unless the following conditions are met: the person holds a licence issued to that end or is accompanied by a person who holds a licence to that end; the person holds a fisher's registration card; and, where a vessel is used in fishing, a vessel registration card has been issued in respect of that vessel. (s. 4(1), *Maritime Provinces Fishery Regulations*)

- Every holder of a licence or fisher's registration card shall carry it at all times when engaged in any activity to which it relates and shall produce it on the demand of a fishery officer or fishery guardian. (s. 11, *Fishery (General) Regulations*)

- The operator of a vessel in respect of which a vessel registration card has been issued shall have the vessel registration card and the licence authorizing the use of the vessel on board the vessel whenever the vessel is engaged as a fishing vessel and shall produce them on the demand of a fishery officer or fishery guardian. (s. 12, *Fishery (General) Regulations*)

- No person shall operate or cause to be operated a registered vessel on which the vessel registration number is not painted or securely affixed as required. (s. 26, *Fishery (General) Regulations*)

- No person carrying out any activity under the authority of a licence shall contravene or fail to comply with any condition of the licence (s. 22(7) *Fishery (General) Regulations*)

- Every person who fishes with a gill net shall set it in a straight line. (s. 21, *Maritime Provinces Fishery Regulations*)

- No person shall set, operate or leave unattended in the water any fishing gear unless the gear is marked with the name of the person who owns the gear. The name (in full) must be affixed to a tag, float or buoy attached to the gear, and be legible and readily visible at all times without the necessity of raising the gear from the water. (s. 27, *Fishery (General) Regulations*)

- The person's name must appear in solid block capital letters in Roman letters, without ornamentation; not less than 75 mm in height; and in a colour that contrasts with their background. (s. 27(4), *Fishery (General) Regulations*)

- No person shall leave fishing gear unattended in the water for more than 72 consecutive hours. (s. 27, *Maritime Provinces Fishery Regulations*)

- One third of the width of any river or stream and not less than two-thirds of the width of the main channel at low tide in every tidal stream shall be always left open, and no kind of net or other fishing apparatus, logs or any material of any kind shall be used or placed therein. (s. 26(1), *Fisheries Act*)

- Except as otherwise provided as a condition of a licence, no person shall fish with or set any fishing gear, other than angling gear, a dip net, a minnow trap or a spear, within 200 m of any fishing gear previously set. (s. 26(e), *Maritimes Provinces Fishery Regulations*)

- No person shall fish for gaspereau except by angling or with a dip net, gill net, square net, trap net or weir. (s. 40, *Maritimes Provinces Fishery Regulations*)

- No person shall fish for gaspereau with a gill net that has a mesh size of more than 89 mm or less than 38 mm. (s. 42, *Maritimes Provinces Fishery Regulations*)

- Every person who is fishing for gaspereau or shad with a gill net, trap net or weir shall, during the applicable weekly close time for those fish, shall remove the gill net from the water and render the trap net or weir incapable of catching fish. (s. 24, *Maritimes Provinces Fishery Regulations*)

- With the exception of shad incidentally caught with gaspereau fishing gear operated under the authority of a licence, every person who catches a fish incidentally shall forthwith return it to the place from which it was taken and, where it is alive, in a manner that causes it the least harm. (s. 4(2)(a), *Maritimes Provinces Fishery Regulations*, and s. 33(2), *Fishery (General) Regulations*)

- No one shall erect, use or maintain in any of the Canadian Fisheries waters, whether subject to any exclusive right of fishery or not, any net, weir or other device that unduly obstructs the passage of fish. (s. 29(1), *Fisheries Act*)

- Seines, nets or other fishing apparatus shall not be set or used in such manner or in such place as to obstruct the navigation of boats and vessels and no boats or vessels shall destroy or wantonly injure in any way seines, nets or other fishing apparatus lawfully set. (s. 24, *Fisheries Act*)

- No person shall engage in recreational gaspereau fishing during a close time. (s. 41(1)(a)(b), *Maritime Provinces Fishery Regulations*)

- No person shall engage in commercial gaspereau fishing during a close time. (s. 41(1)(a)(b), *Maritime Provinces Fishery Regulations*)

- No person engaged in recreational gaspereau fishing by any method shall catch and retain, in any day, a quantity of gaspereau exceeding the quota limit established by the law. (s. 41.1, *Maritime Provinces Fishery Regulations*)

- No person shall place or set any fishing gear or apparatus in any water, along any beach or within any fishery during a close time. Any person who places or sets any fishing gear or apparatus in any water, along any beach or within any fishery shall remove it when the gear or apparatus is not being tended and prior to the commencement of a close time. (s. 25(1), (2), (3), *Fisheries Act*)

Appendix 7. Scientific and Technical Publications

Chaput, G.J. 1995. Temporal distribution, spatial distribution and abundance of diadromous fish in the Miramichi River watershed. *In* E.M.P. Chadwick [ed.] Water, science, and the public: the Miramichi ecosystem. Can. Spec. Publ. Fish. Aquat. Sci. 123.

Chaput, G.J. and D.R. Alexander, 1989. Mortality rates of alewife in the southern Gulf of St. Lawrence. CAFSAC Res. Doc. 89/38.

Chaput, G. and G. Atkinson, 1997. The gaspereau fisheries (*Alosa pseudoharengus* and *A. aestivalis*) of the Miramichi River with updates on the fisheries of the Pokemouche, Tracadie, and Richibucto rivers of Gulf New Brunswick. DFO Can. Stock Assess. Secr. Res. Doc. 97/75.

Chaput, G.J. and C.H. LeBlanc, 1991. Les pêches commerciales de poissons dans les baies, estuaires et rivières du sud-ouest du golfe du Saint-Laurent, p. 293-301. *In* J.-C. Therriault [Ed.] Le golfe du Saint-Laurent : petit océan ou grand estuaire? Publ. spéc. can. sci. halieut. aquat. 113.

Chaput, G., P. LeBlanc, and R.H. Crawford, 1997. The gaspereau fisheries of the Margaree River, 1995 and 1996. DFO Can. Stock Assess. Secr. Res. Doc. 97/76.

LeBlanc, C.H. and G.J. Chaput, 1991. Landings of estuarine fishes in the Gulf of St. Lawrence 1917-1988 / Débarquements de poissons estuariens dans le golfe du Saint-Laurent 1917-1988. Can. Data Rep. Fish. Aquat. Sci. / Rapp. stat. can. sci. halieut. aquat. 842 : 101p.

Martinet, Rénald. 1994. Rapport d'étude sur les prises accidentelles durant la pêche aux gaspareaux, Grande Rivière de Tracadie. MPO.

Peppar, J.L. and R.P. Pickard, 1976. Survey of commercial alewife fisheries in the Tracadie and Pokemouche rives, Gloucester County, New Brunswick, 1974. Environment Canada, Fisheries and Marine Service Data Record Series No. MAR/D-76-9.

Tremblay, E., G. Delaney, and R. LeBlanc, 1994. Gaspereau stock assessment Kouchibouguac National Park 1989-93. Progress Report. Canadian Heritage - Parks Canada Report # KOU-94-05.

Appendix 8. Management Plan Evaluation Criteria

The criteria in evaluating the management plan are:

1. catch level maintained
2. reduction of bycatch
3. equitable access to the resource by all users
4. actual landings data for the commercial fishery
5. inventory of gear locations maintained
6. client satisfaction
7. industry feedback
8. timely decision-making
9. communications with the industry
10. intergovernmental relations

Appendix 9. Conservation and Protection Plan Evaluation Criteria

The conservation and protection plan evaluation criteria are to quantify the activities of fishery officers in the following areas:

1. number of vessel inspections at wharf/landing site
2. number of boardings of vessels at sea
3. number of inspections of fishing gear at sea
4. number of fishing gear inspections at wharf/landing site
5. number of patrols of closed fishing areas
6. number of verifications performed dockside or at the water's edge
7. number of violations
8. number of warnings
9. number of investigations
10. number of surveillance activities
11. number of patrols by vessel/number of hours at sea
12. number of joint patrols
13. number of hours of intervention by fishery officers
14. cost in wages, overtime, operations and maintenance

Appendix 10. Notice to fishers

TERMS OF THE 2007–2012 MANAGEMENT PLAN FOR THE GASPEREAU FISHERY

EASTERN NEW BRUNSWICK AREA

TRACADIE-SHEILA – The Department of Fisheries and Oceans today released the integrated management plan for the gaspereau fishery in the Eastern New Brunswick Area. This five-year management plan covers the gaspereau fishery in the coastal and inland waters of New Brunswick for the period 2007 to 2012. It is to be implemented jointly with the annual update, in which certain management measures such as areas, fishing seasons and catch limits may be adjusted on the basis of conservation standards.

The integrated plan is centred on the principles of sustainable development, an ecosystems approach, integrated co-management and a precautionary approach in accordance with the *Oceans Act* and *Species at Risk Act*. The plan lists ten issues relevant to the management of this resource. A freeze has been imposed on the amount of gear that may be added to any gaspereau licence, pending the results of consultations that will be undertaken with the stakeholders. The fishing season will be varied by order upon consultation with Advisory Committee members. In addition, the mandatory logbook program has been discontinued; however, other measures may replace this program to register actual landings.

In the Eastern New Brunswick Area, there are 129 holders of commercial gaspereau licences, who use trap nets and gill nets for harvesting.

Gaspereau fishers and their representatives, as well as other stakeholders, sit on the Eastern New Brunswick Gaspereau Fishery Advisory Committee. The integrated management plan released today is the product of the committee's discussions.

- 30 -

For information:

Michel Albert

Chief, Resource Management

Fisheries and Oceans Canada

Tracadie-Sheila, N.B.

(506) 395-7705

Glen J. Ferguson

Officer, Resource Management

Fisheries and Oceans Canada

Tracadie-Sheila, N.B.

(506) 395-7740

BIBLIOGRAPHY

Underwater World, The Alewife, Fisheries and Oceans

CONTRIBUTIONS

Contributors to the production of the integrated management plan:

Florence Albert, research, writing, layout

Michel Albert, Glen Ferguson, Fisheries Management Division

Ernest Ferguson, Anne Turcotte, Oceans and Habitat

Jacques Haché, Gilberte Nowlan, Statistics Division

Kim Thériault, Aboriginal Programs

Raoul Breault, Conservation and Protection Division

George Moore, Licensing Service Centre

Marc Lanteigne, Science Branch

Hédard Lanteigne, Donald Doiron, Caraquet School of Fisheries, New Brunswick Department of Agriculture, Fisheries and Aquaculture, technical support, gear diagrams

Gaspereau Fishery Advisory Committee, Eastern New Brunswick Area