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Volume 16, Number 2, Spring 1987

URI: https://id.erudit.org/iderudit/acad16_2art05

[See table of contents](#)

Publisher(s)

The Department of History of the University of New Brunswick

ISSN

0044-5851 (print)

1712-7432 (digital)

[Explore this journal](#)

Cite this article

Brière, J.-F. (1987). The Safety of Navigation in the 18th Century French Cod Fisheries. *Acadiensis*, 16(2), 85–94.

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The Safety of Navigation in the 18th Century French Cod Fisheries

BECAUSE OF THE IMPORTANCE OF TROPICAL areas of the world as a source of labour and commodities under the Ancien Régime, the historiography of French transoceanic trade and of the safety of navigation has been very much oriented towards the study of sailing and trading in a tropical environment. Relatively little attention has been paid to the substantial French transoceanic trade in areas of the world where safety conditions had very little in common with those in the West and East Indies. Indeed, neither the tropical trades nor the French Navy in wartime could have sustained themselves without the existence of other types of maritime trade. Reliable sources dealing with Saint-Malo and Granville, the two major French ports engaged in cod fishing, strongly suggest that before the 19th century, the French fishing industry in North America displayed a highly positive manpower gain/loss ratio. Because this gave the cod fishing trade a significant role in ensuring a steady supply of men to the French Navy as well as to other trades, the French Crown always remained adamant at preserving French fishing privileges at Newfoundland.¹

Certainly the safety record of the French cod fishing industry during the 18th century appears to refute the traditional image that cod fishing was one of the most dangerous types of maritime activity.² From 1725 to 1792, 2.2 per cent of cod fishing vessels from Saint-Malo were shipwrecked (91 out of a total of 4,048). For ships sent from Granville, the loss rate from 1732 to 1792 was 1.5 per cent (54 ships out of 3,567).³ Accidents often came in series, as cod fishing vessels tended to be in the same weather zones in great numbers: on 15 September 1768, three ships from Saint-Malo and one from Granville were wrecked in a storm; five vessels from Saint-Malo were lost in a single day on 12 September 1775.

Although the vessels spent most of their time in North America, a majority of This article is a revised version of a paper presented at the annual meeting of the Canadian Nautical Research Society held at Galiano Island, B.C., on 25-27 July 1986.

- 1 J.F. Brière, "Pêche et politique à Terre-Neuve au XVIIIe siècle: la France véritable gagnante du traité d'Utrecht?", *Canadian Historical Review*, LXIV, 2 (June 1983), pp. 168-87. The only work dealing specifically with the history of safety in the French fishing industry is a short study by Edouard Descottes, *Contribution à l'histoire de la médecine sur les bancs de Terre-Neuve* (Paris, 1919). The bulk of our information about safety before the 19th century comes from scattered 18th century administrative sources unavailable for earlier times: royal legislation, crew rolls, captains' and administrators' reports.
- 2 See Julien Viaud dit Pierre Loti, *Pêcheur d'Islande* (Paris, 1886) and Père Yvon, *Les grands coeurs de la houle, les terre-neuvas* (Paris, 1944).
- 3 Registers of ships outfitted, Saint-Malo 1706-1739, Archives de la Marine (Brest), C4 178; crew rolls Granville, 1722-1792, Archives Municipales Granville, C6 141-178, C6 179-212, and 12P1 1-22.

these accidents took place in Europe. In the Basque cod fishing industry 90 per cent of shipwrecks during the 1689-1759 period occurred in coastal waters or harbours; twice as many accidents took place in Europe as in North America. Overall loss rates were lower for Granville than for Saint-Malo, probably because a higher proportion of ships from Saint-Malo were involved in dried cod fishing as well as in delivering dried cod and picking up freight in various Mediterranean ports and these ships were more exposed to coastal sailing risks than vessels fishing green cod on the Banks. Safety improved during the 18th century: from 1725 to 1755, 2.5 per cent of cod fishing ships outfitted in Saint-Malo were shipwrecked while only 1.9 per cent suffered the same fate from 1763 to 1792. During the first half of the 18th century, the number of accidents involving Basque cod fishing ships also decreased significantly, primarily because of safer harbour facilities and better beaconing.⁴

Mortality rates are more difficult to compute because official crew rolls established before a ship's departure ("roles d'équipages à l'armement") do not show the number of men who died during a fishing expedition. This information is only given in the rolls' copy carried on board by the captain or in rolls established after the ship's return ("roles d'équipages au désarmement"). Collections of rolls usually mix these different types of documents and some rolls have disappeared, so that the information is often incomplete. Mortality rates on cod fishing ships from Saint-Malo and Granville appear to have hovered around one or two per cent of crew members (an approximate evaluation). In 1735, the fishing season in North America left 62 men dead or two per cent of the total crews who had left Saint-Malo.⁵ In 1742, a year for which the records are complete, 59 of the 4,552 men who had sailed from Saint-Malo died: a mortality rate of 1.3 per cent.⁶ Crew death rates in the slave or East Indies trades were much higher; losses of ten to 15 per cent were normal. On 226 ships having sailed from Bordeaux to the West Indies from 1736 to 1739, 13 per cent of the crew members died during the voyages.⁷ On 53 slave trading ships returning to Nantes from 1764 to 1767, over 17 per cent of the crew members died during the expeditions.⁸ Even when one takes into account that cod fishing ventures lasted about half as long as slave trading voyages, mortality rates in the cod fishing industry clearly appear to have been very low by comparison with most types of transoceanic navigation. But this was not

4 L. Turgeon, "Naufrages de terre-neuviens bayonnais et luziens (1689-1759)", Centenaire du détournement de l'Adour, Congrès de Bayonne 1978, *Bulletin de la Société des Sciences, Lettres et Arts de Bayonne*, no 134 (1978), pp. 116-7, pp. 119-20.

5 A. Cabantous, *La vergue et les fers* (Paris, 1984), p. 56.

6 Crew rolls Saint-Malo, 1742, Archives de la Marine (Brest), PC6 45-1 (clandestine sailors have been included in the calculations).

7 P. Butel, *Les négociants bordelais, l'Europe et les îles au XVIIIe siècle* (Paris, 1974), p. 218.

8 R. Stein, *The French Slave Trade in the 18th Century. An Old Regime Business* (Madison, 1979), pp. 54, 99.

unique: European coastal navigation and fishing also enjoyed relatively lower death rates.

Safety conditions in the 18th century French cod fishing industry were determined by a combination of two factors: the natural environment of the North American fishing grounds and the technical conditions of cod fishing at that time. The climate of the Northwest Atlantic region during the cod fishing season (April-September) was not fundamentally different from that of Northwestern Europe, except that spring was colder. Specific diseases and epidemics taking a heavy toll on Europeans travelling in tropical areas of the world were unknown to fishermen in the North Atlantic. Their main enemy was cold and dampness: frostbite and pulmonary ailments seem to have been the most common health hazards generated by the environment. In green cod fishing on the Banks the absence of port calling made scurvy especially threatening. It is difficult to estimate the impact of these various threats upon death rates, since crew rolls do not mention the names of diseases which had caused death (and if they had, it would probably be of little help). Cod fishing techniques presented some specific risks to personal health and safety. Dried cod fishing was conducted from small boats with a crew of three cruising along the coasts. Such boats were often suddenly caught by fog; some of them, unable to return to safety, vanished forever (these accidents can be determined from crew rolls when mention is made of three men disappearing at a time). Seamen's hands were also exposed to injury by the daily manipulation of hooks, fishing-lines, knives and fish bones. Such injuries were frequently aggravated by contact with rotting fish bowels, excessive humidity and lack of proper care. In the late 19th century, most older cod fishermen had lost one or several phalanxes of their fingers because of complications from hand injuries and this observation can presumably be extended to their 18th century predecessors.⁹ Moreover, crew members, especially the young trainees ("mousses" and "novices"), were frequently punched and beaten by petty officers as a punishment or in order to make them work faster. A limited degree of physical violence was an accepted norm on board ships (as throughout society in general) and lawsuits against officers for excessive brutality leading to injuries were rare in the cod fishing industry, but their number increased in the late 18th century. Pléville Le Pelley, a former captain, noted in 1786 that because fishing was productive work, it was incompatible with the enforcement of the law which punished disobedient seamen with imprisonment down in the hold; officers therefore resorted to violence rather than the law because they could not afford to weaken the productive force.¹⁰ Although there are no statistics on stick blows received by ships' boys at Newfoundland, the demands of the working environment in cod fishing may indeed have encouraged more pervasive physical abuse than

⁹ Descottes, *Contribution à l'histoire de la médecine*, p. 54.

¹⁰ "Mémoire sur la police des équipages en pêche à Terre-Neuve" by Pléville-le-Pelley, 1786, Marine C5 54, f. 119, Archives Nationales (AN), Paris.

elsewhere.

Environmental conditions were hard on ships' safety in the Labrador/Newfoundland region. Several elements combined to make sailing in this area particularly dangerous. Below freezing temperatures hampered ships' manoeuvres in March or April. Icebergs posed a serious threat in May and June, when most fishing ships arrived in the region. In a rare testimony dating from 1785 on the risks of sailing in Newfoundland waters, a former captain described how he would make his ship slalom between icebergs: "All these movements had to be almost as swift and precise as those of a horse and were successful only thanks to the captain's skill; staring at icebergs that reflected the sun's rays blinded the captain who, replaced by the first mate, withdrew to his cabin, covered his eyes with a woolen cloth, then came back to replace his first mate who had also become blind".¹¹ Ice fields often blocked access to the coasts of Labrador and Newfoundland in the spring and captains, eager to reach their chosen fishing place before their competitors, would often send a party of men who scouted their way around to the shores in a boat or by walking on the ice. Safety regulations to prevent these activities testify that these practices were widespread and very dangerous.¹² Captains sometimes tried to transform their ships into ice-breakers. One captain described the experience:

The ship rose above the ice with the prow nearly out in the air and water touching the windows of the rear cabin. The shock was terrible, the masts withstood the impact and the ship let in little water; I sailed back to the ice at full speed and it cracked; the prow disappeared and the forecastle was full of water. The ship slowly went up and I moored.¹³

Although fog caused risks of contact with reefs and collision with icebergs or other ships, accidents involving ships and caused by fog seem to have been rare. The risks were considerably reduced by stopping the ships and by their relative isolation from each other. Storms were a frequent and more dangerous menace, especially early in the fall (late September/October) when ships left the fishing grounds to sail back to France. Most shipwrecks caused by storms appear to have taken place during that period of the year.

The technical conditions in which cod fishing took place considerably minimized the risks endangering ships. In stormy weather, being at sea close to the coast is a most dangerous position. The usual response is either to take shelter in a port or a cove, or to sail to high seas. This was exactly what cod fishing ships were doing permanently. In dried cod fishing, they remained anchored in a cove until the end of the fishing season; in green cod fishing, they

11 (Anon.), "Mémoire sur la navigation et pêche à l'île de Terre-Neuve", 24 December 1785, Colonies C11F 5, f. 108, AN.

12 Ordonnance, 14 March 1718, Archives Départementales Loire-Atlantique, C744, f. 57.

13 (Anon), "Mémoire sur la navigation", f. 108.

generally remained in high seas, far from the coasts. In both cases they were relatively less exposed to wreck threats than ships involved only in commercial navigation. Nonetheless, evidence gathered from all sources suggests that the safety and health of men employed in the North American fisheries was more threatened by accidents (and complications from accidents) than by disease. Injuries and drowning were the major physical risks involved in cod fishing.

Royal legislation on safety at sea was codified in the Marine ordinance of 1681 and numerous later decrees. The legislation can be divided into two categories: measures designed to care for the safety and health of crew members and those intended to protect the safety of navigation. The Marine ordinance of 1681 made it obligatory to embark a surgeon on all ships carrying more than 19 crew members (15 after 1785). In 1717, all ocean-going ships were required to take a surgeon and those with more than 50 crew members were ordered to take two surgeons.¹⁴ Outfitters who evaded the law were fined. Crew rolls show that the 1681 ordinance requirement was met: all cod fishing ships with more than 19 men had a surgeon. An unintended consequence of this regulation was to limit the size of crews in green cod fishing: in Granville, an abnormally high proportion of bankers — 22 out of 51 outfitted for the Banks and Ile Royale in 1736 — had a crew of 19 men.¹⁵ Requirements of the 1717 regulations, on the contrary, were not met: most cod fishing vessels carrying fewer than 20 men had no surgeon and many of those with more than 50 men took only one surgeon. Whether or not they were “guided by sordid self-interest rather than by the love for Humanity” as the King’s prosecutor in Saint-Brieuc stated in 1764, outfitters put forward the “salubrity” of the climate as a reason to be exempted from the 1717 regulations. The Administration granted them a de facto exemption which ceased to be in effect if the cod fishing ships left the North Atlantic area, in which case they had to pick up a surgeon in Canada or Newfoundland. This is what the captain of the “Prudent”, as many others, did in 1776, although it did not prevent a quarter of his crew from dying in Martinique.¹⁶ In 1769, the exemption for crews of more than 50 men was revoked and such vessels were compelled to take two surgeons.¹⁷ Regulations in this matter were difficult to enforce. Outfitters always remained reluctant to pay for surgeons’ wages; they argued that the fishing-industry was safe from the threat of disease and that surgeons were “completely useless”.¹⁸ In 1769, the Navy Minister De Praslin suggested that the outfitters pool their resources to support small teams of surgeons who

14 Ordonnance sur la Marine, 1681, title VI, art. 7 and Règlement of 8 June 1717, MG1 A1, Reg. 54, f. 58, Public Archives of Canada (PAC).

15 Crew rolls Granville 1736, Archives Municipales Granville, C6 155.

16 Crew rolls Saint-Malo 1776, Archives Départementales Ille-et-Vilaine, 15 RJ1.

17 Duke of Praslin to commissaire des classes in Saint-Malo, 20 June 1769, Archives de la Marine (Brest), PB2 9a.

18 Request from outfitters to the Duke of Praslin, 1768, Archives Communales Honfleur, HH 11.

would sail around the banks to help nearby crews when necessary. The outfitters replied that this would not work since fishing-ships were scattered over immense areas and always tried to avoid each other.¹⁹

Another serious difficulty was recruiting surgeons for the Newfoundland fishing grounds. Not without good reasons, marine surgeons considered assignments on fishing vessels bound for the North Atlantic as quite unattractive. Living conditions were harsh and the lack of real port calling (unique in ocean going shipping) prevented them from trafficking in various goods. As a result, the quality and qualifications of recruits, especially on small ships, seem to have been questionable. In the green cod fishery, surgeons were routinely required to take part in fishing and their surgical talents must not have extended far beyond cod cutting. They were often referred to as “foreman and surgeon” or “splitter and surgeon” on crew lists. On large vessels with crews of 100 or 150 men, the situation was better. Surgeons received a special allowance for their supply of drugs. Their medicine chest was inspected, approved and sealed by Admiralty officials before departure.²⁰

A number of specific pieces of legislation intended to protect the safety of navigation were adopted in a piecemeal fashion, often at the request of outfitters. In order to prevent dangerous overcrowding on sack-ships coming back from the fisheries, a 1684 royal decree limited the number of men that such vessels could bring back to their home port to one per ton in addition to their crew.²¹ In April 1700, the government made it illegal for captains to send boats to the coast before having seen it.²² Duhamel du Monceau admitted in the 1770s that, in their eagerness to land, captains often mistook a cloud for the land.²³ In 1739, after a series of incidents, bankers from Les Sables d’Olonne were required to take food supplies for a minimum of five months.²⁴ In 1737, a ship caught fire in the port of Saint-Malo. Full of benevolent zeal, the government immediately made it illegal to use straw mattresses similar to the one which had caused the fire on board cod fishing vessels.²⁵ Outfitters pleaded that this regulation could not be enforced in the North Atlantic where men needed the mattresses to protect themselves from the cold. The ordinance was revoked, but in 1765 straw mattresses were banned again in the dried cod fishery, and smoking was

19 Duke of Praslin to the Normandy Chamber of Commerce, 11 February 1769, Archives Communales Honfleur, HH 11.

20 Descottes, *Contribution à l'histoire*, p. 24.

21 Decree in Council, 3 March 1684, MG2 A1, reg. 21, PAC.

22 Ordonnance, 14 April 1700, extended to Labrador by ordonnance of 14 March 1718, Archives Départementales Loire-Atlantique, C744, f. 57.

23 Duhamel du Monceau, *Traité général des pesches* (Paris, 1769-1779), vol. 2, p. 90.

24 Cod fishing regulations for Les Sables D’Olonne, art. 1, 20 April 1739, Archives Départementales Loire-Atlantique, C744, f. 54.

25 Ordonnance, 23 July 1737, Archives Départementales Loire-Atlantique, C744, f. 7.

authorized only on the decks.²⁶ In 1766, a shipwreck was caused by icefields in the Portochoa area of Newfoundland. The government commanded ships bound for this destination to leave after 15 March, but because of protests in various ports, the order was cancelled.²⁷ In 1786, however, to prevent captains from arriving too early on the coasts of Newfoundland, the Navy minister De Castries made it illegal for ships bound for the dried cod fishery to leave France before 10 April.²⁸ Nonetheless, governmental involvement in the safety of vessels remained minimal. The State was not the shipowner and, although the Administration was more interested than the latter in the safety of crew members, it was motivated not by “love for Humanity”, but by the simple reason that the reserve of potential navy recruits had to be preserved if the Crown hoped to win future wars. In 1768, Praslin warned outfitters reluctant to obey the law on surgeons that “the interests of crews, whose safety is expected to be protected by this law, will always prevail above any other consideration and above any future request they [the outfitters] might present concerning this matter”.²⁹ Seven months later, however, he conceded “that, whatever advantages exist in the strict enforcement of the law, it might be advisable to agree to some modifications for ships bound for climates as those where cod fishing takes place.... I am eager to give our trade everything that will protect and encourage it”.³⁰ The Administration thus had to compromise out of fear that the enforcement of safety regulations might discourage outfitting for the North American fisheries.

In fact, as piracy declined, the seas became much safer than they had been previously. Cases of attacks against cod fishing ships in time of peace were very rare during the 18th century. On 4 April 1717, the banker *Daniel* was boarded by a vessel with a 200-man crew who cut fishing lines and stole food supplies. A week later, the same ship was encountered again: the banker was ordered to leave “or they would cut everybody’s throat”.³¹ In 1720, two saint-Malo bankers were attacked and pillaged by pirates; another one was attacked in 1723. A few others were approached by vessels with dubious intentions but managed to escape. No such incidents occurred after 1725 in Newfoundland waters, although a dried cod loaded ship from Saint-Malo was attacked by a Moroccan privateer in 1741 near Gibraltar and the ship’s second lieutenant was killed

26 Ordonnance, 18 October 1765, Archives Départementales Loire-Atlantique, C744, f. 40.

27 Letters from the King to the Admiral, 13 December 1766, Archives Départementales Charente-Maritime, B 5633 (Amirauté La Rochelle). The order was revoked on 7 January 1767.

28 Dépêche De Castries, 7 February 1786, Archives Nationales Marine, C5 52, f. 12.

29 Duke of Praslin to commissaire des classes in Les Sables, 30 June 1768, quoted in J.L. Chartier, “Les chirurgiens navigants des Sables d’Olonne sous l’Ancien Régime”, *Bulletin de la Société Olona*, 27 (1972), no. 62, p. 10.

30 Duke of Praslin to commissaire des classes in Les Sables, 11 February 1769, in Chartier, *ibid.*, p. 11.

31 Captain’s report, 1717, Marine B3 242, f. 219, AN.

trying to repel the assault.³² Although these events were statistically negligible and caused insignificant losses, some risks existed and crews were always armed. All cod fishing ships carried guns in the first half of the century, much less frequently after 1763, and rarely after 1783. Vessels bound for Labrador were always more heavily armed than others and some of them looked like men of war; the *Comtesse de Pontchartrain* left Saint-Malo in 1718 carrying 36 guns.³³ Fear of attack by Eskimos, who had killed 11 men from a Saint-Malo ship in 1728 and who often pillaged fishing facilities, seems to have been the cause for heavier artillery.³⁴ Unprotected fishing ships were also more heavily armed in time of war and crews were quick to rebel if they found their safety threatened by inadequate weaponry. Crewmen of the *Prophète Royal* refused to leave port in 1744 until additional guns and ammunition were put on board their ship.³⁵

French ships bound for the North American fisheries were never escorted by men of war in the 18th century. Since Newfoundland was a British territory and cod fishing ships were scattered over an immense area, it was impossible to provide them with effective protection and fishermen remained constantly exposed to British attacks in time of war. Offering easy prey, the French fisheries were raided several times by British privateers and warships before 1756, most notably by Admiral Boscawen's fleet in 1755 when many ships and men were captured. Granville suffered a heavy blow in 1744 when 29 ships (43 per cent of its fleet) were intercepted while Saint-Malo suffered most in 1755 when it lost 23 (27 per cent of its fleet). The surprising gap in losses between the two ports (Saint-Malo lost only five ships or 20 per cent of its fleet in 1744 and Granville only six ships or six per cent of its fleet in 1755) may have come from the fact that the Malouins had a more extensive coastal dried cod fishing industry and a less developed bank fishery than the Granvillais. Consequently, the degree of exposure of their ships to British attacks varied depending on the location and timing of such attacks. Percentages of ships captured (see table I) demonstrate how vulnerable these vessels were and probably a few more were intercepted and managed to escape. Yet French ships continued fishing on the coasts of Newfoundland, a British territory, while their nation was at war with Britain. Of the 23 fishing vessels from Granville and Saint-Malo which anchored at Newfoundland after the outbreak of war in the years 1745-1747 and 1756-1758, nine were captured and 14 came back safely.

A unique combination of low mortality rates and a much higher than average crew density (men per ton) on board ships were the two key factors that made maintaining the cod fishing industry in North America an extremely important item on any peace agenda for the French Crown. The 300 or 400 vessels usually employed in this industry were a powerful sailor-creating machine. A 200 ton

32 Crew rolls Saint-Malo, 1741, Archives Marine (Brest), PC6 44- 2.

33 List of ships going to Labrador, 1718, Colonies C11A 109, f. 49, AN.

34 Marine B3 322, f. 69, AN.

35 Decree in Council, 7 November 1749, MG2 A1, reg. 84, f. 56, PAC.

Table One

Number of codfishing vessels outfitted in Granville and Saint-Malo captured by the British

Year	Granville	St. Malo	Year	Granville	St. Malo
1743	3 (3%)*	1 (1%)	1755	6 (6%)	23 (27%)
1744	29 (43%)	5 (20%)	1756	0	2 (33%)
1745	0	4 (33%)	1757	0	1 (33%)
1746	1 (50%)	1 (33%)	1758	0	0
1747	3 (100%)	5 (83%)	1759-62: no ships outfitted		
1748	0	1 (7%)			

*percentage of total number outfitted

trading ship bound for the West Indies, Africa or the East Indies carried a crew of not more than 50 men, of which, by law, one tenth had to be "mousses" (ship's boys, 12-16 years of age) and one fifth "novices" (16-25 years of age, with no previous navigation).³⁶ A total of 15 untrained men were therefore taken on board; the other 35 were able seamen registered in the "classes" system of the Navy. If sent to the coasts of Newfoundland, the very same ship would have carried a crew of about 160 men, of which at least 48 would have been "mousses" or "novices". Thus, it would have taken aboard a number of trainees roughly equal to its total crew because a surplus of manpower was needed to manoeuvre the small fishing boats and to process the fish. With crew densities about three times as high as in conventional shipping, the vessel engaged in dried-cod fishing produced, for the same tonnage, three times more trained seamen. The safety record of the cod fishing industry added enormously to this advantage. A low crew mortality rate was combined with an extremely high crew "birth rate" per ship. In the slave/ West Indian/ East Indian trades, the 30 per cent of trainees put on board ships tended to be offset by combined mortality/desertion rates approaching a similar percentage of the crew. Because they could not "produce" many more seamen than they lost, such trades could not have grown without constantly drawing manpower from other areas. In the 18th century, the port of Bordeaux had to recruit a large percentage of its seamen from the Charentes, from Brittany and from the Basque Country.³⁷

Maritime circles in 18th century France were aware of these realities. Although as a lobbyist for the fishing-industry his statement may have been somewhat exaggerated, Louis Bretel was certainly not mistaken when he insisted in 1764 that "it has been proven that the trade of tropical America reduces rather than increases the number of seamen and that the cod fishing

36 Ordonnance, 23 July 1745, Archives Municipales Saint-Jean-de-Luz, EE5.

37 Butel, *Les négociants bordelais*, p. 218.

trade compensates by itself these losses by giving every year to the state a considerable number of seamen".³⁸ Bretel estimated that before the Seven Years War, the French cod fishing industry produced 2,000 new "classés" — registered able seamen — every year.³⁹ Manpower employed in the French cod fishing industry reached a peak in the early 1750s, totalling around 15,000 men on the average, with 9,000 recorded for Granville and Saint-Malo alone. Among these were, by law, at least 1,500 "mousses" and 3,000 "novices". Given the safety record of the fishing industry, the yearly loss rate is not likely to have exceeded three per cent. If one assumes that the 1,455 remaining "mousses" were equally divided between the four years required to become able seamen and that the 2,910 remaining "novices" were equally divided between their two years of training, the number of new able seamen produced in the cod fishing industry must have averaged 1,819 men per year. Since legal quotas to take trainees were frequently exceeded in the dried cod fishing industry, the figure of 2,000 men, if not statistically exact, appears at least plausible. The number of "classés" in 18th century France totalled between 50,000 and 60,000 petty officers and able seamen.⁴⁰ The cod fishing industry therefore was able to bring to this pool three to four per cent in new recruits each year. It would be most interesting to make a comparative statistical study of the production of new able seamen per ship in various trades. All the evidence seems to suggest that the cod fishing industry would come out ahead.

Government officials were fully aware that both tropical navigation and service in the Navy in time of war provoked a real slaughter among crews, but there was little they could do about it. An effective way to counterbalance this sword of Damocles threatening French maritime power was to make sure that the French would never be eliminated from the North American fisheries. Thus, even when the French Crown was forced to accept territorial losses (1713, 1763), it always insisted on and succeeded in retaining fishing rights for its subjects. The safety of navigation in the cod fishing industry at Newfoundland contributed to this tenacity. Ironically, during the late 19th/early 20th centuries, cod fishing acquired a reputation as a most unsafe activity. Medical, scientific and technical progress enormously reduced the toll previously taken on crews in other types of navigation, but because it was an activity where death was mostly accidental, cod fishing did not experience similar improvements, thereby losing its relatively good position on the safety scale and its significance as a nursery of seamen.

38 Bretel, "Etat actuel des questions relatives à la pesche de la molue sur la cote de Terre-Neuve", September 1764, Colonies C11F 3, f. 145, AN.

39 Memorandum by Bretel, 1765, Marine C5 38, AN.

40 T.J.A. Legoff, "Les origines sociales des gens de mer français au XVIIIe siècle", *La France d'Ancien Régime. Etudes réunies en l'honneur de Pierre Goubert* (Toulouse, 1985), p. 368.