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**Review of Management Measures for
1991 Scotia-Fundy Groundfish Fishery**

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Abstract

As a result of the Haché Task Force recommendations on fleet restructuring, in January of 1991, IQs were introduced in the inshore Mobile Gear sector in the Scotia-Fundy Region. IQs were based on each licence holders' catch history. While a licence holders' percentage of the fleet quota remained constant, the annual quota is adjusted up or down if there are any changes to the TAC. The IQ program was open to all mobile gear groundfish licence holders who operated vessels <65 ft. in the Scotia-Fundy Region. Alternatives were available to those who did not want to participate in the program. As well, a new Catch Monitoring Program, administrative sanctions, mesh size regulations bycatch provisions and transfer options were also introduced to help deal with the IQ system. 1991 also saw the end of the 4X5 and ENS working groups to be replaced by three new subcommittees of the Scotia-Fundy groundfish Advisory Committee (SFGAC). These committees were tasked through SFGAC to develop recommendations for the proper management of their respective fisheries. EAs continued to be managed through the midshore and offshore vessel owners groups reporting directly to the Atlantic Groundfish Advisory Committee. For the offshore, the vessel replacement program was continued, allowing <65 ft. vessels to fish offshore allocations.

Overall, the implementation of IQs in the Scotia-Fundy Region resulted in the trading of approximately 30% of the IQs with about 10% of the quota being sold out totally. As many of the new management measures can impact our catch effort data, i.e. allocation of catch to vessel length category, these changes should be carefully monitored.

Résumé

À la suite des recommandations du Groupe de travail Haché sur la restructuration de la flotte, en janvier 1991, des CI, fondés sur les prises historiques des titulaires de permis, ont été adoptés par la flottille de pêche côtière aux engins mobiles de la région de Scotia-Fundy. Dans ce programme, le pourcentage du contingent alloué à chaque titulaire reste inchangé, mais le contingent total annuel est modifié, à la hausse ou à la baisse, si le TPA change. Le programme de CI a été étendu à tous les titulaires de permis qui pêchent le poisson de fond aux engins fixes à partir de bateaux de < 65 pi dans la région de Scotia-Fundy et d'autres options offertes aux pêcheurs qui ne voulaient pas y participer. La mise en oeuvre du programme de CI a donné lieu à l'adoption d'un nouveau programme de surveillance des prises, de sanctions administratives, d'une réglementation sur la grosseur des mailles, de dispositions sur les prises accidentelles et de possibilités de transfert. En 1991, également, les groupes de travail de 4X5 et de l'Est de la Nouvelle-Écosse ont été dissous pour être remplacés par trois nouveaux sous-comités relevant du Comité consultatif du poisson de fond de la région de Scotia-Fundy et chargés par ce dernier de formuler des recommandations pour la gestion efficace des pêches relevant de leur compétence. Les AE ont continué d'être administrées par les groupes de propriétaires de bateaux de pêche hauturière et semi-hauturière relevant directement du Comité consultatif du poisson de fond de l'Atlantique. Enfin, en ce qui concerne la flottille de pêche hauturière, le programme de remplacement des navires, permettant l'exploitation des allocations par des bateaux de < 65 pi, s'est poursuivi.

Dans l'ensemble, la mise en oeuvre du programme de CI dans la région de Scotia-Fundy a abouti au transfert d'environ 30 % des CI et à la vente de parts représentant approximativement 10 % du contingent total. Il convient de surveiller attentivement les changements apportés par les nouvelles mesures de gestion, dont un bon nombre risque de se répercuter sur les données de prises selon l'effort (p. ex. attribution des prises par catégorie de longueurs de bateau).

Groundfish Management, Scotia-Fundy Region

Introduction

Management plans through 1980 placed mobile gear fleets under quota management while fixed gear fisheries were given an allowance (a non-regulated portion of the TAC). The 1981 plan placed all fleets defined by vessel size and gear type, i.e. vessels >125 ft. employing mobile gear, vessels <125 ft. employing mobile gear, and all vessels employing fixed gears, under quota management, thus gaining greater assurances that biological limits would not be exceeded. In 1982, enterprise allocations (company quotas) were established for the offshore fleet (i.e. vessels >100 ft.) to avoid the "rush to fish" and to establish more orderly harvesting and marketing controls. Vessels <65 ft. were placed under sector management to allow expansion or restriction of the inshore fishery in a particular sector without affecting the management of fisheries in other sectors. Management plans through 1985 remained essentially unchanged.

Trip limits and season closures for all vessels <65 ft. were introduced in 1986 management plans to reduce fishing effort and to distribute the catch over the year. In 1988, enterprise allocations were established for the mid-shore fleet (i.e. vessels of 65-100 ft.) while separate quotas were introduced for mobile and fixed gear vessels in the 45-65 ft. range. This division was initiated to combine similar fleets for better management and to protect the interests of small vessel operators (Mayo et al. 1989).

In the late 1980s two major trends were evident in the Scotia-Fundy groundfish fishery, stocks declining and capacity increasing (Haché 1989). In July of 1989 the Minister of Fisheries and Oceans commissioned the Haché Task Force to consult with the fishing industry to find solutions to the problems plaguing the groundfish fishery in the Scotia-Fundy Region. The report resulted in thirty one recommendations aimed at rebuilding the groundfish stocks and rationalizing the fishing fleets. Recommendation nineteen called for the restructuring of the inshore groundfish fleet into three groups; - Group A, a fixed gear fishery controlled through small (1500 kg.) trip limits; Group B, a fixed gear fishery based on larger trips and a competitive quota, and; Group C, a mobile gear fishery to accommodate the highly capitalized, high capacity less than 65 foot dragger fleet. A fleet management system was to be developed jointly by industry and DFO. This recommendation was significant in that it provided the first step toward the introduction of IQs in the Scotia-Fundy Region for mobile gear less than 65 feet.

Institution of Individual Boat Quotas for Mobile Gear <65 ft.

In response to the Haché Task Force Report and in order to deal with the fleet with the largest capacity problem, in January 1990,

the Minister of Fisheries commissioned the development of an Individual Quota management Program for <65 ft. Mobile Gear Groundfish vessels in the Scotia-Fundy Region (Anon. 1990). It was recognized that industry support was crucial to the success of the entire program. Consequently, in order to develop an allocation formulae, an industry working group was established consisting of members of the DFO Task Force Implementation team and a core group of fishermen and industry representatives from the 4X5 and Eastern Scotia-Fundy Advisory Committees. From the beginning, deliberations were carried out separately, based on the existing inshore structure, i.e. mobile gear <45 ft. (C1) and mobile gear 45-65 ft. (C2). Vessel size and investment thus received some consideration by retaining the quota shares between vessels over and under 45 ft. Throughout 1990 this group explored various formulae to set the initial quotas to start the program. After much discussion (no one option satisfied everybody) a consensus was reached to share the available quota among participants, based largely on their historical dependence on the fishery, i.e. catch history.

The issue of what stocks should be included in the boat quota system was considered by the working group. Initially IQs were considered for all Scotia-Fundy managed stocks (those in the Groundfish Management Plan) but after long discussion the working group decided not to include the Georges Bank cod and haddock or the Scotian Shelf redfish and flounder stocks in the boat quota system. These remaining stocks were left for future consideration.

Once an allocation formula was determined, in June 1990, all mobile gear fishermen were provided with their own catch history. Based on 1990 TACs the quota levels were in the range of 30-50% of the best 2 of 4 year averages. This statistic reflected not only the declining quotas but also the formula itself. As well, a series of 28 meetings were held for small groups of fishermen (15-20) to further explain the implications of the boat quota program to individual fishermen and to allow them to ask questions and clarify issues and table concerns. Fishermen were then asked to choose boat quotas or to consider other options open to them.

Allocation Procedure

IQs were based on each Licence Holder's catch history, using the average of the best two years of the 1986-1989 period for the following stocks: Cod 4Vn, 4VsW and 4X; haddock 4TVW and 4X and Pollock 4VWX5Zc (Anon. 1991). IQs for these stocks were expressed as a percentage of the mobile gear fleets (C1, C2) overall quotas. Individual quotas were not assigned for 4TVW Haddock due to the bycatch status of the stock. As well, catch history for the 1986-1989 period was not used as this stock had been a bycatch fishery since 1987. Instead, each licence holder was granted an initial bycatch quota based on 20% of their 4VsW cod quota. Some adjustments to the individual catch histories were made through an appeal process. Grounds for appeal included dual gear consid-

erations, disagreement with catch history and extenuating circumstances. Licence Holders who operated vessels <45 ft. (C1) and who had low assigned allocations were offered the option of having a topup of their IQ to 7 tonnes. After the licences with less than 7 tonnes had been allocated 7 tonnes, (taken from stocks based on various proportions) the remainder of the 1990 quotas were distributed according to the sharing formula. This ensured that all licence holders had some access to the program. As well, the IQ Fleet has access to all other Scotia-Fundy stocks on a competitive basis (Table 1).

Duration of the Plan

The Task Force Report recommended that the restructuring of the inshore groundfish fleets be for a three year period. With respect to the boat quota program the working group recommended that a five year trial program be put in place, with everything reviewable on a yearly basis, except for the sharing formula. The 1991 Management Plan set the TACs (for most stocks) for a three year period, subject to annual review. Thus the allocations set in 1991 for the IQ fleet should remain in effect through 1993 barring any major changes to the advice. However, while a licence holder's percentage of the fleet quota remains constant, the annual IQ is adjusted up or down if there are any changes to the TAC.

Alternatives for IQ holders

A number of options existed from which fishermen had to select how they wished to fish the IQs they were eligible for in 1991, and in future years (Fig. 1). The IQ program was open to all Mobile Gear Groundfish Licence Holders who operated vessels <65' in the Scotia-Fundy Region. If a Mobile Gear Licence Holder did not wish to fish under an IQ system he could give up his IQ in the initial year and fish out of the Fixed Gear competitive quota provided he already held a fixed gear licence. He would retain his mobile licence but could only activate it by acquiring quota from an IQ holder at the beginning of each licensing year and would then have to permanently give up access to the Fixed gear competitive quotas.

The Licence Holders based in the Eastern portion (Sambro east) of the Scotian Shelf, were offered the option to continue to fish competitively from quotas based on their combined IQs, but with a condition that they give up access to Fixed Gear competitive quotas. This option was not supported by individual licence holders and each fisherman selected the IQ option.

Licence Holders in Southwest Nova who fished as generalists (smaller day boats or flounder fishermen within the C1 group) were also allowed to opt out of the IQ program. Those who chose not to join the IQ program were managed on a fleet basis (The Generalist Fleet) and continued to fish competitively from quotas based on the

aggregate of their combined IQ shares. Currently they are permitted to opt back into the IQ program at the beginning of each year with an IQ based on their original allocation. If they avail themselves of this option the generalists aggregate quota would be decreased by the IQ amount. While the fixed gear option is open to them, once chosen they can only get back into the IQ program by purchasing quota.

All other mobile gear Licence Holders were given no choice except to participate in the IQ program. Once in the program, Licence Holders were permitted to fish with any type of gear for which he is licenced, or he could transfer uncaught quota (temporary at the moment) to others in the IQ program. For those who opted for the 7t top-up, transferability and gear use restrictions were put in place. They are required to gear up and fish the IQ, with mobile gear (within two years) and can't transfer this quota away for those two years, although they may acquire more. No Licence Holder can acquire more than 2% of the overall IQ share. For 1991 this amounted to approximately 700 t., well above any individual catch history. All IQ Program members had to give up access to Fixed Gear competitive quotas.

As of January 1, 1991 following the restructuring of the inshore fleets, the following fleet sectors (both inshore and offshore) were recognized in the Scotia-Fundy Region; 1) Fixed Gear <45 ft; 2) Fixed Gear 45 - 65 ft; 3) Mobile Gear <65 ft IQ fishery; 4) Mobile Gear <45 ft Generalists Southwest Nova; 5) Mobile Gear >100 ft; and, 6) Mobile Gear 65 - 100 ft. Although the group structure, i.e. A, B, and C referred to in the Haché Task Force Report was not retained, the new inshore fleet sectors follow essentially the same pattern, with two fixed gear sectors (A and B) and a mobile sector (C) split into functional groups, i.e. IQ and Generalist. Of the approximately 2700 vessels registered in the Scotia-Fundy Region, about 327 are managed under IQ, 53 under the generalist category (competitive), 2300 as fixed gear (competitive) and 45 managed under the Enterprise Allocation (EA) program in place for mid and offshore vessels.

Bycatch Provisions

With the implementation of IQs it became necessary for fishermen to conduct their fishing operations in such a way as to provide for bycatches within their IQs. It was feared that the introduction of IQs provided an incentive to fishermen to engage in high grading and bycatch dumping. To help fishermen deal with this in the transition year, the IQ fleet in 4X was given an additional 783 tonnes (based on a percentage of their cod and pollock quota) of haddock quota which was added to their 2770 tonnes (based on a 4600t 1988 TAC) shared allocation (Pers. Comm. J. Hansen). This was to ensure that all licence holders had a minimum of 20% as haddock, based on their 4X cod and 10% as haddock based on their

traditional catch of pollock in 4X. To establish equity for eastern vessels the 20% (based on their 4VsW cod quota) bycatch of 4TVW haddock was augmented by a 10% bycatch based on their 4Vn (M-D) cod allocation and 10% based on pollock traditionally caught in 4VW. In order to ensure that every Licence Holder maintained enough quota to cover bycatch levels, any transfers of either cod quota also required the transfer of either 10% or 20% (4Vn or 4VsW) as haddock. In the fall of 1991 this was dropped to 5% to allow some flexibility, but still try to maintain 4TVW haddock as a bycatch fishery instead of promoting a directed fishery. As a result of these measures the 1991 landings dropped to less than half of the 1990 landings.

For the offshore fleet 5% haddock landings were allowed, based on their total cod and pollock quota. This 5% was managed as an EA, rather than on a per trip basis, thus allowing a limited directed fishery for the offshore fleet. As well there was a requirement to transfer 5% as haddock when 4VsW cod was transferred. It was not necessary to transfer haddock when pollock was transferred.

For the IQ fleet, a number of procedures were put in place in order to encourage the landing of all catches which may have been inadvertently taken in excess of the quota. Accidental (not deliberate, repetitive or excessive) quota overruns were not considered an offence if, prior to landing, the fisherman via his hail, declared that he had an overrun and he wished to rectify it by means of one of the following methods: 1) land the fish and arrange a transfer of the overrun stock from another IQ holder within thirty days, i.e. temporary transfer; 2) charge the overrun against another IQ species or stock in the established ratio; or, 3) voluntarily surrender the fish or dollar value of the catch to the crown, i.e. voluntary forfeiture. If a fisherman failed to report an overrun, and DFO discovered it, it was treated as a sanctionable offence or dealt with under the year-end sanction policy. With regard to 2), the established ratios based on extant prices at Dockside for adjusting allocations in 1991 were, in mt, 3 pollock = 2 cod = 1 haddock. Table 2 gives the IQ exchanges by stock, and table 3 shows the specifics of the exchanges. For Catch/Effort statistics what is actually landed is reported, while the exchanged stock amount is reported against the IQ, i.e. if 1000 lbs. of haddock were actually landed, but traded for 2000 lbs of cod, catch effort statistics would reflect the actual landing while quota reports would reflect the 2000 lbs. of cod traded in order to keep track of IQs. Therefore, discrepancies between quota reports and ZIF landings may be higher than in previous years.

For stocks and licence holders not part of the IQ program bycatch was controlled using measures specified in fishing plans, variation orders and licence conditions, which include trip limits and/or percentage of bycatch.

Transfers

Currently IQs are not transferable. However, it was decided during industry consultations that participants in the IQ program would be permitted to exchange quota on a temporary basis with all IQ amounts reverting back to the original Licence Holder at the beginning of the next fishing year.

For 1991 the amount of quota (cod, haddock and pollock) allocated to the IQ fleet was about 31,000 tonnes. In order to look at actual fishing activity verses simply buying or selling quota, the 327 licences in the IQ program were grouped into a transfer category based on whether or not they bought or sold any quota and whether or not any catch was recorded against that licence (Table 4) (Pers. comm. D. Liew). By December, the total amount of quota transferred was 12,462 tonnes (Table 5). Quota bought and sold by the same licence holder in the same stock, i.e. double counting amounted to 3,840 tonnes (Table 6). Overall, 8,621 tonnes of quota (28.7% disregarding the double counting) was transferred during 1991 (Table 7). Of the over 300 boats officially in the IQ program at the end of 1991, 33 of these temporarily transferred all of their total quota. This amounted to about 2847 tonnes, slightly less than 10% of the quota (Table 7). As of January 15, 1992, 1,812 transfers had been trans-acted, totalling 13,224 tonnes of quota (Table 8).

Sanctions

Another change to the traditional management systems was the introduction of an administrative sanctions program to deal with IQ system violations. This policy defines an administrative mechanism which allows the Minister to exercise his authority under sections 7 and 9 of the Fisheries Act. Penalties include licence suspension (2 weeks to 1 year) and quota reductions (min 5% to max 100%), or both, which can apply to the current year or to the subsequent year. The level of severity recommended reflected the seriousness of the violation and the impact on the IQ program and participants. The sanction process involves a notice served to the Licence Holder of the 1) alleged violation; 2) facts surrounding the alleged violation; 3) sanction being considered. The Licence Holder then has 30 days to respond in writing to the Minister. Prior to this change, fishery violations were dealt with through the court system, although a national licence suspension policy did exist which allowed the Minister to administratively suspend licences for repeat offenders.

Catch Monitoring

A new Commercial Catch Monitoring Program was put in place January 1, 1991 for all mobile <65 ft. and fixed gear 45-65 ft. Initially,

the government agreed to set up and phase in the program through a combination of Atlantic Fisheries Adjustment Program (AFAP) and Canadian Employment and Immigration Center (CEIC) resources. In July of 1991 this program was to have ended and continuation of the program based on cost recovery from the industry. To date (May 1992) the program is still government funded, although this funding could end as of May 30, 1992. Discussions with industry groups are ongoing, in order to develop an effective catch monitoring system at the lowest possible cost to the industry. A good monitoring program is essential to the success of the IQ program. Without the reliable and efficient recording of landings on an ongoing basis the program would revert back to what essentially would be a competitive quota.

Under the Monitoring Program, fishermen are required to hail an operations center (Halifax, Sydney or St. George) give the particulars of their catch and arrange to have the catch weighed upon docking by certified independent weighmasters. A record of the landing then accompanies the fish through the various stages between the boat and the plant. New logbooks were also introduced for the IQ fleet and for the Fixed Gear >45 ft fleet requiring accurate set-by-set information (Science), as well as two hourly location reporting (Enforcement).

Mesh Size

Along with IQs and Catch Monitoring a new mesh size was also introduced in 1991. On March 1 the minimum otter trawl mesh size permitted increased from 130 mm (irrespective of mesh type) to 155 mm diamond or 140 mm square mesh. The introduction of a larger minimum mesh size was recommended by the Scotia-Fundy Groundfish Task Force as a means of reducing the capture and discarding of small fish by the mobile gear fleets. The initial mesh size was determined with the goal of allowing 95% of fish 17 inches or less to escape based on a 5% selectivity level for 17 inch fish.

This new mesh size met strong opposition from the offshore sector, most notably National Sea Products, focusing mostly on the financial impact of larger mesh size on the fishing fleet, although conservation benefits were also questioned. As a result of the controversy the Minister of Fisheries and Oceans announced as of July 12, 1991 that the mesh size would be reduced to 145 mm diamond or 130 mm square mesh.

Management Committees

Late 1991 saw the dissolution of the 4X+5 and ENS working groups of the Scotia-Fundy Groundfish Advisory Committee (SFGAC). These were replaced with three new committees; 1) The Scotia-Fundy IQ Management Committee; 2) The Fixed Gear Committee; and, 3) The

Generalists Committee, with emphasis on gear rather than area representation. These committees have an industry chairman and are tasked through SFGAC to develop recommendations for the proper management of their respective fisheries. As such, they are mandated to address pertinent issues, develop a consensus position including canvassing the industry where necessary and presenting to government, via SFGAC and AGAC, recommendations for implementation. Since the Task Force had recommended that the current inshore/offshore sharing arrangement be maintained, the above committees were strictly inshore industry groups. The offshore fleets under EAs continue to be managed through MIDVOG and OGVOG reporting directly to the Atlantic Groundfish Advisory Committee (AGAC).

The IQ Management Committee

The IQ committee is comprised of 16 seats. Eleven of these seats are designated for IQ holders, three for associations and two seats for Provincial representatives. Each IQ committee member was selected to represent a constituency of IQ holders, divided into groups based on management area and IQ range.

The IQ committee made four major recommendations to the SFGAC in January 1992 in order to further the development of the IQ program.

- 1) Georges Bank Management - To develop IQs for haddock and cod on Georges Bank. The sharing formula to be the same as the other IQ species except that 10% of the quota would be set aside to consider those fishermen who don't have a 1986-1989 history but who have been active in the 1990-1991 seasonal fishery. These numbers are in the process of being worked up (Table 10) in order to be ready to implement IQs on Georges Bank for the 1992 fishery (June 1);
- 2) Recommended that permanent transfers be implemented (max 2% licence holder), while still retaining temporary transfers but not subject to any limit;
- 3) Recommended that Flatfish IQs not be implemented for 1992. Various IQ options will be reviewed which will include the traditional managed species as well as winter flounder. (Non-specified flounders in divs. 4VW are now being recorded as non-specified flounder. Prior to January 1, 1991 non-specified flounder landed in 4VW were assigned as American plaice landings);
- 4) Recommended pursuing quota trades with the offshore sector on a tonne for tonne basis, i.e. no one way transfers; and,
- 5) Recommended that multiple licence holders could freely exchange their quota between their own IQ licences without seeking DFO approval. This was aimed at reducing the present number of requests and the time it takes to get approval. The birth of the pooled IQ (PIQ).

A year-end overrun sanction was also agreed to in order to replace the present policy which treats all violations in the same way.

The new policy is as follows:

<1 t - no deduction
 1 t - 15 t - one for one
 >15 t - two for one

The amount indicated would be removed from the Licence Holders quota for the year following the violation, i.e. an overrun for the 1991 4X haddock fishery of 4 tonnes would result in 4 tonnes being removed from his 1992 4X haddock quota amount.

All IQ committee recommendations are vetted through DFO and or SFGAC before any of the recommendations are given final approval.

The Fixed Gear Committee

Similar to the IQ committee, the Fixed Gear Committee is currently comprised of 19 seats, 17 designated for Fixed Gear licence holders or association representatives with two additional seats designated for provincial government members. Members consist primarily of association members, to ensure that most fishermen were represented.

The Fixed Gear Committee has made few specific formal recommendations to SFGAC. Rather they spend a lot of their time trying to get their own house in order. Discussions centered around various problems in the fishery including the Shelburne box, Georges Bank regulations, the number and size of gillnets being fished, enforcement problems, home port designations, gear conflicts, etc. Georges Bank was thought to be a specific problem area and the committee would prefer to see regulations dealing with that fishery kept separate. DFO expressed concerns about the level of haddock being caught and the dependence of fixed gear on haddock, especially in 4TVW. For 4TVW an agreement was reached to reduce the trip limit to 4400 lbs. from 5500 lbs during May and June 1992. As well they recommended closing the nursery area to all fishing during the month of May (mobile gear is currently prohibited). The reason for this decision was to reduce the total 4TVW haddock catch which had been increasing each year. No biological issues appeared to be involved. DFO also tabled a draft proposal for gillnet management, which suggested 8 management zones within the Scotia-Fundy Region instead of having gillnet licence transfers restricted to homeports. This was unanimously rejected by the committee.

The Generalist Committee

There were 53 vessels that chose the Generalist category in 1991, and depending on the established quota level for this fleet more vessels may opt for the IQ program in 1992. If this happens then

the combined quota drops. The Generalist put forward a request that they should be given 1500 t of CHP (really 46% cod and 51% haddock, only 3% pollock) based on two reasons, a) overfishing flatfish by the IQ fleet which resulted in greater dependence by the generalist on CHP; and, b) Georges Bank (no share under IQs). DFO did not approve this proposal and recommended another option for 1992: a) allocate traditional share based on 53 boats, i.e. 690 t.; and, b) allocate a portion of the unused 4X cod and haddock quota from IQ vessels <45 ft. that chose fixed gear (300 t.). This would allow the generalist an annual quota of approximately 1000 t. provided that all the present generalists remain in this sector.

The Generalists committee has to deal with the fact that they are a very diverse sector and more quota alone won't solve their problems. Some are almost totally dependent on lobster while others depend entirely on groundfish. To further complicate the issue, there are some that are true CHP fishermen and others that are primarily flounder fishermen. Flounder landings actually increased during 1991 as did CHP landings, contrary to suggestions by the generalists that their flounder fishery had been destroyed and that they were left with the crumbs of a CHP fishery. However, these increased landings may have been associated with increased effort.

The generalists have also submitted a proposal for AFAP funding for a research project on flounder in Div. 4X. The aim of the project would be to build an extensive biological data base on the various flounder species with special emphasis on winter flounder. To date funding has not been approved.

Offshore Committees

The existing Offshore and Midshore Vessel Owners groups MIDVOG and OGVOG which report directly to the Atlantic Groundfish Advisory Committee, handle the EA concerns of these company fleets. Temporary transfers between the less than 65 ft inshore fleet and the offshore sector have in the past not been authorized. However, under the Temporary Vessel Replacement Program (TRVP) first introduced in 1990 and extended to December 31, 1992 it is now possible to allow inshore vessels to fish offshore quotas. This program allows for vessels <65ft. to be used as replacements for offshore (>100 ft.) and midshore (65-100 ft.) groundfish vessels. The less than 65 ft. vessels may fish enterprise allocations assigned to Canadian offshore fishing enterprises under a strict set of conditions including banking of the inshore licence while fishing under the offshore program. Landings by these <65 ft. vessels were then applied to offshore quotas for quota monitoring purposes. However, because of the current format required for ZIF data, i.e. one record per CFV the various LOA (length overall) changes throughout the year are not provided in the ZIF database. Instead the vessel LOA read for the final ZIF tape is that on the

most recent record. Thus both catch and effort could be applied to the wrong length category and quota figures and landings would not likely match while this program is in place. Changes to the catch effort database to solve this problem remain a high priority with Statistics, but resource difficulties continue to delay the required development work. In the interim Statistics does send a list of vessels and dates involved in the program.

Concluding Remarks

Overall the big news for 1991 was the establishment of the IQ program. IQs were implemented as a step towards dealing with the many economic problems (i.e. excess capacity) associated with the more traditional approach to fisheries management. Under IQs, fisheries regulations try to directly control the quantity of fish caught by each quota holder rather than trying to limit catch indirectly through restricting the efficiency or use of the gear, i.e. trip limits, seasonal quotas, etc. Given the amount of quota traded in 1991 and the general (if qualified) support for the Catch Monitoring Program it appears that the IQ program is indeed supported by Industry. However, enforcement problems still exist including, misreporting by stock area, highgrading, discarding and dumping at sea and transshipping between IQ and competitive vessels.

With the declining stocks, the incentive to dump bycatch and highgrade under an IQ system may be occurring at an even higher rate than in the former competitive fishery. These problems make it clear that only through cooperative management (industry/government) of the fishery will the IQ program be successful. Compliance with regulations through awareness and incentive rather than enforcement should be developed. Catch monitoring is seen as an essential element of the IQ program.

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Table 1. Percentages of TACs for managed groundfish stocks in the Scotia-Fundy Region allocated to mobile gear vessels under 65 feet.

Stock		Under 65' Mobile Fleet Share	Management System 1991
Cod	4Vn (Jan. - April)	10.3%	IQ
	4Vn (May - Dec.)	21.2%	IQ
	4VsW	11.4%	IQ
	4X	42.8%	IQ
Haddock	4TVW	Bycatch (based on cod & pollock share) Share based on assumed TAC 4600 t.	Bycatch
	4X		IQ
Pollock	4VWX + 5	22.9%	IQ
Redfish	4VWX	15.0%	Competitive
Flounder	4VWX	40.9%	Competitive
Atlantic Halibut	4VWX + 5	Bycatch	Bycatch
Cod	Georges Bank	29.5%	Competitive
Haddock	Georges Bank	50.7%	Competitive

Table 2. 1991 IQ Exchanges as of January 15, 1992 (3 2 1 Policy)

Stock	Overrun Amount (MT)	Exchange Amount (MT)	Balance (MT)
Cod 4Vn (M-D) ⁽¹⁾	108	0	-108
Cod 4VsW	162	49	-113
Cod 4X	215	395	+180
Haddock 4TVW	23	143	+120
Haddock 4X	227	144	-83
Pollock 4VWX,5	527	482	-45

⁽¹⁾ No other stocks were exchanged for Cod 4Vn (M-D).

Table 3. IQ Exchange Status as of January 15, 1992

Overrun		Exchanged For		Number of Requests
Stock	Amount (MT)	Stock	Amount (MT)	
Cod 4Vn (M-D)	108 ⁽¹⁾	Haddock 4TVW	54	7
Cod 4VsW	157	Haddock 4TVW	79	14
Cod 4VsW	5	Pollock 4VWX,5	7	4
Cod 4X	133	Haddock 4X	67	30
Cod 4X	82	Pollock 4VWX,5	123	26
Haddock 4TVW	23	Cod 4VsW	47	5
Haddock 4X	110	Cod 4X	220	40
Haddock 4X	117	Pollock 4VWX,5	352	53
Pollock 4VWX,5	4	Cod 4VsW	2	2
Pollock 4VWX,5	262	Cod 4X	175	50
Pollock 4VWX,5	29	Haddock 4TVW	10	4
Pollock 4VWX,5	232	Haddock 4X	77	55
TOTAL	1262		1213	291

⁽¹⁾ For example, using the 3 2 1 policy 108 t of 4Vn cod was exchanged for 54 t. of 4TVW haddock (1:2 exchange)

TABLE 4

NUMBER OF IQ LICENCES AND AVERAGE INITIAL QUOTA HOLDINGS BY TRANSFER CATEGORY, 1991¹

TRANSFER CATEGORY	NUMBER OF LICENCES			AVERAGE INITIAL QUOTA HOLDINGS (t)		
	NO CATCH	WITH CATCH	TOTAL	NO CATCH	WITH CATCH	TOTAL
DID NOT BUY OR SELL QUOTA	25	60	85	11.9	61.0	46.6
BUY ONLY	0	27	27	-	77.4	77.4
BUY AND SELL	6 ²	141	147	123.3	129.3	129.1
SELL ONLY - PARTIAL	20 ³	41	61	77.7	80.7	79.7
SELL ONLY - SOLD OUT	7	0	7	24.1	-	24.1
TOTAL	58	269	327 ⁴	47.6	101.5	91.9

NOTES

1 Figures preliminary to December 17, 1991.

2 These licences have sold over 100% of their initial allocations.

3 These licences have sold over 90% of their initial allocations.

4 This figure includes the number of licences that have not voted.

TABLE 5

AMOUNT OF QUOTA TRANSFERRED BY TRANSFER CATEGORY, 1991 (TONNES)¹

TRANSFER CATEGORY	QUOTA SOLD			QUOTA BOUGHT		
	NO CATCH	WITH CATCH	TOTAL	NO CATCH	WITH CATCH	TOTAL
DID NOT BUY OR SELL QUOTA	0	0	0	0	0	0
BUY ONLY	0	0	0	0	1,389	1,389
BUY AND SELL	1,034	7,836	8,870	262	10,811	11,073
SELL ONLY - PARTIAL	1,645	1,778	3,423	0	0	0
SELL ONLY - SOLD OUT	168	0	168	0	0	0
TOTAL	2,847	9,614	12,462	262	12,200	12,462

NOTES

1 Figures preliminary to December 17, 1991

TABLE 6

AMOUNT OF QUOTA TRANSFERRED THAT HAS BEEN¹
DOUBLE-COUNTED, 1991 (TONNES)

STOCK	# OF LICENCES	QUOTA TRANSFERRED THAT HAS BEEN DOUBLE-COUNTED
COD 4VN (J-A)	6	101
COD 4VN (M-D)	13	328
COD 4VsW	30	823
COD 4X	59	1,102
HADDOCK 4TVW	58	350
HADDOCK 4X	53	295
POLOCK 4VWX,5	61	841
TOTAL	116 ²	3,840

NOTES

1 Figures preliminary to December 17, 1991

2 Total number of licences do not add up due to double counting.

TABLE 7

SUMMARY OF QUOTA TRANSFERRED BY TRANSFER CATEGORY, 1991¹

TRANSFER CATEGORY	# OF LICENCES	QUOTA SOLD			QUOTA BOUGHT		
		TONNES	% OF QUOTA SOLD	% OF TOTAL IQ QUOTA	TONNES	% OF QUOTA BOUGHT	% OF TOTAL IQ QUOTA
DID NOT BUY OR SELL QUOTA	85	0	0	0	0	0	0
BUY ONLY	27	0	0	0	1,389	16.1	4.6
BUY AND SELL	141	3,996	46.4	13.3	7,233	83.9	24.1
SELL ONLY - PARTIAL	41	1,778	20.6	5.9	0	0	0
SOLD OUT OR CLOSE TO SOLD OUT	33	2,847	33.0	9.5	0	0	0
TOTAL	327	8,621	100.0	28.7	8,621	100.0	28.7

NOTES

1 Figures preliminary to December 17, 1991

Table 8. IQ Transfer Status - 1991 - as of January 15, 1992⁽¹⁾

Stock	Amount Transferred	Number of Transfers
Cod		
4Vn (J-A)	374	45
4Vn (M-D)	1221	117
4VsW	2552	195
4X	3681	354
Haddock		
4TVW	817	447
4X	1079	298
Pollock		
4VWX,5Ze	3500	356
TOTAL	13224	1812

⁽¹⁾ Includes quota bought and sold by same licence holder.

Table 9. Georges Bank Management History

Georges Bank 1992				
Quotas				
Group	Species	Quota (t) 100%	Quota (t) 90%	Appeal (t) Quota
Mobile Gear < 45'	Cod	2015	1815	200
	Haddock	1015	915	100
Mobile Gear 45-65'	Cod	2415	2170	245
	Haddock	1520	1370	150

Average IQ 1986-89 History				
Group	Species	Quota 90%	#Vessel	Average t/vessel
Mobile Gear < 45'	Cod	1815	98	18.5
	Haddock	915	96	9.5
Mobile Gear 45-65'	Cod	2170	97	22.4
	Haddock	1370	101	13.6

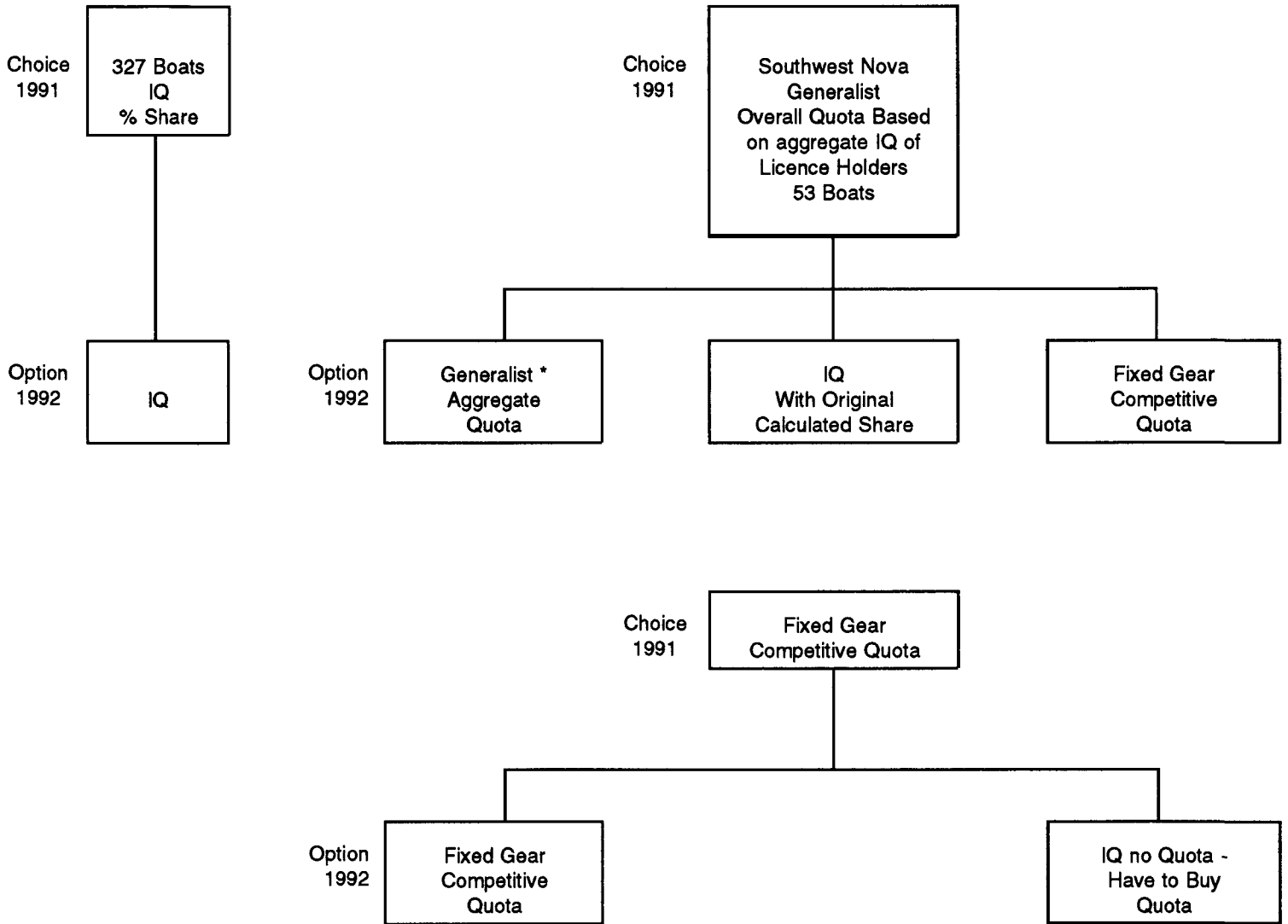


Fig. 1. 1992 Alternatives for Mobile and Fixed Gear <65' Licence Holders.

* Generalist are currently permitted to choose on an annual basis either the IQ or Generalist option; however, once fixed gear is chosen the only remaining option is to buy into the IQ program.