



The Sentinel News 3Pn4R Fixed Gear

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INTRODUCTION

The 3Pn, 4R fixed gear sentinel fishery sponsored by the FFAW union is one of the indices (measures) of abundance for assessment of the 3Pn, 4RS (Northern Gulf of St. Lawrence) cod stock. Data from the 3Pn, 4R fixed gear are combined with data from the other abundance indices (4S fixed gear, July and October mobile sentinel surveys and DFO Research Vessel survey conducted by the *MV Alfred Needler* in August) to derive an overall index of abundance for the stock. The 3Pn, 4R fixed gear program involves 29 sites throughout the region (Figure 1). Fishers at these sites use traditional gears (gillnet and long line) and fish traditional sites and seasons.

COORDINATORS MESSAGE

Except for those sentinel sites still active in Codroy and 3Pn another year of data collection is complete. The year 2000 has been another successful one and again we have maintained and in some cases increased the level of fishing activity. Obviously, being able to collect data during the commercial openings has been an important part of this success, and it is credit to the sentinel fishers and their commitment to the program that we have been able to do this. With each year of data collection the role and importance of the sentinel increases with respect to stock assessment. This importance has been recognized as sentinel was promoted to A-based (permanent) funding this year as announced by program director and DFO cod biologist Alain Frechet during the sentinel conferences held in October. A-based funding signifies long term

commitment by the federal government to maintain a specific type of work and / or service. This is very important news and should give us the opportunity to focus on some longer term objectives as we continue to build on the important responsibility of helping to assess the groundfish resources in the Gulf of St. Lawrence. It is this responsibility that I want all sentinel participants, including us here at the FFAW to keep in mind in our daily activities of collecting and processing data. This is a point that I will continue to reiterate because it is ultimately the basis for building our credibility with both science and industry, an interesting statement considering we entail both sectors. With the above stated, I want to wish all sentinel participants a very Merry Christmas and Happy, Healthy and Successful 2001, a year I look forward to working with all of you again.

SENTINEL CONFERENCE 2000

One of the highlights of the past year for all involved in the sentinel program were the sentinel meetings held October 21 and 22-23 in Plum Point and Corner Brook respectively. All sentinel skippers and one crew member from each site were invited to one of the respective meetings and most took the opportunity to attend. Those who did not attend had prior commitments that could not be changed, understandable considering the dates were late being finalized. The meetings were initiated by FFAW director Dave Decker, and involved most members of the DFO sentinel team including Alain Frechet (sentinel director for all the northern gulf and cod biologist). Dave apologized to the fishers at both meetings noting

that this type collaboration was long overdue, and that more meetings of this type would be planned in the future. He also noted that sentinel fishers should not only be regarded as data collectors, but should help with the interpretation of the data as well, a point that was reinforced by Alain. Having sentinel fishers interpret the results of the data was one of the main purposes of the meetings. All dialogue was recorded during the meetings and will be tabled at the official stock assessment in Mont Joli, Quebec in February 2001.

A variety of data were presented including the results of the fixed gear catch rates, mobile surveys, gillnet selectivity study, Lapoile project, tagging recaptures by site and tagging with respect to stock mixing between 3Pn, 4RS (Northern Gulf) and 3Ps (southern Newfoundland). These last two presentations initiated some interesting and intense discussion and debate. Many fishers were pleased to finally see the results of their tagging, some after several years of placing tags. In general, fishers noted that having the opportunity to help interpret the data they collect and have their views considered by DFO Science was a very rewarding experience. All participants agreed that these types of meetings are necessary to help better interpret the data and build a better relationship between science and industry, a process that will no doubt benefit all parties in the future.

PRELIMINARY RESULTS OF FIXED GEAR SENTINEL CATCH RATES - 2000

Catch per unit of effort is one of the primary components of each sentinel fishers data collection requirements. Standardized catch rates are calculated for long line (kg / 1000 hooks) and gillnets (kg / net / day). The fixed gear catch rates (1995-2000) are presented for each region of 3Pn, 4R based on the monthly average (Figures 2 & 3). However, only raw data is presented (i.e. no statistical analysis is applied). A new gillnet selectivity study was completed in 2000 comparing 5 ½ and 6 inch mesh sizes at several sites throughout the stock range. Preliminary analysis of this experiment was presented at the sentinel meetings discussed above and showed some interesting results within and between regions. Farther analysis of the gillnet selectivity experiment and the fixed gear catch rates will be presented at the stock assessment meeting in the winter of 2001.

Long Line

Strait of Belle Isle - Gillnet is the primary gear in this region. As was the case in 1999, there were no activities conducted in June or July this year. Average catch rates for August and September are the highest on record (Figure 2). The increasing trend in long line catches for August and September provides indication that fish are staying in the strait later than when sentinel began in 1995.

West Coast South - There are two sites that fish hook and line exclusively in this region, Codroy and Three Rock Cove (Figure 1). Catch rates show a gradual increase in this region since 1995. While the average catch rate for September 2000 was lower than September 1999, numbers are the highest on record in October and November. The catch rates at the Codroy site have been nothing less than phenomenal in November and catches seem to be hanging on longer than last year.

3Pn - The catch rate pattern in 3Pn continues to show a remarkably similar pattern between years with catches being very low in January and declining dramatically in February and March (Figure 2). As was the case in 1999, the first activity conducted in April produced very high catch rates that continued to increase until mid-May when they began to drop off. This is interpreted as fish migrating into the gulf. This year the activities started six (6) days earlier in April compared to 1999. The catch rates indicate that the bulk of the fish migrated through 3Pn and into the gulf one (1) to two (2) weeks earlier this year than last. Catch rates for the summer months (June-August) were again low (Figure 2). Catch rates for September - November are on average higher than 1999. The only question is whether or not the fish will stay in 3Pn past the middle part of December or disappear from the inshore areas just before Christmas like they have done for the past 10-12 years?

Gillnet

Strait of Belle Isle - Catch rates in 2000 are lower in June, July, and August compared to 1999 with June and July catch rates comparable to 1997 and August catch rates comparable to 1998 (Figure 3). This reduction in catch rates is likely influenced by a change in migration pattern of the fish and a change in fishing pattern at some sentinel sites. The June commercial

opening in the Blanc Sablon (eastern 4S) area was nothing less than a bonanza and sentinel catch rates in that area should be the highest on record. This is viewed by most fishers in the region as a more 'normal' pattern compared to what was observed in both the commercial and sentinel fisheries in the past several years and particularly in 1999 when the fish seemed to bypass the Blanc Sablon area. Also, sites like Green Island Cove and Sandy Cove (Flowers Cove) completed more gillnet activities in 2000 compared to previous years and since these areas are not typically prime gillnet areas average catch rates may have been pulled down. This latter hypothesis will be confirmed once catch rates are calculated for each individual site. Some other positive signs in this area were the continued good catch rates in the northern boundary, particularly in Red Bay, and the excellent sign of fish throughout the strait in July indicated by the mobile sentinel survey.

West Coast North - This is a prime gillnet area. 2000 shows a similar trend to 1999 and marks the highest average in June and October to date (Figure 3). Results for July and August are continuing to move downward and are considerably lower than 1999 (Figure 3). Again, decreased catch rates in sites like Trout River, Daniel's Harbour, Port aux Choix and Eddies Cove West lowered the overall averages for July and August and may be explained by the higher catch rates to the north (4S and the Labrador Straits in particular). This last indication reinforces the reason why all of the data must be analyzed as a whole to get a true indication of the overall stock status.

West Coast South - Excluding June, where catch rates decreased considerably in 2000, numbers have remained very stable throughout the time series. Again, the decreased catch rates earlier in the season (June in particular) may be explained by the earlier migration into the gulf as there was an excellent commercial fishery in the Port aux Choix area during the last week of May (Figure 1). In support of a later migration from the north is average catch rate for October, the highest on record.

TAGGING

2000 has been another successful year with respect to tagging. As of December 12, 2000 5515 fish have been tagged during the 2000 season in 3Pn, 4RS. These are only the fish that

have been entered on the tagging database. There are approximately 2000 more placements left to be entered that are in the office. In addition, over 500 fish have been tagged in 3Pn since the beginning of December. 3Pn is an important region to complete tagging experiments, especially in autumn because it will help to explain the mixing issue with 3Ps. Since 1995, over 43,000 fish have been tagged in the northern gulf. Of the total number of fish tagged, only 1461 (3.4 %) have been reported recaptured. These numbers continue to provide indications that exploitation rates are relatively low. The indication that exploitation rates from fishing may be relatively low is based on the assumptions that the tag reporting rate is high and short-term tag loss and mortality rate is low. The 1999 telephone survey provided a reporting rate of approximately 50%, and a second short term tag mortality / loss experiment conducted in the Labrador Straits in mid-July of this year again showed that based on the practice of tagging cod and holding them in a submerged cage for approximately one (1) week tag loss is not a factor and tagging mortality is minimal (< 5%). Confirmation of these assumptions will continue with annual telephone surveys and mortality experiments.

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Table 1. 2000 3Pn, 4R fixed gear sentinel sites and fishers. (note: ‘skippers’ listed first on per site basis).

Site	Fisher's Name	Community
1	Peter Francis	Lapoile
1	Willis Francis	Lapoile
2	Wilfred Munden	Rose Blanche
2	John Munden	Rose Blanche
3	Kevin Hardy	Burnt Islands
3	Christopher King	Burnt Islands
4	Charles Riles	Port aux Basque
4	Frederick Riles	Port aux Basque
5	Roy Fowlow	Codroy
5	Roger Fowlow	Codroy
6	Andrew Jesso	Lourdes
6	David Jesso	Lourdes
7	Jason Childs	York Harbour
7	Angus Sheppard	York Harbour
8	John Hardy	Burnt Islands
8	Winston Herritt	Burnt Islands
9	Terry Decker	Rocky Harbour
9	Lori Decker	Rocky Harbour
10	Earle Keough	Parsons Pond
10	Trevor Keough	Parsons Pond
10	Warren Keough	Parsons Pond
11	Alvin House	Daniels Harbour
11	Kent House	Daniels Harbour
12	Wayne Offrey	Eddies Cove West
12	James Offrey	Eddies Cove West
13	Vaughn Falle	Stephenville
13	Patrick Marche	Stephenville
14	Joseph Brake	Trout River
14	Shawn White	Trout River
15	Maxwell Baines	Bartlett's Harbour
15	Wanda Plowman	Bartlett's Harbour
16	Ivan Mahar	Bird Cove
16	Mabel Mahar	Bird Cove
17	Keith White	Sandy Cove
17	Amos Pynn	Sandy Cove
18	Colby Cullihall	Green Island Cove
18	Roland Mclean	Green Island Cove
19	Clayton Taylor	Raleigh
19	John Taylor	Raleigh
20	David Bartlett	L'Anse aux Meadows
20	Donald Bartlett	L'Anse aux Meadows
20	George Hedderson	L'Anse aux Meadows*
20	Aiden Tucker	L'Anse aux Meadows*
21	Nelson Roberts	Quirpon
21	Danny Roberts	Quirpon
22	Mervin Layden	Red Bay
22	Eric Layden	Red Bay
23	Doug Ryland	Lanse au Loup
23	Cecil Ryland	Lanse au Loup
24	Andrew Saulter	Forteau
24	Russel Layden	Forteau
25	Ronald Hardy	Rose Blanche
25	Clayton Herritt	Rose Blanche
26	Malcolm Lavers	Port aux Choix
26	Leon Billard	Port aux Choix
27	Michael Lacosta	Port au Port East
27	John Lacosta	Port au Port East
28	Sam Lacosta	Port au Port
28	Roger Lacosta	Port au Port
29	Harry Vautier	Lapoile
29	George Taylor	Lapoile

* new crew that started last week of season

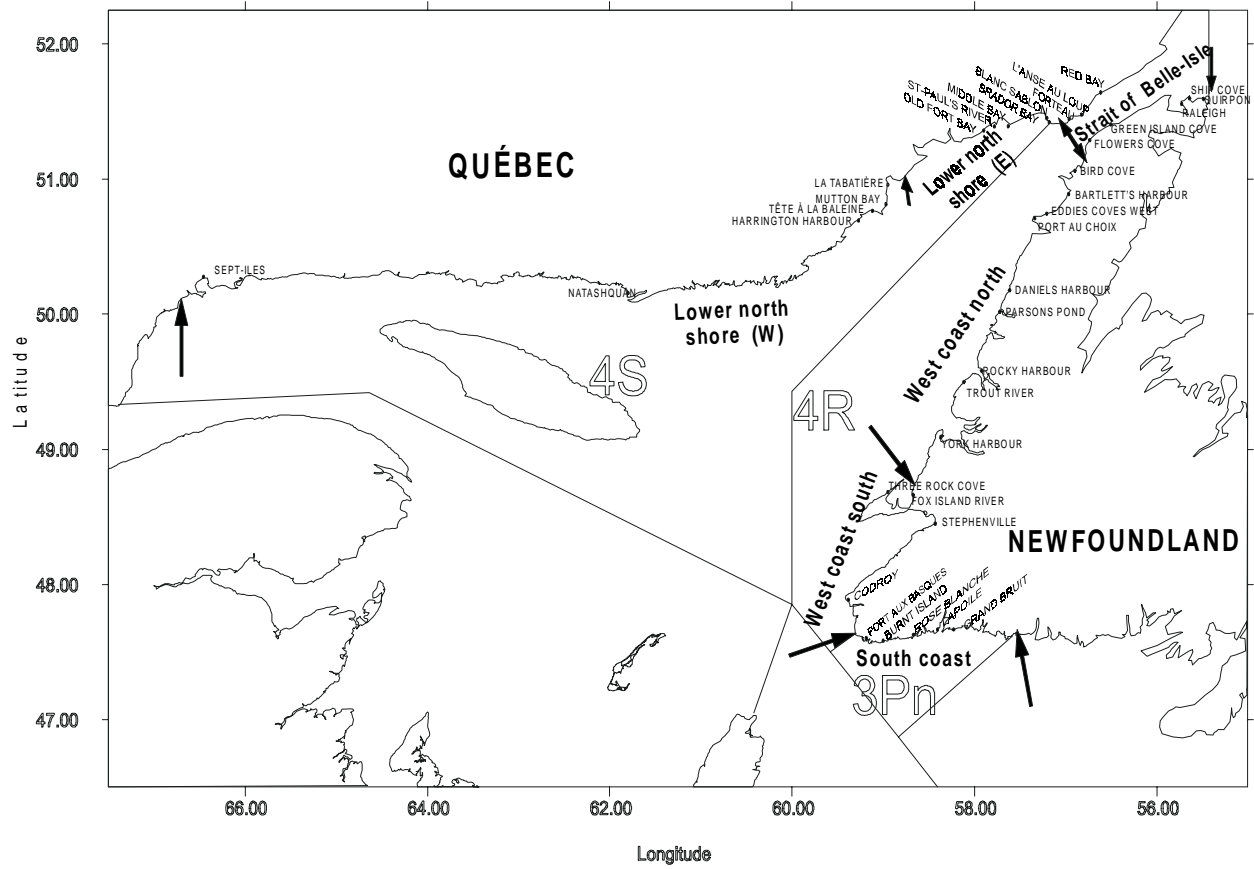


Figure 1 – Map showing sentinel regions of Northern Gulf of St. Lawrence (3Pn, 4RS).

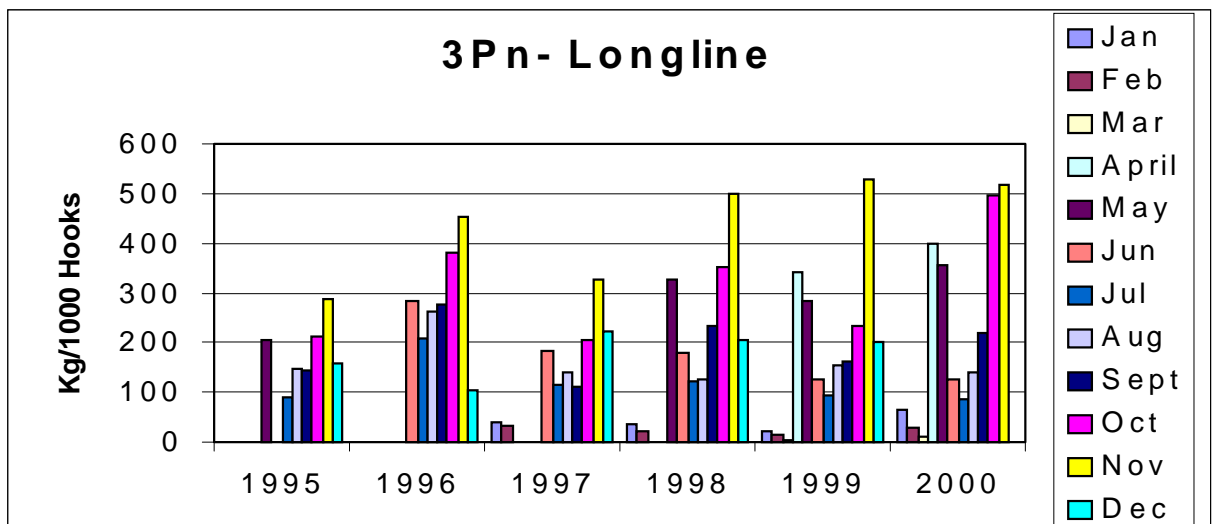
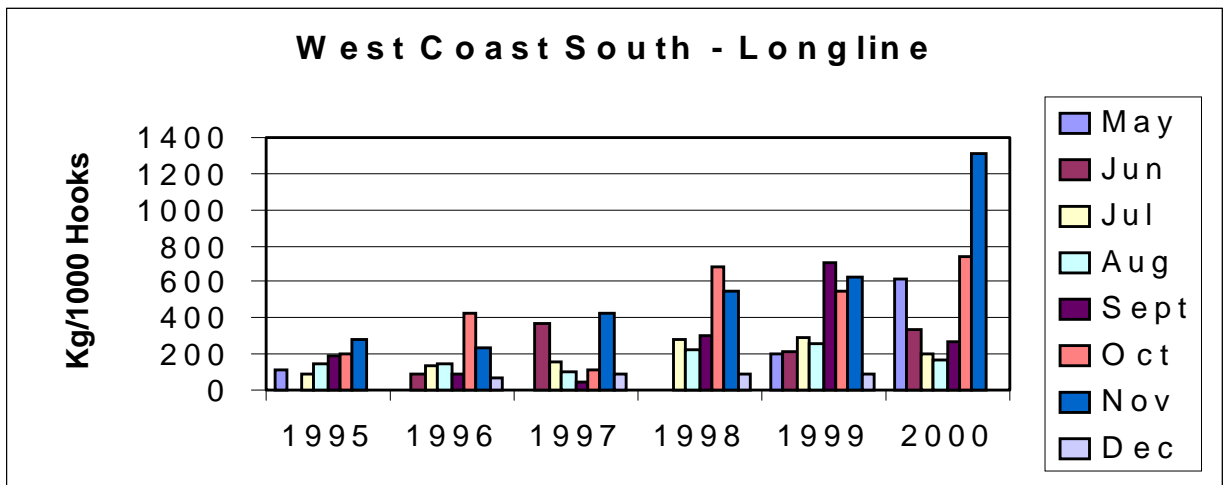
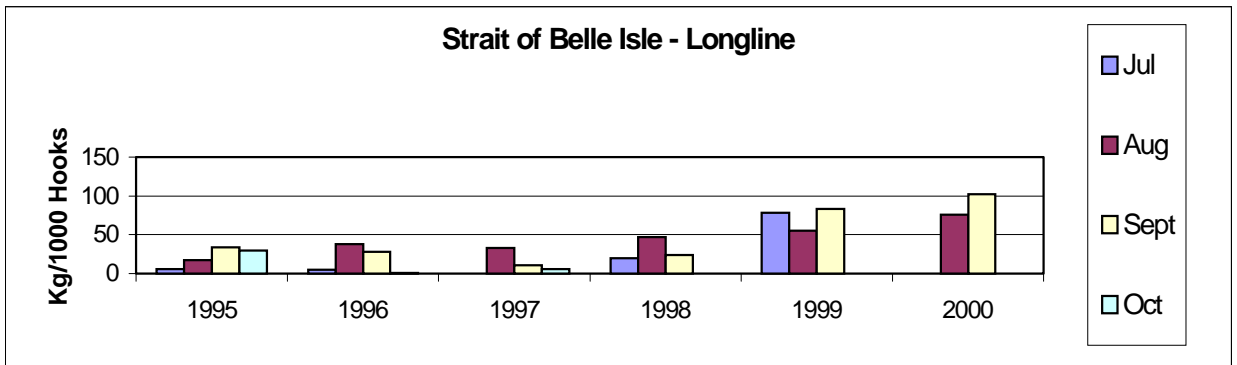


Figure 2 – Monthly standardized long line catch rates for three sentinel regions within NAFO Zone 4R3Pn (1995 – 2000).

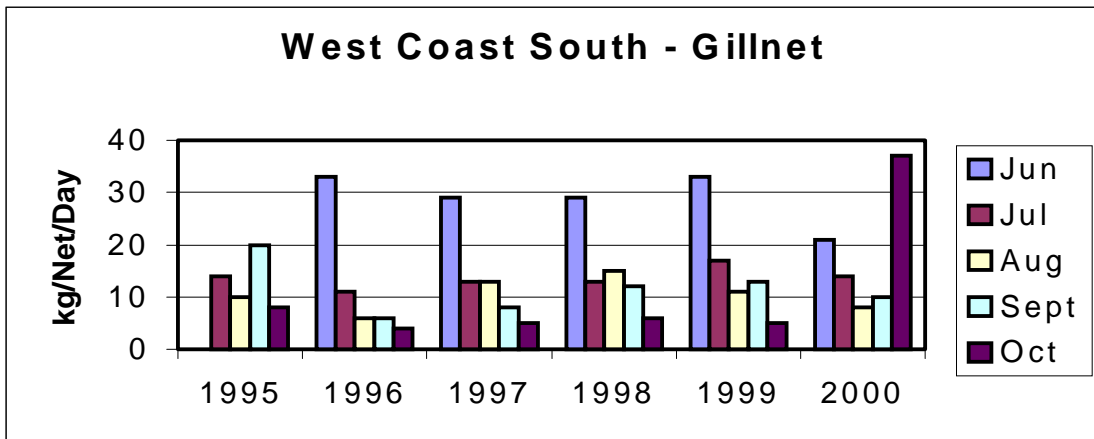
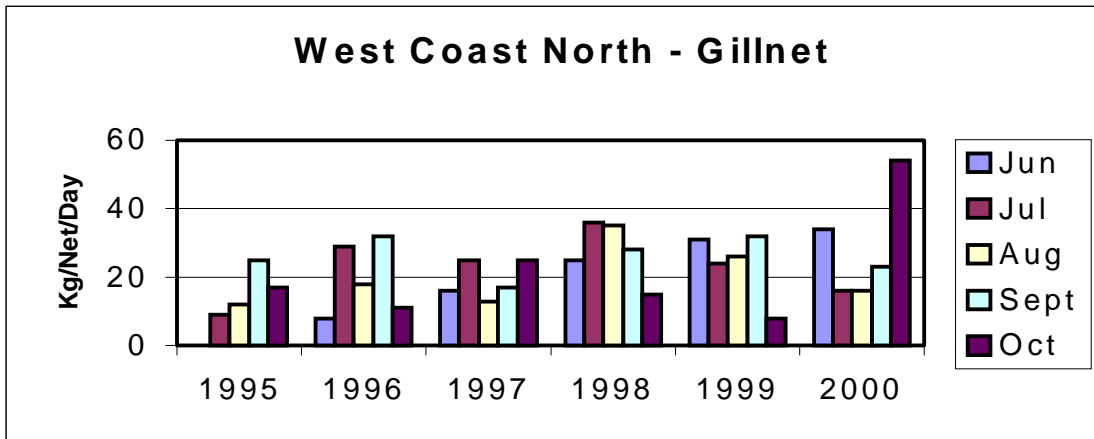
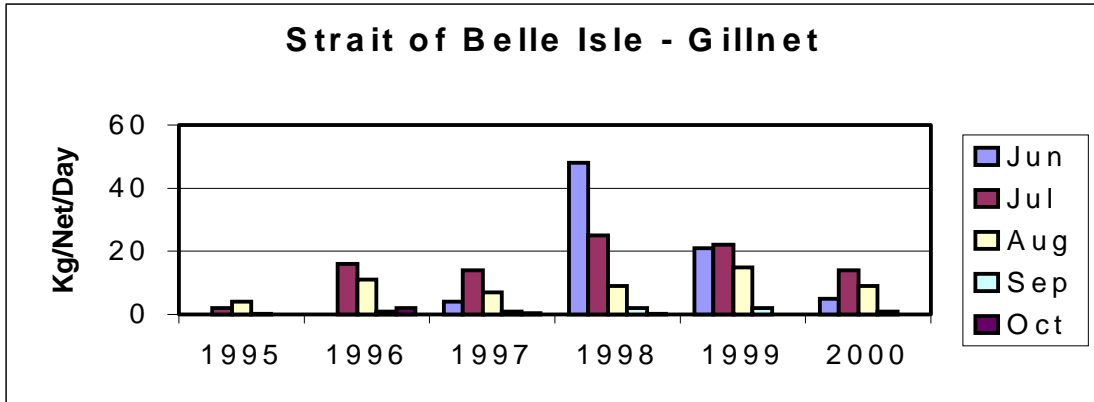


Figure 3 – Monthly standardized gillnet catch rates for three sentinel regions within NAFO Zone 4R (1995 – 2000).