NEWFOUNDLAND REGION GROUNDFISH STOCK UPDATES

Background

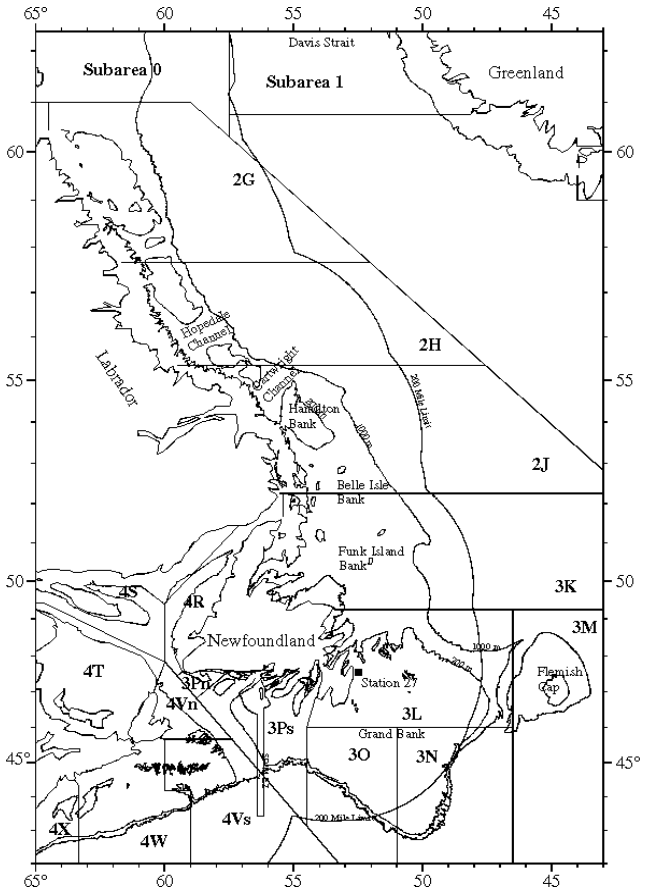
In Newfoundland, Science, Oceans and Environment Branch of the Department of Fisheries and Oceans is responsible, either directly or indirectly, for advising on the status of numerous groundfish stocks located from Davis Strait in the north to the south coast of Newfoundland in the south.

In this area, there are 5 cod stocks (2GH, 2J3KL, 3M, 3NO and 3Ps), 5 redfish stocks (SA2+3K, 3LN, 3M, 3O and Unit 2), 4 American plaice stocks (SA2+3K, 3LNO, 3M and 3Ps), 3 witch flounder stocks (2J3KL, 3NO and 3Ps), 2 Greenland halibut management areas (SA0+1 and SA2+3KLMNO), 2 haddock stocks (3LNO and 3Ps), 1 yellowtail flounder stock (3LNO), 1 pollock stock (3Ps), 2 roundnose grenadier stocks (SA0+1 and SA2+3), thorny skate, white hake and monkfish in 3LNO as well as a portion of the 3NOPs4VWX Atlantic halibut stock. In addition, there are coastal fisheries for lumpfish, and winter flounder.

Scientific information on the above stocks is provided either through the DFO Science, Oceans and Environment Branch regional review process and the FRCC, or the Scientific Council of NAFO. Quotas are set by the NAFO Fisheries Commission for 3NO and 3M cod, 3LN and 3M redfish, 3LNO and 3M American plaice, 3LNO yellowtail flounder, 3NO witch flounder, 2+3 grenadier and SA2+3KLMNO Greenland halibut. The NAFO Scientific Council also reviews the Canadian assessment of 2J3KL cod and 2J3KL witch flounder on an annual basis. Greenland halibut, and roundnose grenadier in SA0+1 are managed bilaterally by Denmark, on behalf of Greenland, and Canada. Quotas for the other stocks are set by the Minister of the Department of Fisheries and Oceans based on recommendations of the FRCC.

The Newfoundland Region Stock Status Reports contain information pertaining only to those stocks for which the FRCC directly provides catch recommendations to the Minister. Information on the stocks evaluated and managed by NAFO is contained in separate documentation; the reports of the NAFO Scientific Council.

Detailed technical information on each of the stock assessments can be found in the research documents listed with each stock report. Technical information for the NAFO stocks is available through the NAFO SCR Document series. ***This report includes updates for stocks not formally assessed in 2001.***



Background to Groundfish Updates

This report provides an update on the status of **3Ps pollock**, **3Ps American plaice, 3Ps witch flounder, thorny skate, white hake**, **winter (blackback) flounder, lumpfish,** and **wolfish (catfish),** the latter taken as bycatch only. **These stocks were not formally assessed through RAPs in 2001 but the responsible assessment scientists have updated the status and commented on the recent data.**

Cod in Division 2J3KL (SSR A2-01) was assessed during a regional assessment meeting in spring 2001 and **cod in Subdivision 3Ps** (SSR A2-02) was assessed regionally in fall 2001. **2GH cod, 3LNO**

haddock (SSR A2-04)**, and 3Ps haddock** (SSR A2-05) were also assessed during the fall 2001 regional assessment meeting.

Redfish **in SA 2 + Div. 3K (**SSR A2-15**)** was assessed regionally in the fall of 2001. **Units 1 and 2 redfish and Div. 3O redfish** were reviewed in detail during a zonal meeting in November 2001. A Stock Status Report for these stocks is available (A1-01).

Information on the status of stocks assessed by NAFO, as well as the 2001 advice of Scientific Council, is available in the **report of the June 2001 meeting (NAFO SCS Doc. 01/24)**.

Subdivision 3Ps American Plaice

This stock has been under moratorium since September 1993. Bycatches in recent years have increased from 90 t in 1995 to about 420 t in 1998, 640 t in 1999 and 650 t in 2000. Preliminary estimates for 2001 are more than 850 t. This bycatch is mainly taken in the cod and witch flounder fisheries. In the witch flounder fishery the Danish Seine fleet had less than 2% bycatch of American plaice in 2000 and preliminary 2001 data indicate a 5% bycatch. Otter trawlers fishing witch flounder had a 150% bycatch of American plaice in 2000 with preliminary estimates for 2001 at nearly 100% bycatch.

Research vessel survey results indicate that this stock has remained at a low level since 1992. Biomass and abundance in the last 3 to 4 years are somewhat higher than those seen in the mid-1990's. However, the average biomass in 1999-2001 is only 20% of the 1983-87 average and abundance is 30% of the 1983-87 average.

Presently there are insufficient data available to be able to evaluate the results of the annual industry surveys.

In the short to medium term there appears to be little prospect of significant rebuilding of this stock. Any removals from this stock will further delay recovery.

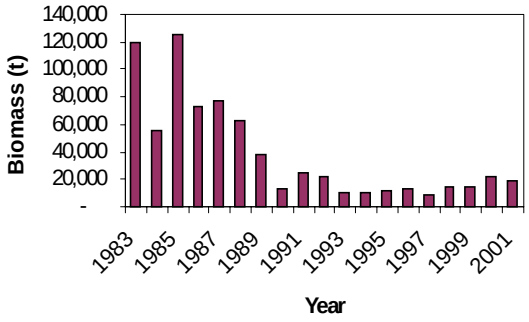


Figure 1. Research survey biomass index for Subdivision 3Ps American plaice, 1983-2001. All data 1983-1995 are in Campelen data equivalents. Data from 1996-2001 are Campelen data.

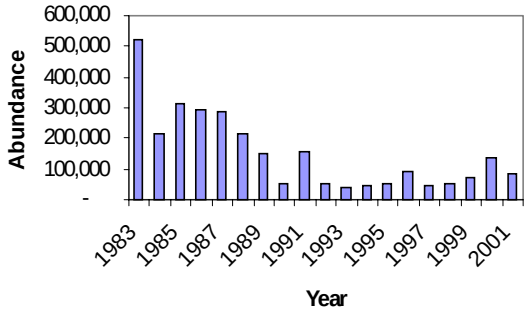


Figure 2. Survey abundance estimates for Subdivision 3Ps American plaice from Canadian research vessel surveys, 1983-2001. All data 1983-1995 are in Campelen data equivalents. Data from 1996-2001 are Campelen data.

Subdivision 3Ps Witch flounder

This fishery has remained open, with a TAC of 650 t in each year from 1998 to 2001. Catches in 1998 and 1999 were in the range

of 470 – 500 t, however, the 2000 catch was only 345 t. The preliminary estimate for 2001 is about 450 t.

Research vessel surveys indicate that this stock has remained relatively stable in recent years. The mean biomass index estimate during 1992-99 was about two-thirds of the mean estimate during 1983-92. The estimates of abundance and biomass from the 2001 survey were similar to the average values of recent years (1996-2001 when the Campelen trawl was used).

Presently there are insufficient data available to be able to evaluate the results of the annual industry surveys.

There is no indication of an increase in recruitment and the stock appears to be relatively stable at recent levels of exploitation.

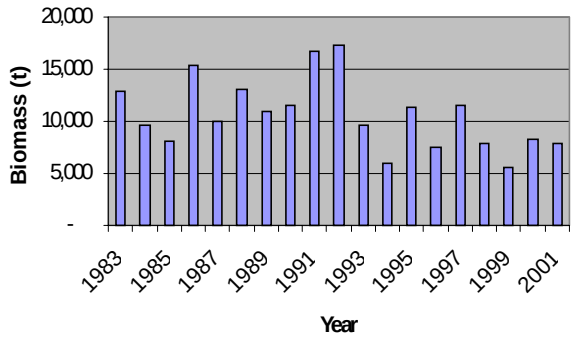


Figure 3. Research survey biomass index for Subdivison 3Ps witch flounder, 1983-2001. All data 1983-1995 are in Campelen equivalents. Data from 1996-2001 are Campelen data.

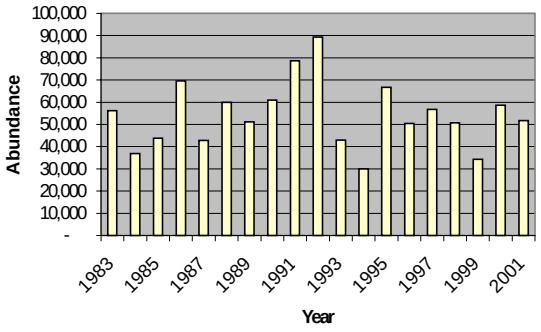
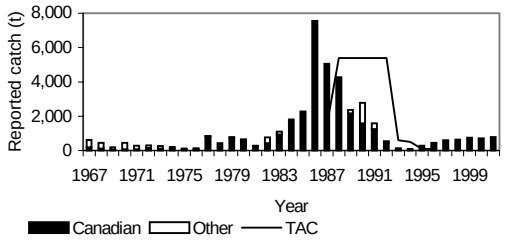


Figure 4. Survey abundance estimates for Subdivison 3Ps witch flounder from Canadian Research Vessel surveys, 1983-2001. All data 1983-1995 are in Campelen equivalents. Data from 1996-2001 are Campelen data.

Subdivision 3Ps Pollock

Since 1993 the pollock fishery has been regulated as bycatch only. Catches since the cod fishery reopened in 1997 have been in the 600-750 t range annually. Catch to October 1 in 2001 is 797 t with approximately two thirds of the 2001-2002 quota for cod to be caught.



Annual surveys have been conducted by Canada in Subdivision 3Ps since 1972. Some changes have been made to the trawl survey in recent years. In 1996 the survey trawl gear was switched to the Campelen 1800 shrimp trawl. Direct comparisons of pre and post 1996 data cannot be made. In recent years the survey coverage has been expanded to the inshore. This expansion of survey coverage has not led to a significant increase in survey biomass.

In 1999 the biomass increased due to a few larger (50-100 fish) catches in strata in the Halibut channel area. In 2000 no concentrations of pollock were encountered.

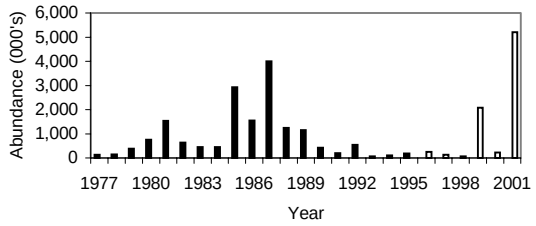


Figure 5. Abundance estimates from Canadian Research Vessel Surveys for Pollock in NAFO Subdivision 3Ps. The 1996-2001 points are with the Campelen 1800 shrimp trawl. Pre-1996 data have not been converted and are not directly comparable

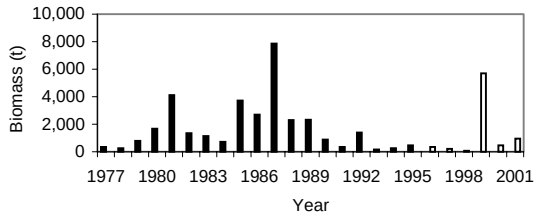


Figure 6. Biomass estimates from Canadian Research Vessel Surveys for pollock in NAFO Subdivision 3Ps. The 1996-2001 points are with the Campelen 1800 shrimp trawl. Pre-1996 data have not been converted and are not directly comparable

In 2001 the survey encountered small pollock in a number of sets on Burgeo Bank, along the slope of St Pierre Bank and in sets in the inshore area west of the Burin Peninsula. Most sets on St. Pierre Band had no pollock. The absence of pollock on St. Pierre Bank may be temperature related as bottom temperatures were between –0.5 and –1.0 over most of the bank.

Pollock have never been a major component of the commercial fishery in NAFO Subdivision 3Ps. Bycatch since the cod fishery reopened in 1997 have been in the range of 500-800 t. Assuming cod quotas remain at current levels and environmental conditions in the area do not recede to the cold conditions of the early 1990's this level of pollock bycatch can be expected to continue.

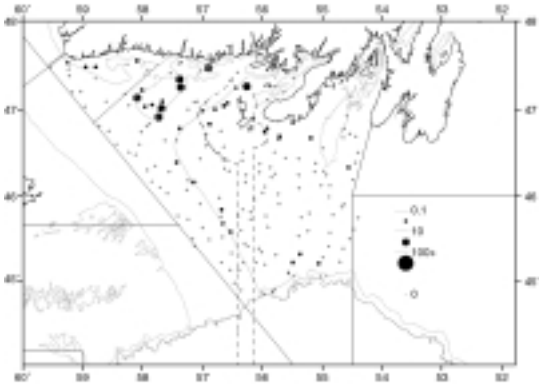


Figure 7. Pollock distribution numbers per tow from the 2001 Canadian research vessel survey.

Thorny Skate in Divisions 3L, 3N, 3O and Subdivision 3Ps

The Canadian skate fishery is regulated through quota control but the non-Canadian fishery outside 200 miles is unregulated. NAFO Scientific Council expressed concerns about this unregulated fishery and for the first time, in 2000, the status of thorny skate was assessed at NAFO.

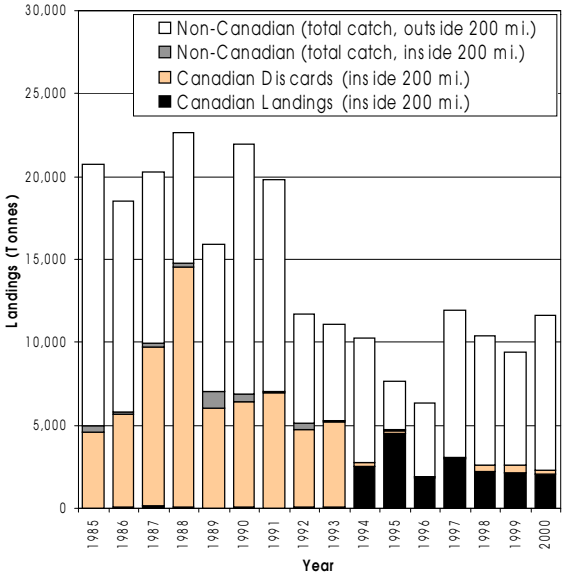


Figure 8. Catches of thorny skate, 1985-2000.

Until 1985, reported catches averaged less than 3000 t. Catches of skate increased dramatically in the early 1990's as a result of increased non-Canadian effort outside of the 200 mile limit. Canadian catches increased in the mid- 1990's. From 1992 to 2000, catches were on average about half (close to 10,000 t) compared to the period 1985-1991. Provisional Canadian catch for 2001 is about 1880 t.

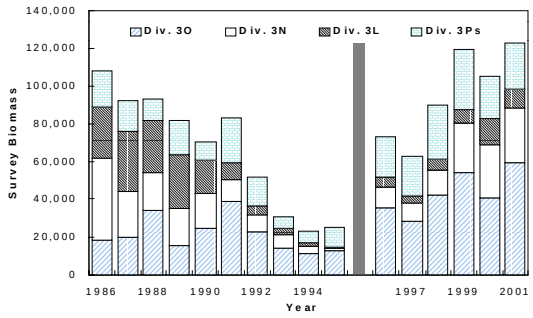


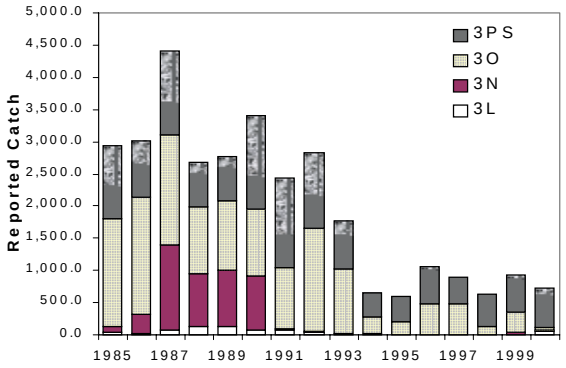
Figure 9. Spring research survey biomass index for thorny skate, 1986-2001. Campelen gear was used for 1996-2001, Engel for previous years (not converted).

An increase in the biomass index over the past five years suggests that the period of decline starting in the 1970's has come to an end.

White Hake in Divisions 3L, 3N, 3O and Subdivision 3Ps

The fishery for white hake on the Grand Banks is **not regulated by quota**. At present, closures due to high bycatch are the only limits on directed effort for hake. If this constraint was removed, catches could increase, possibly to the detriment of the stock.

Landings occur both as bycatch and from a directed fishery. Reported catches in recent years were mainly from 3Ps and 3O although significant amounts were reported from 3N in the late 1980's. Catches declined during the last two decades to less than 1000 t annually since 1994. The catch in 2000 was only 731 t. Catch to December 1 in 2001 is 1318 t. Non-Canadian catches of less than 90 t per year have been reported to NAFO since 1991.



.Figure 10. Catches of white hake, 1985-2000.

In 1999-2001, the spring biomass index was more than three times that of 1996-1998, primarily due to an increased 3O index. The 3N index was at its highest level in 2001 since 1986. This suggests a substantial increase in biomass for this stock since the low period of the early 1990's. A longer time series of Campelen data is required to confirm this trend. Average size of hakes declined dramatically during the 1980's and has remained low since.

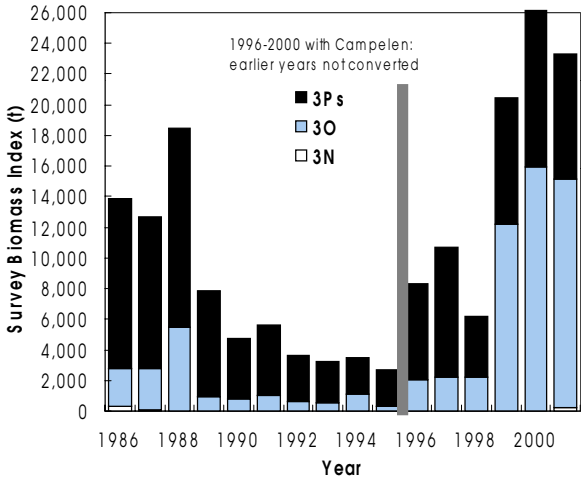


Figure 11. Spring research survey biomass index for white hake 1986-2001. Campelen gear was used for 1996-2001, Engel for previous years (not converted).

Indications of recruitment in 1996 and a dramatic increase in the abundance index in 1999-2001 may be positive signs.

Catfish (Wolffish) in Divisions 2J, 3K, 3L, 3N, 3O and Subdivision 3Ps

Catfish species are reported in the landing statistics as a single entity, catfish, but comprise 3 species; striped (Atlantic), spotted and northern (broadhead), the first two being of commercial value. Northern or broadhead catfish is not of commercial value and is discarded.

There is no directed fishery for any of the species. **Rather, they had been taken in substantial numbers as by-catch in other fisheries in the past.** During the 1980's, catches including amounts discarded at sea exceeded 1000 t in most years then declined after 1991 when many groundfish fisheries were closed.

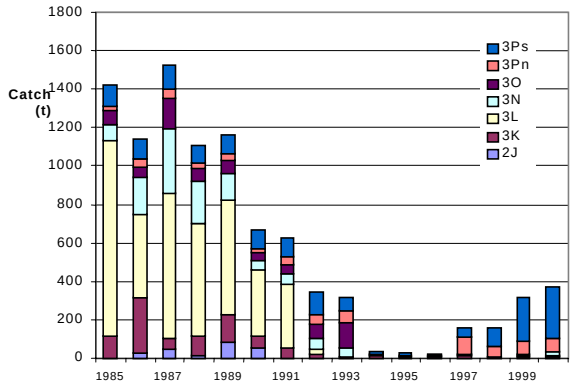


Figure 12. Catch (t) of catfish (wolffish) 1985-2000. Species are not differentiated in catch statistics.

Reported Canadian landings were only 23 t in 1996, increasing to 157 t in 1997 and 155 t in 1998 and 315 t in 1999. The preliminary estimate for 2000 is 369 t. Recent increases are due mainly to bycatch from the cod fishery in 3Ps. No catch information is currently available for 2001.

For **striped catfish**, the **survey biomass index** remains at a relatively low level, although the overall decline (late 1980's-early 1990's) was as great as occurred with spotted (or broadhead) wolffish. For **spotted catfish**, the **research survey biomass index** has fluctuated at a low level since the early 1990's, well below the values observed in the early 1980's. Data indicate a marked increase in proportion of small fish in 2000.

Biomass index of spotted and striped catfish remain at low levels. However, the index for striped catfish has increased over the past six years perhaps suggesting some moderate recovery. Exploitation on both of these species has been low in the 1990's.

There is a lack of information on stock and age structure, growth rates and age at maturity of wolffish in the waters around Newfoundland. Under the Species at Risk program, there is an initiative to gather and analyse this basic information.

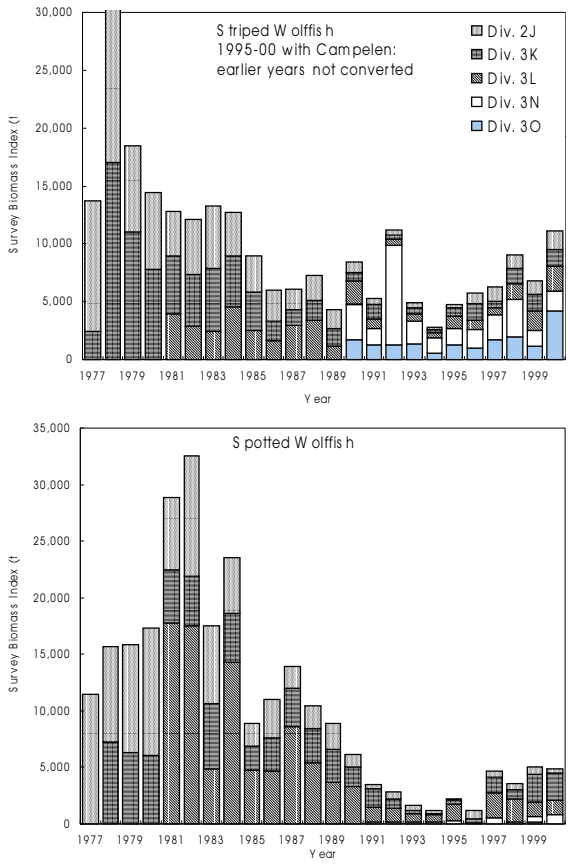


Figure 13. Fall survey biomass index for striped (upper) and spotted (lower) catfish 1977-2000. Campelen gear was used for 1996-2000, Engel for previous years (not converted).

Winter (Blackback) Flounder in Divisions 3K, 3L and 3Ps

This species has been taken in a directed fishery and as bycatch for many years. Catches increased in 1994 and 1995 to 1564 and 1054 t respectively, but declined again in 1996-1998 to 589, 498, and 504 t respectively. Landings increased to 809 t in 1999 and 2,170t in 2000, similar to levels observed in the late 1980's and early 1990's. No catch information is currently available for 2001. It is unknown whether trends in reported catches represent changes in the resource or changes in fishing effort. The increase in 1999-2000 (mainly due to increased landings in 3L) is likely linked to the re-opened cod fishery in that area since blackback flounder are commonly taken in nets set for cod.

Blackback flounder is rarely observed in research vessel catches as it is generally restricted to less than 60 m water depth. **Lack of data make it impossible to determine trends in biomass or examine other biological characteristics.** The distribution of reported landings suggest that it is widespread near shore around the coast of Newfoundland.

Lumpfish in Divisions 3K, 3L and 3P

Lumpfish roe **landings** from divisions 3K, 3L and 3P were approximately 500 t from 1977 to 1984. They reached a high of 3000 t in 1987 then declined to an average of 2000 t from 1988 to 1994. There was a decline to 1000 t in 1995 and 1996. The landings increased to 2000 t in 1997 and fell to 1100 t in 1998. In 2000 total reported landings were 1572 t with 710 t taken in 3P. There are no preliminary data yet available regarding landings for 2001.

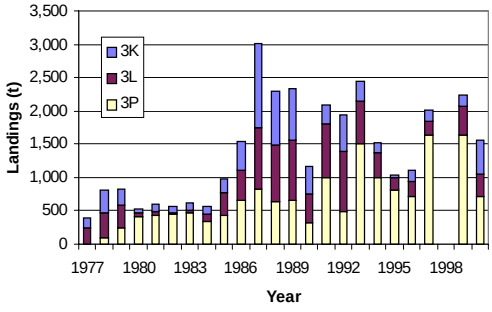


Figure 14. Lumpfish roe landings for NAFO Divisions 3K, 3L, and 3Ps, 1977-2000.

The lumpfish fishery is exclusively on pre-spawning mature females and therefore the spawning stock is vulnerable to over-exploitation.

This fishery is regulated by **effort controls**. There have been reductions in numbers of nets allowed as well as duration of the fishery in recent years These reductions in effort over time were imposed as a result of indications of stock declines, particularly in divisions 3K and 3L.

Research vessel survey results are not useful in evaluating this resource due to the relative inshore distribution compared to survey coverage.

There are **no scientific investigations to determine the current status of this resource**.

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