

Fishermen's Newsletter

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Gov't. of Canada: Fisheries & Oceans

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Limited Entry for 1979 Food Herring

Tonnage Down Tougher Regs, To Improve Quality

There will be a limited entry program put into effect for the 1979 herring food fishery as well as a sizeable reduction in the tonnage taken.

Herring co-ordinator Bob Humphreys stated that the catch will be held to 5000 tons this year. It was 21 thousand tons in 1977 and 16 thousand tons in 1978. There are several reasons for the reduced quota this year, one of them being the very real concern of quality control.

A lot of the 1978 food herring suffered severe loss of quality due to gluts at dockside. Some of the product dropped below food herring standards and could only be used for bait. Since then it has deteriorated still further. **A lot of the 1978 herring is still in storage . . . not yet sold on the eve of the 1979 season.**

In the last couple of years there has been a wasteful rush to dockside with boatloads of herring. Losses due to crushing and aging were drastic. The regulations for this year are a lot tighter. Here's a rundown.

1. All vessels engaged in the 1979 food herring fishery must have a valid commercial fishing license, have passed boat inspection and in addition, have a food herring license.

2. A food fishing license will be issued to vessel owners under the following conditions:

(a) All vessels engaged in the 1979 food herring fishery must use a properly functioning RSW (refrigerated sea water) system, CSW (chilled sea water) system or be prepared to box and ice at sea for transport of the catch from the fishing grounds to the processing plant.

(b) The use of packers is not permitted in the food and bait herring fishery.

(c) Loads will be subject to consistent monitoring for quality; failure to comply with any of the conditions of the license will result in cancellation of other future fishing privileges.

(d) The food herring license for the 1979 season will expire on December 14, 1979. The fishing industry is advised that participation in any future food herring fishery will not be determined on the basis of either participation in, or having been licensed for, the 1979 food herring fishery.

In addition to the above (and other) regulations, no fishing vessel will be permitted to catch and deliver more than 25 tons of herring per trip. All vessels leaving the grounds must hail their catch to a patrol vessel and all deliveries must be completed within 18 hours of capture.



FOGGY BLUE LINE—The 58-foot seiner *Theresa I*, owned by BC Packers, looms out of the fog on the Blue Line as Area 20 opened for pinks August 25. See page 4 for details.

1979 Landing Estimates

Values Up But Quantities Down

The Minister of Fisheries and Oceans, the Honourable James McGrath, announced in Prince

Rupert October 2 that based on current projections, the total value of landings for British Columbia fisheries is expected to exceed \$300 million in 1979. This is the highest value of fish landings for any province in Canada, and is more than double the 1976 total B.C. value of \$141 million.

Columbia fisheries. (See page 2 for estimated 1979 landings.)

From The Courts

Fines totalling 2500 dollars have been imposed in a case involving illegal sale of salmon.

The case involved Max Bidner of Kelowna, B.C., and arose out of an incident in which officers of the General Investigations Unit of the Department of Fisheries and Oceans shadowed an illegal fish peddling operation over a seven-week period.

Testimony delivered in the case noted that fish had been purchased from Indians in Duncan for a dollar a pound, that the salmon was then sold to Max Bidner Seafoods for two dollars per pound as were salmon eggs which Bidner bought for three dollars per pound.

Indians are permitted to catch salmon for food but sale of salmon obtained in the Indian food fishery is illegal.

Announcements & Regulations

Sales Slips

Fishermen should take note that from now on, the Department will not issue copies of sales slips to those fishermen who lose their own. A flood of these requests consumes hours of staff time. As of now . . . no more.

Newsletter Mailing List

The distribution of the Fishermen's Newsletter is being revamped. The paper used to go to all those fishermen holding personal commercial licenses. From now on they will be sent to vessel owners only. Other fishermen who want to get the newsletter can do so by writing and asking to be put on the subscription list and supplying their postal code.

Abalone

Some 300 thousand pounds of abalone have been taken so far this season, still 200 thousand pounds short of the quota. Activity in this fishery will likely increase as the salmon season winds down. A meeting of abalone fishermen will be held later this fall and DFO will notify license holders of place and time.

Letters

Readers who wish to comment on items appearing in the newsletter are invited to do so. Letters to the editor must be signed and bear the address of the sender. We reserve the right to edit for length and to reject any letter believed unfit for publication. Simply mail your letter to The Editor, Fishermen's Newsletter, 1090 West Pender St., Vancouver, B.C. V6E 2P1.

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Johnstone Chum Fishery Cancelled

There will be no chum salmon fishery in Johnstone Strait this year. This decision was reached after consultation between DFO and the Chum Salmon Advisory Committee. The expected run is small, could be even too small to meet escapement requirements. Here's the background, taken from the Advisory Group's information bulletin.

1. Brood Escapements.

In a typical year the strength of the return depends on the numbers of 4-year old chums. Some fish return at age three, fewer still at age five. Therefore, the 1979 return will obviously be most influenced by the size of the 1975 escapement. That escapement was 754 thousand. The 3-year old chums returning this year will be products of the 1976 escapement which numbered 1.3 million and the 5-year class will be from the even larger 1974 escapement of 1.4 million fish.

2. Expected Returns.

Based on the above escapement data, return-at-age relationships and the survival information now available, the 1979 return is expected to total one million 46 thousand fish. A maximum return of one million 300 thousand could result, however, depending on the return-to-age relationships and a higher than anticipated survival rate.

Even if the return did reach 1.3 million, and that cannot be counted on, that figure is well below average for recent years and is similar to the 1971 and 1975 returns.

The composition of age classes in this year's return will be roughly as follows: 131 thousand age five; 597 thousand age four; 318 thousand age three. The numbers of 4-year old chums returning is expected to be critically low due to poor escapement and severe flood damage to spawning habitat caused by heavy rainfall in the fall of 1975. These two factors worked together to produce such a low return this year that a commercial opening is not viable.

In addition to the above pre-season estimates, an early in-season index has been developed to predict stock size and expected returns. In the third week of September 1979 approximately 11 thousand 500 chums were caught in a 12-hour fishery. Projected to a two-day fishery a catch of roughly 22 thousand chums would be indicated. When these data are applied through a tested sample process it works out to a seasonal stock estimate of 1.3 million chums this year.

3. Escapement Requirements.

In the past, escapements in the order of 2 million fish produced maximum catches 4 years later.

The long-term objective has been to rehabilitate these escapements to this 2 million level. To that end, the escapement objective for this year is 1.5 million fish. Based on the projected run size, this objective will not be reached this year and will likely come home at somewhere between 200 thousand and 500 thousand fish below the optimum requirement.

4. Considerations.

In consideration of the above information the return of Fraser River chum stocks will not meet escapement requirements and should not be subject to a harvest in 1979. Fishing would only be considered if the test fishing in Areas 12 and 13, which commenced September 20th, indicates a harvestable margin.

5. Specific Regs and Anticipated Catches.

(a) Areas 12 and 13, Johnstone Strait; Closed until further notice.

(b) Area 14, Mid-Vancouver Island; The local return to Big Qualicum will likely require fishing. Should the run come back as expected, fishing in designated portions of Area 14 would be permitted in early December for Big Qualicum chums.

(c) Areas 15, 16, 17 and 18, Toba Inlet, Jervis Inlet, Lower and Southern Vancouver Island; Returns are expected to just meet escapement requirements. No local fishery is proposed.

(d) District 1 and the Fraser River; Returns are expected to barely meet escapement requirements. Fishing closed until further notice. Test fishing will take place during October.

The Chum Salmon Advisory Committee was formed in 1977 and is composed of seven commercial fishermen representing local gillnet and seine interests. Along with managers from the Department of Fisheries these committee members reviewed the expectations, regulatory proposals and made recommendations. These were incorporated into the final regulations.

People On the Move

R.A. "Dick" Crouter has been named Director-General for Fisheries Management in the Atlantic Region. Many readers in B.C. will remember that Crouter, a native of Abbotsford, was manager of southern operations for Field Services in the Pacific Region and also served as acting director of Field Services.

Ron MacLeod, well known to hundreds of B.C. fishermen as director of Field Services in this region, has accepted a new post in Ottawa. MacLeod took up his new duties in mid-August. He is now the director-general of Fisheries Operations for the Pacific and Fresh Water.

Wayne Shinnars, formerly director of Field Services in the Atlantic Region has taken up his new post as director of Field Services in this region, replacing Ron MacLeod. Shinnars is a biologist and also has a master's degree in business administration.

Al Gibson, formerly South Coast Division chief, is now in charge of management in Field Services with responsibilities for licensing, regulations and investigations.

There are four newly appointed Division Chiefs. Fred Fraser is now chief of the Fraser River, Northern B.C. and Yukon Division. Fraser replaces Garnet Jones who is now chief of the South Coast Division. Ed Zyblut has been named chief of the North Coast Division. Ken Pitre replaces Ian Todd as chief of the Offshore Fisheries Division. Todd is on a 2-year leave of absence.

Moving Oil Options

While the heat seems to be off the Kitimat oil port question the problem of getting Alaskan oil to the virtually dry states of the north central U.S. remains unsolved. One of the plans of course was to build an oil port at Kitimat and pipeline the product overland to the Alberta pipelines which normally kept the northern states supplied.

Several routes have been proposed since. One of the latest would have a pipeline built from the lower mainland to Edmonton. By doing so, the existing oil ports in northwest Washington could continue to receive the oil and it would then be pumped north to Edmonton and then go south again to the U.S. contained in the existing Edmonton to U.S. pipeline.

Other proposals include a pipeline from Skagway to Keg River, Alberta to link up with the same Edmonton - U.S. line.

Tuna Boats Prompt Discussions

Nineteen U.S. tuna boats were seized in Canadian waters in August and the event reverberated to the capitals of both nations. Some boats were escorted to Victoria, others to Port Alberni and Vancouver, and later released after posting 5000 dollars bond per boat. The cases go to court this winter.

The incident made headlines all over the country and was also treated as a major news story by the American television networks.

Press reports from Seattle stated that the U.S. fishermen had been told that Canada "wouldn't dare make a political issue" out of the matter. The American view seems to be that migratory tuna are fair game for their fishermen even if they enter the Canadian 200 mile limit.

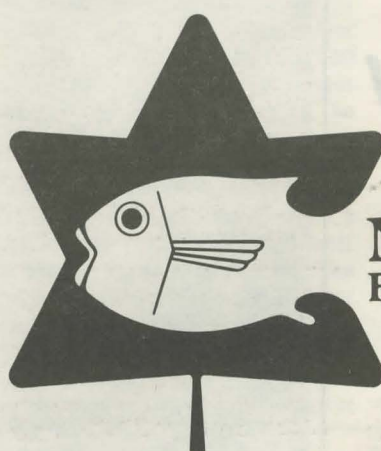
Talks were held in Ottawa between U.S. and Canadian negotiators but further fishing this year will not occur since the tuna have moved on. One Canadian Press report quoted Fisheries Minister James McGrath as saying he thinks American officials left a meeting realizing the U.S. must offer concessions to get fishing rights for tuna within the Canadian 200 mile (320 kilometre) fishing zone.

One of the fishermen arrested in the incident told a reporter in Seattle that "We're irritated with both sides that they don't come to an agreement. We just want to fish," he said.

From The Courts

Illegal net fishing for sockeye salmon on northern Vancouver Island has netted a 24-year-old North Vancouver man a \$2,000 fine or six months in jail plus forfeiture of his skiff and gear.

Wade Evan Rownd of 465 West 15th Street, was apprehended July 25 on the Nimpkish River some three miles above Nimpkish Lake with three sockeye. He pleaded guilty September 18 in Port Hardy to fishing in a closed area, setting a salmon net and catching sockeye in non-tidal waters. His companion Mike Perry of North Vancouver, who also was charged at the same time, failed to show up in court.



NOVEMBER
Fish & Seafood Month

Canadians are eating more fish and seafood than ever before and, if the Department of Fisheries & Oceans has its way, this consumption will continue to increase.

To persuade the consumer the department is launching its second cross-country Fish and Seafood Month in November.

To start the process Ed Wong, Director of Marketing, Ottawa, briefed processors, wholesalers and retailers in Vancouver late in September on what to expect with regards to DFO promotional assistance.

According to statistics presented by Wong, Canadians now consume 17.4 pounds of fish per person each year. This is a 20

per cent growth in consumption from 1976. Part of that extra consumption comes from the fact that more and more Canadians are eating out.

One of the main elements in this November's promotional campaign will be the inclusion of a 12-page recipe booklet in the November 3 Canadian Magazine section of the weekend newspaper. Last year more than 2,200,000 recipe booklets were distributed as a result of an advertising write-in coupon. This year more than 8,000,000 recipe booklets will be distributed during November in two weekend newspaper supplements.

B.C. FISH LANDINGS - 1979 (Estimated) Compared to 1978 and 1969 - 1979 Average

All Species	'000 Metric Tons	\$ '000
1979	142 - 28% from '78	300 + 19% from 1978
1978	196	252
1969-78	145	111
1979 is an average year for landed weight, compared with the last 10 years. 1979 is a record year for landed value, up 19 percent from 1978, and between two and three times the 1969-1978 average.		
Salmon	'000	\$ '000
1979	50 - 30% from '78	122 - 23% from 1978
1978	71	158
1969-78	63	75
1979 a below average year for landed weight, because of off sockeye and chum runs (compare 1975, only 36,000 metric tons). Down 30% from 1978. 1979 an above average year for landed value, though down 23% from 1978.		
Herring	'000 Metric Tons	\$ '000
1979	43 - 47% from '78	130 + 128% from 1978
1978	81	57
1979 landed weight down by 47%; landed value up 128% over 1978.		
Halibut	'000 Metric Tons	\$ '000
1979	3 - 25% from '78	19 + 12% from 1978
1978	4	17
1969-78	8	12
1979 continued the downward trend in landed weight. 1979 expected to be a record year for landed value, up about 12% from 1978.		

Hydro Kemano Two Could cost fishery \$ millions in losses

A headline in the Vancouver Sun of July 31st of 1979 read: "Massive fish loss forecast if Hydro builds Kemano Two". The story, by reporter Moira Farrow, quotes from a 400 thousand dollar study by the Department of Fisheries and the International Pacific Salmon Fisheries Commission. The study was paid for by B.C. Hydro.

Kemano Two is the second phase development of hydro options permitted under the water license held by the Aluminum Company of Canada, owners of a large smelter at Kitimat.

The project would affect both Skeena and Fraser River fish. Losses on the two systems could run between \$80,000,000 and \$372,000,000 over the next 50 years if the project goes ahead. The big spread in loss estimates depends on the level of consideration Hydro allows for fisheries.

Kemano Two was licensed by the provincial government in 1950 so no water license hearings are required now. The first stage of the project included construction of the Kenny Dam on the Nechako River in the early 50's. This backed the river up into Tweedsmuir Park creating a reservoir some 300 square miles in size. The reservoir was not cleared before flooding and timber stands were wasted.

Water from the reservoir was drawn through the coast mountains by means of a series of tunnels and harnessed in power house facilities at Kemano. The energy generated there was used to power the Aluminum Company of Canada Smelter at Kitimat. The Kemano Two studies note that:

Maximization of the remaining energy options in the Alcan water license would be ruinous to salmon values on the Nechako. The usual downgrading of fish and wildlife habitat which has become a byproduct of all hydro dams would naturally result. Flows would go down, temperatures would go up and nitrogen supersaturation (the bends) could be expected to cause high mortality in migrating salmon and steelhead.

In addition to the negative consequences certain to affect commercial and sports fish values, the native food fishery on the Bulkley River system would also be hard hit.

B.C. Hydro has also announced "extensive studies" of power sites on the Stikine and Iskut rivers, and has applied to the National Energy Board of Canada for permission to export both firm and interruptible power to the U.S. This application was reported in eastern newspapers some months ago but was not reported in B.C. due to the newspaper strike.

Rennell Sound Charges Dropped

Following receipt of a report from a soil science consultant the Department of Justice has dropped all remaining charges in the Rennell Sound case.

The charges were laid as a result of a series of incidents on a 118-acre cutting permit at Riley Creek near Rennell Sound. Fisheries officers charged several loggers and their employer, Queen Charlotte Timber Ltd. when it was feared that the logging operation would result in damage to fish habitat in Riley Creek. Decision to drop the charges came following a report on the site prepared by Douglas Swanston, a soil science consultant. After reviewing the evidence and Mr. Swanston's report the Justice Department stated "there is insufficient evidence to support the present prosecutions."

Charges against several individual loggers were dropped some weeks ago but charges against the company and Peter Pfister, the company foreman, were still pending. The Justice Department decision means that none of these charges will now be proceeded with.

There was one positive element which grew out of this conflict. Following meetings between the B.C. Forest Service and DFO, revised logging practices have been agreed to on 250,000 acres of ecologically sensitive forest areas in the Queen Charlotte Islands.



JAPANESE JOURNALISTS—Japanese journalists visiting the west coast in August met with Fisheries & Oceans senior officers in Vancouver to discuss numerous fishery questions. The journalists expressed concern about cash buying on the fishing grounds noting that such practices were disrupting the markets in Japan.

Lee Straight Writes:

Capilano Captivates Sportsmen

Most spectacular testimonials to the growing success of the three-year old Salmonid Enhancement Program (SEP) are the exciting swarms of coho and chinook salmon that have eluded the offshore fisheries to throng outside the rivers.

Handiest to the largest audiences is the swollen coho salmon run that peaked in early September off the Capilano River mouth, which drains into the sea in greater Vancouver City, under the north end of Lions Gate suspension bridge.

Sport boats bobbed there in flotillas for weeks, their passengers entertained as much by the swirling, finning, "porpoising", silvery coho as by the prospect of actually catching them.

Anglers ashore stood like rows of herons — pickets on a fence — doggedly casting and retrieving lures and actually hooking the occasional silver-plated pack of red protein.

(Some anglers tell us that the

fishing was better down the shoreline a way; a tip for next year.)

This phenomenon was repeated up in the Capilano Canyon, in the Qualicum River, northwest of Nanaimo; in the Quinsam River, tributary to the Campbell River, and at Port Alberni. In the last-named case, they were mostly chinook salmon.

All these populations were swollen by improved salmon-growing methods, matching the

same sort of improvement in stocks of sockeye, pink and chum salmon, the "commercial" kinds of Pacific salmon.

The enhancement program has of course improved the angling further at sea yet is just getting rolling. If funds continue to be made available, Pacific salmon numbers will be restored to their original quantities — twice those of the mid-1970's.

So far, anglers will tell you, SEP is an undoubted success.

Assistance Sought From Fishermen On Lamprey Impact

Dick Beamish, head of the groundfish program at the Pacific Biological Station at Nanaimo, wants some help in gathering data on the location of lamprey at sea and their impact on commercial fishes.

Lamprey or eel wounds are frequently seen on salmon and some fish are landed with the lamprey still attached to their bodies. The

wounds appear as circular or oval holes in the flesh, often on the belly near the head.

Fishermen who are able to aid in this program are asked to do so by filling out the form below. If any lamprey are taken fishermen are asked to freeze them and contact Dick Beamish at work (758-5202) or at home (758-2574). He will arrange to have them picked up.

Salmon farming not easy But growing in popularity

Some interesting aquaculture projects are being developed on the B.C. coast. Low pollution levels and a sheltered coastline lend themselves admirably to this form of fish production. Some spokesmen have dubbed the practice "sea ranching".

Aquaculture currently accounts for about 10 percent of the world's fish production. Oysters, salmon and trout are the main 'crops' raised in this manner. Until recently, most salmon and trout were cultured in government hatcheries, now the practice of aquaculture is being undertaken by private groups and some Indian bands.

At present the private producers include eight non-Indian and three Indian groups licensed to operate

marine salmon farms. The main difference between this form of aquaculture and the government-run hatchery process is that privately produced fish are not released to grow in the ocean but are fed in contained conditions.

It works like this: The "ranchers" purchase surplus eggs from government hatcheries and produce their own fry. The young salmon are fed until they are ready for transfer to salt water. At this time, they are placed in floating net cages and fed for 8 to 12 months until they reach a marketable size. Most of them are sold as "pan-size" about 300 grams or two-thirds of a pound.

As the industry develops, the tendency will be to rear salmon to a larger size, a practice already

well established in Europe. Chinook are particularly well suited to this practice.

The development of salmon aquaculture has been supported by research conducted at the Pacific Biological Station at Nanaimo. An experimental fish farm in Departure Bay has developed husbandry procedures for culture of coho and chinook as well as rainbow trout, all in sea water.

Vaccines have been developed to protect salmonids from the outbreak of three common marine diseases.

Current efforts are directed at the developments of procedures for the culture of brood fish so that aquaculturists can produce their own fry.

LAMPREY WOUNDS ON FISH REPORT

1. Species of fish _____
2. Date observed _____/_____/_____
3. Location _____
4. How many fish in each 100 have wounds? _____
If lamprey are observed, what was the approximate size of the lamprey? _____
5. Fishing depth _____
6. Do you have any frozen lamprey to be picked up?
Yes _____ No _____ Telephone _____
7. Any comments? _____

8. Name _____ Name of boat _____

Best Area 20 catch in 22 years

Between August 25th and 27th over 1.2 million pink salmon were landed in Area 20. This is the largest catch recorded in Canadian Convention Waters since the Salmon Commission began managing Fraser River pinks in

1957.

What follows is a run-down of the predicted and actual runs of sockeye and pink salmon of the Fraser River this year. The reader should bear in mind however that final figures are not yet in.

The expectations for the 1979 harvest of pinks and sockeye were announced at a meeting of the Salmon Commission in Bellingham, Washington, in December of 1978. At that time 3.8 million sockeye were forecast with a planned spawning escapement of 1.2 million and a catch to each country of one million sockeye.

The actual harvest of sockeye exceeded expectations. While the whole story is not here at press time enough data is available to indicate a healthy run. Canadian fishermen took 1.58 million sockeye in Convention Waters and the Americans took 1.77 million. The larger than expected run of Fraser sockeye this year can be traced to an extra big run of Chilko River fish. Chilko River sockeye were expected to total 850 thousand and came in at about double that figure. Some of the other races were higher also.

Some readers will recall there was a large escapement of pinks in 1977. Numbers totalled 2.3 million fish from which about half a billion fry were produced. The prediction was for a pink salmon run this year of 15 million. The escapement goal was four million with a catch of four million to each country in Convention

waters. The balance would be taken in non-convention waters as was the case with some Fraser River sockeye.

The full story of the pinks is not in yet either but the results look pretty good.

Canadian fishermen have taken 4.1 million pinks and the Americans just over four million. The pink salmon escapement looks good so far and it is reported that about 100 thousand upstream migrants are passing Hell's Gate every 24 hours at press time. They are bound for spawn-

ing grounds on the main stem of the Thompson River and Seton Creek.

There was another element to the pink fishery this year. Canada put a 25 per cent retention limit on trollers from June 15th to July 29th. The troll fleet has gradually been taking more and more Fraser River pinks and in 1977 took 47 per cent of the pink salmon in Canadian Convention waters. Because of the retention limit on the troll fishery preliminary figures indicate a troll catch of about 37 per cent this year.

"C" License Freeze until West Coast Policy

The Department has taken steps to limit the rush on "C" licenses and a moratorium has been imposed pending a comprehensive licensing policy for the west coast.

The moratorium requires that: . . . the owner of a vessel currently licensed into a restricted entry fishery, who receives permission to transfer the restricted license to a replacement vessel, will not be eligible for a new "C" license for the replaced vessel.

The one exception to this change is that category "B" licensed vessels will continue to qualify for "C" licenses when retired from the salmon fishery.

. . . A vessel with only a "C" license may transfer that license

only to a replacement vessel that does not exceed the overall length of the existing vessel.

All west coast commercial fishing vessels carry a basic "C" license, but most of the west coast fisheries are managed on a limited entry and special additional licenses are required. Vessels with a "C" license only are restricted to certain fisheries. These are food and bait herring, black cod, longline cod and rockfish, crab, prawn and shrimp trap fishing and clams and dogfish.

Readers requiring additional details can call Bill Webber at 666-2867 or Jim Kent at 666-2185 or write to the Vancouver office of D.F.O.

Black Cod Fishery Licensing Plan Announced

On October 4, 1979 the Honourable James McGrath, Minister of Fisheries and Oceans, announced that the British Columbia black cod fishery would become a limited entry fishery. This action was necessary in view of the relatively small total allowable catch (3,500 metric tons) and the dramatic influx of vessels into this fishery during the past year.

In order to qualify for a black cod licence at least one of the following criteria must be met.

(1) **Landing Criteria** (a) Vessels over 50 feet in length which in 1978 or prior to October 1, 1979 made landings of 50,000 lbs. or greater will be eligible for a black cod licence.

(b) Vessels under 50 feet in length which in 1978 or prior to October 1, 1979 made landings of 15,000 lbs. or greater will be eligible for a black cod licence.

The above landings must have been made on trap or longline gear.

(2) **Investment Criteria.** Vessel owners with only "C" licences on

their vessels, who do not meet this landing criteria, but who, prior to October 1, 1979, have made investments of at least \$150,000 directly related to entry into the black cod fishery will be eligible for a black cod licence. These owners will also be required to prove intent by having substantial landings prior to July 1, 1980.

An appeal procedure will be set up for those fishermen who do not meet the above requirements.

Further information may be obtained by contacting Nancy McIlroy at 666-3991.

At the same time DFO announced size limits for black cod:

No person should fish for, catch, kill, retain, buy, sell or have in possession for commercial purposes any sablefish, (*Anoplopoma fimbria*) that measure less than 55 cm in length with the head on, or less than 39cm dressed, head-off, as measured from the origin of the first dorsal fin to the fork of the tail. Any sablefish that measures 55 cm in length shall be considered to weigh four pounds (1.8 Kg) in the round.

Fisheries Advisory Group Formed by Minister

The Minister of Fisheries and Oceans, James McGrath, has announced that the Pacific Region Fisheries Management Advisory Council will be reconstituted to form a Ministerial Pacific Fisheries Committee. Representatives from all organized components of the Pacific fishing sector will be included in the committee which will advise the Minister directly. Mr. McGrath anticipated that something in the order of three meetings a year will be held. Organizations to be represented are:

- Pacific Trollers Association
- Prince Rupert Fishermen's Co-op Assn.
- Central Native Fisherman's Co-op
- Co-operative Fishermen's Guild
- Sportfish Advisory Committee
- Prince Rupert Fishing Vessel Owners' Assn.
- Pacific Coast Fishing Vessel Owners' Guild
- Northern Trollers Association
- U.F.A.W.U.
- Deep Sea Trawlers Association
- Fisheries Association of B.C.
- Fishing Vessel Owners Association of B.C.
- Native Brotherhood of B.C.
- Pacific Gillnetters Association
- B.C. Fishermen's Independent Co-op Assn.

Groundfish Stock Assessments: Commercial Catch Data Needed

During meetings with fishermen in December 1978 staff of the groundfish program were asked how groundfish stocks are assessed. This article is an overview of how recommendations for management decisions are determined. It should be pointed out that no single method exists that could be employed to assess all stocks and to establish biologically allowable catches in all areas. Numerous methods are available, and they range from mathematical analysis to guesswork depending on the available information.

The Information

Stock assessment of fisheries depends on both catch and biological information. Catch data from the commercial trawl fleet, fishing continuously over the entire coastal zone, provides us with invaluable information. Catch and hours trawled for each species, area fished, gear type, and fishing period provides the basic data on the removals from which information on abundance, distribution and mortality of exploited groundfish stocks can be extracted. These statistics are obtained at sea by putting observers aboard foreign and domestic vessels, and ashore by interviewing domestic fishermen and collecting sales slip information. Often a single vessel contains catches of several selected species from different areas. Inaccurate or incomplete sales slip data and interview data makes it difficult to estimate accurately total trawling effort (hours), so important in catch/effort analysis. It is also extremely important that records of the quantity of the discarded catch are kept. Information concerning discards, usually consisting of small individuals of the major species, enables advance estimates of year class strength to be made before the fish reach marketable size.

Approximately 40,000 fish are sampled annually from the commercial catch by our port samplers for information on length, sex and

age. Data on maturities are also collected for some species. Collected age structures (e.g. scales, otoliths, fin rays) are processed by our fish aging unit for determining age composition in the samples catch.

Finally, independent biological and catch information is collected during our own exploratory fishing and research vessel cruises. Stock size estimates are made using hydroacoustics techniques (sounder scouting) or the swept-area method of predetermined fishing locations. Studies of distribution, migration patterns, and mortality are carried out by tagging large numbers of fish which are recovered and returned by commercial and/or recreational fishermen. Considerable effort is put into locating spawning grounds for establishing stock productivity. Also, information on age, length, sex, and maturity is again collected for subsequent laboratory analysis and comparison with samples collected by our port samplers as a test of the accuracy for each sampling method.

The Analysis

In order to make predictions about abundance and productivity a "model" of the fish population is used. These models usually consist of mathematical expressions reflecting the events occurring in the population. The most important requirements when applying a model for management purposes is to allow the best choice to be made between alternative management actions. Essentially, two types of models are used in fisheries management for determining the productivity, or sustainable yield. Simple, "surplus production" models treat the population as a whole by considering changes in stock size without reference to the age composition. In complex analytical "age-structured" models on the other hand, the changes in stock size are reported as the sum of the reactions of each age class.

Charges laid Defied Closure

Defiance of fishing closures on the Fraser River have resulted in charges being laid against several members of the Fountain Indian Band. Five band members were charged on August 17 following a raid by fisheries officers and an additional charge was laid on August 31.

The incidents occurred at the Bridge River rapids, a traditional and productive Indian fishing site

on the Fraser River just upstream from the confluence of the Bridge River.

An unusual additional charge was also laid in connection with the same incident. Lorne Greenaway, Member of Parliament for Cariboo-Chilcotin, was on the scene as the prisoners were being assembled for transportation to town, charges of obstructing a fisheries officer have been laid against the M.P.