



1995

INTEGRATED FISHERIES MANAGEMENT PLAN

WEST COAST VANCOUVER ISLAND CHINOOK

DEPARTMENT OF FISHERIES AND OCEANS

PACIFIC REGION

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1995

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PACIFIC REGION

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INTEGRATED FISHERIES MANAGEMENT PLAN
WEST COAST VANCOUVER ISLAND CHINOOK SALMON

1. OVERVIEW OF THE FISHERIES

Chinook salmon may be harvested in ocean mixed-stock fisheries, coastal fisheries, and more terminal fisheries in inlets and/or river systems. The impact of these fisheries varies between stocks depending on their ocean migration pattern and their migration timing as adults returning to freshwater to reproduce. For example, WCVI chinook stocks are harvested as immature feeding fish in northern B.C. and Alaska and as mature adults during their migration from Alaskan and northern B.C. waters, down the WCVI. Robertson Creek is the key indicator stream for West Coast Vancouver Island chinook stocks.

West Coast Vancouver Island chinook stocks are harvested in the following fisheries:

- Alaska Fisheries - Commercial troll, net and recreational fisheries.
- Commercial Ocean Troll Fishery
- Commercial Northern Ocean Net Fisheries
- Northern Ocean Recreational Fisheries
- WCVI Ocean Recreational Fisheries
- Terminal Recreational Fishery
- Terminal Aboriginal Fishery
- Terminal Commercial Net Fishery

1.1 Southeast Alaskan Fisheries

Chinook salmon are harvested in Alaskan troll net and recreational fisheries. Alaskan fisheries are managed to an all gear ceiling of 263,000 chinook with an additional allowance for the harvest of Alaskan hatchery production. In 1994, adjustments were also made to the Alaskan fisheries to comply with the U.S. Endangered Species Act.

The recreational fishery is concentrated around centres of population and currently harvests approximately 15% of the Alaskan chinook harvest.

The S.E. Alaskan net fisheries harvest chinook as an incidental catch in regular gillnet and seine fisheries and in target fisheries on hatchery chinook in terminal areas. Reported harvest of chinook in seine fisheries is limited by non-retention regulations during most weeks. The net harvest represents about 5% of the total Alaskan chinook harvest.

The Alaskan troll fishery has three components, the winter troll fishery running from October to April, a 'terminal' fishery concentrating on areas where Alaskan hatchery production is most abundant and the regular summer troll fishery that occurs throughout S.E. Alaska. The troll fishery catches about 80% of the chinook harvest in Alaska, the bulk of it in the summer troll fishery.

Approximately 38 % of the total catch of WCVI chinook stocks is taken in these fisheries, with the majority taken in the troll fishery.

1.2 Commercial Ocean Troll Fishery

The ocean troll fishing season normally occurs between July 1 and September 30. In 1994, the WCVI troll season ended early on September 5 in order to address domestic coho conservation concerns. Chinook salmon are generally caught throughout the season, although catch rates vary depending on chinook abundance and effort. Effort may be directed at other species such as sockeye and pink fisheries starting in early August.

The WCVI and North Coast troll fisheries are managed separately for chinook and coho. Under the Pacific Salmon Treaty, there are ceilings on chinook catch in WCVI troll and northern B.C. combined troll, net, and ocean sport.

The consultation process takes place through the Outside Troll Advisory Committee.

WCVI Troll Fishery

With respect to chinook, the WCVI troll fisheries occur in Statistical Areas 121 and 123 to 127, with limited opportunities inside the surfline in Areas 21, 23, 24, 26, 27. In addition, troll caught chinook from a limited fishery in Area 12 are included within the WCVI troll catch of chinook. When targeting on chinook, the troll fleet is spread throughout the WCVI fishing area, however effort is more concentrated in the southwest Vancouver Island (SWVI) area, including Areas 121 to 124. Effort on chinook varies depending on abundance and other opportunities. In recent years daily gear counts during the chinook fishery normally range between 500 to 600 vessels.

The WCVI troll fishery for chinook is managed under the following principles and limitations; 1) a catch ceiling of 360,000 chinook based on a Pacific Salmon Treaty agreement established in 1985, 2) effort - chinook boat day restrictions, 3) seasonal limitations, 4) domestic stock concerns - localized closures and time restrictions, 5) a red line - green line management strategy to pace fisheries to minimize chinook non-retention periods through the implementation of Chinook Conservation Areas within Statistical Areas 121, 123 and 124.

The 10 year average (1985 to 1994) chinook catch from the West Coast of Vancouver Island troll fishery is approximately 293,000. The more recent 5 year average (1990 to 1994) chinook catch is approximately 246,000.

Based on the recoveries of CWT from Robertson Creek Hatchery (RCH) stock, the proportion of the total catch of RCH stock which is taken in the WCVI troll has been variable, averaging about 6.4% in the period 1985-90, but increasing to 26% in 1992 and 19% in 1993. The majority of the catch of WCVI chinook stocks occurs in the period after July 15 in NWVI troll and after August 1 in SWVI troll.

North Coast Troll Fishery

The North Coast troll fishery for chinook includes Statistical Areas 1 to 11, 101 to 111, 130 and 142. When targetting on chinook stocks, the troll fleet is mainly concentrated in Areas 1 and 101. Effort on chinook varies depending on abundance and other opportunities such as sockeye and pink. In recent years daily gear counts during the chinook fishery have normally ranged between 300 to 400 vessels.

The North Coast troll fishery on chinook is managed under the following principles and limitations: 1) a North Coast catch ceiling for troll, net and recreational fisheries of 263,000 chinook based on a Pacific Salmon Treaty agreement established in 1985, of which 186,000 has been domestically allocated to the troll sector, 2) seasonal limitations, 3) domestic stock concerns - localized closures, time restrictions and adjusted ceiling levels, 4) a red line - green line management strategy with the implementation of Chinook Conservation Areas within Statistical Areas 1 and 2W.

The 5 year average chinook catch from the North Coast troll fishery is approximately 185,000. The catch is concentrated in Areas 1 and 2W, decreasing from July to August to September.

Based on the recoveries of CWT from Robertson Creek Hatchery (RCH) stock, the proportion of the total catch of RCH stock which is taken in the North Coast troll has been relatively stable; averaging 17.8% in the period 1985-90, but decreasing recently to 16.8% in 1991, 14.9% in 1992, 13.2% in 1993, and 13% in 1994. The WCVI chinook stocks are caught throughout the fishing period.

1.3 Commercial Northern Net Fisheries

Chinook and coho catches in commercial northern net fisheries are incidental catches to catches of target species of sockeye, pink, and chum. Net fisheries occur in Areas 1 to 10, normally between late June and October, depending on the species and area. Net fisheries off the Queen Charlotte Islands (Areas 1 and 2W) have the most impact on WCVI chinook stocks in comparison to other net fisheries in the North Coast. In the Area 1 and Area 2W net fisheries there has been a chinook bycatch ceiling of 4,400 chinook in each Area.

Based on the recoveries of CWT from Robertson Creek Hatchery (RCH) stock, the proportion of the total catch of RCH stock which is taken in the North Coast commercial net fisheries has averaged about 3% in the period 1985-90, and about 1% in recent years. The WCVI chinook stocks are caught throughout the fishing period.

1.4 Northern B.C. Recreational Fisheries (Queen Charlotte Islands)

The Queen Charlotte Islands (QCI) support a world renowned recreational fishery. Anglers travel to this area from all parts of the world in their quest to catch trophy chinook and coho salmon, halibut, and a variety of groundfish species. Anglers also have the opportunity to observe whales, porpoises, and a wide variety of marine life while visiting this area.

Ten sportfish lodges and approximately 35 day and overnight charterboats operate in QCI waters. The majority of angling occurs in the Langara Island, Naden Harbour area, and in Rennell Sound on the west coast of QCI. Large chinook salmon and halibut are the species most sought after by anglers. Total catch of fish by anglers tends to vary from year to year depending on abundance. Approximately 29,000 chinook salmon are harvested by recreational fishers annually from waters surrounding the QCI. Catches have remained relatively stable in recent years. Sport fishing is becoming a significant contributor to the QCI local economy and tourist facilities are increasing each year.

1.5 WCVI Recreational Fisheries

The WCVI recreational fishery is split into two components for the purposes of stock assessment of Robertson Creek Hatchery stock. The "terminal" fishery for this stock includes all of Area 23, while the "ocean" fishery includes fisheries along the WCVI in Statistical Areas 20-1, 21, outer portions of areas 24, 25, 26, 27, and areas 121, 124, 125, 126, 127.

In general, the WCVI recreational fishery operates throughout the year, targetting on available species like chinook, coho, halibut, rockfish, etc. However, the period of greatest effort has been the mid-July through mid-September time period, coinciding with the return migration of local WCVI chinook stocks, especially to the major hatcheries of Robertson Creek and Conuma. This summer fishery sees a large influx of tourists and is extremely important to local economies. Chinook catches during this period have ranged between 50,000 and 100,000 in recent years.

Outside of Area 23, the greatest concentration of effort is in Area 24 and 124 originating out of Tofino and Ucluelet. Another concentration of effort occurs at the entrance to Nootka Sound.

Terminal recreational fisheries are defined as those that take place inside the surf line. There is no clear demarcation from the outside recreational fishery on the West Coast of Vancouver Island as fishers frequently actively fish from one area into another. The major fisheries take place in the tidal waters of Barkley Sound/Alberni Inlet (Area 23) and

Nootka Sound/Tlupana Inlet. There are also non-tidal fisheries on the Somass/Stamp and Nitinat rivers. Sanctuaries and reduced bag limits are used to protect the weaker runs that are not enhanced or enhanced at low levels.

Consultation is done at the local level through local co-management committees, at the divisional level through the South Coast Co-management Committee of the Sport Fish Advisory Board (SFAB), and regionally through the SFAB.

1.6 Aboriginal Fishery

Chinook are fished by all 14 bands associated with the Nuu-cha-nulth Tribal Council. Fishing methods primarily include troll and gill net and fisheries in Areas 21 to 27, and outside the surf line on both mixed stock and terminal runs. Two Alberni-based bands (Tseshaht and Opetchesaht) are involved in a pilot fishery which includes a sales provision. Allocations through communal licences total 22,435 for the 12 bands not involved in the pilot project and 3,000 have been allotted to the Tseshaht and Opetchesaht.

Consultation occurs with the Nuu-cha-nulth Tribal Council through main-table negotiations and through the Joint Management Council. For the Somass pilot sales project consultation occurs through a newly formed management enforcement committee. In addition, there are consultations with each individual band.

1.7 Commercial Terminal Net Fishery

Terminal commercial gill net fisheries occur in Alberni and Tlupana Inlets to harvest surplus chinook to the Somass/Stamp River and Conuma River systems. Both systems have a high proportion of enhanced fish. These fisheries occur in mid-August to early September. Half length (183 m) nets are used in Alberni Inlet because of the restricted area and interaction with the recreational fleet. Fishing area is limited to reduce bycatch of other non-enhanced stocks. Target catches and fishing plans are set based on pre-season expected returns with limited inseason adjustments based on available catch data. No terminal gill net fisheries are planned for 1995 due to the low expected returns.

Catches are extremely variable (eg. ranging between 0 and 55,000 chinook) due to the variability in available surplus.

2. RETROSPECTIVE ANALYSIS: BC chinook fisheries

An integrated coastwide chinook plan was not prepared in 1994. However, the fisheries were generally managed conservatively under anticipated reductions in ocean abundance, based on pre-season forecasts by the Chinook Technical Committee (Pacific Salmon Commission) and DFO Stock Assessment staff. Further, the fisheries were managed to be consistent with the intent of the chinook rebuilding program of the Pacific Salmon Treaty.

In 1994, the catch ceiling for troll fishing in northern and central B.C. was reduced to 162,000 to compensate for reduced abundance, and the west coast of Vancouver Island troll fishery was to be limited to recent harvest rates. Hook-and-line fisheries in the Strait of Georgia were managed under the chinook conservation program for chinook from the lower Strait of Georgia (as in recent years). Catch and effort in these fisheries were low in 1994 compared to recent years. Catches in 1994 were: 184,800 in the north and central B.C. troll; 147,900 in the west coast of Vancouver Island (including Area 12) troll, and only 12,900 in the Strait of Georgia.

Catches in commercial net fisheries were comparable to recent years, with the exception of terminal gillnet fisheries in Barkley Sound. This fishery was closed due to reduced returns of chinook to the Somass/Stamp River system (including the Robertson Creek Hatchery). Commercial net catch by area and gear, in 1994, were:

Fishing Area	Seine	Gillnet
Northern B.C. (Areas 1-5)	10,314	15,540
Central B.C. (Areas 6-10)	5,400	10,008
Johnstone Strait (Areas 11-13)	7,343	3,133
Juan de Fuca St. (Area 20)	8,640	5,176
St. of Georgia	40	1,116
Fraser River	0	13,692
WCVI net	0	3,492

The catch of chinook in the WCVI aboriginal fisheries are documented only for the two Somass River area bands. In this area the actual chinook catch was 16,300.

3. STOCK STATUS: WCVI Fall Chinook

3.1 Background

Chinook salmon have been observed in most of the medium to large rivers along the west coast of Vancouver Island (WCVI). The chinook returns within this area range from systems with escapements of less than 100 to more than 100,000 escapement in the largest system. In 1992, escapement to WCVI systems reached a record of more than 180,000 chinook. The average (1985-92) reported escapement is over 100,000 chinook.

Spawning escapement records back to 1970 include chinook observations in 91 WCVI systems. Most of these have spawning populations in the range of 10-1,000 fish. Of systems which have had escapements which exceeded 1,000 chinook, only about 6 are wild systems. Most of the larger populations have some form of enhancement to complement the production from the natural spawners. In total, chinook in 17 systems have been enhanced. Enhancement facilities include small volunteer projects (PIP) such as the Marble, Zeballos, Tahsis, Leiner, Gold, Burman, Tranquil, and Cypre rivers. Other DFO funded community projects (CDP) exist on the San Juan River, Kennedy River, Thornton Creek. In addition, there are three major hatcheries, which are located on the Stamp River, Nitinat River, and Conuma River. These major facilities have also enhanced the chinook populations in surrounding systems such as the Sarita, Nahmint, Toquart, and indirectly affect (through close proximity and straying) systems such as Canton Creek and Sucwoa near the Conuma River.

Annual releases of chinook fry from the hatcheries have totalled about 20 million per year, including 9 million average from Robertson Creek Hatchery (RCH) on the Somass / Stamp River, 8 million average from Nitinat, and 3 million from Conuma. RCH has been the most successful of these hatcheries. Between 1988 and 1993, 79% of the WCVI hatchery chinook caught in all fisheries were RCH stock. The other major WCVI hatcheries at Nitinat and Conuma contributed a further 20% to the catch.

Assessment of WCVI chinook stocks is heavily reliant on coded wire tag (CWT) information for the hatchery stocks, especially the largest stock, RCH. Consequently, RCH has become the indicator for exploitation rate on WCVI stocks. Results of any actions to reduce exploitation of WCVI stocks must therefore be inferred from the RCH stock.

The WCVI chinook stocks are an important component of the ocean fisheries from Alaska to Barkley Sound. Based on RCH as an indicator, about 70% of the catch is taken in the ocean fisheries (outside Barkley Sound). On average, about 38% of the total catch (or 55% of the ocean catch) is taken in Alaska. Terminal area fisheries have developed around the returns of WCVI chinook stocks. The local stocks comprise almost 100% of the catch in native, sport, and terminal gillnet fisheries in the period August through September. The total catch of RCH stock peaked at about 450,000 in 1991. Terminal runs have also been large, reaching 300,000 in 1991, which resulted in the development of native, sport, and commercial fisheries in Area 23.

3.2 Status for 1995

For 1995, there are some serious conservation concerns regarding the decrease in production from chinook populations along the west coast of Vancouver Island, including production from the major facilities: Robertson Creek, Nitinat, and Conuma.

Extremely poor survival of the 1991 and 1992 brood year chinook are forecasted for these stocks. This situation resulted from major marine environmental changes in the summers of 1992 and 1993 and associated predation by mackerel and hake on juvenile chinook, sockeye, and coho salmon. Our assessment of this situation is largely based on survival monitored in the Robertson Creek Hatchery stock (on Stamp River flowing into Alberni Inlet) but similar reductions in survivals have been observed in other WCVI enhanced stocks. Further, Robertson Creek is used as an indicator stock for the numerous small natural populations in this area. Spawning escapements in these natural populations are usually less than a thousand spawners annually. If these stocks were subject to the same changes in marine survival as the enhanced stocks, then a 5 to 10 fold decrease in the numbers of spawners is anticipated for 1995 and 1996. Reductions of this scale pose a real threat to the conservation of these small natural populations. Consequently, fishing mortality must be substantially reduced to conserve the survivors from these stocks in order to preserve the diversity in these natural populations.

It is not possible to achieve chinook rebuilding escapement targets for WCVI chinook in 1995 and 1996. Consequently, an interim minimum escapement was established which provided a safe level of natural spawners in the Stamp River. This level was used as a guide to develop management actions which benefit all WCVI chinook stocks. Due to variation in age composition and sex ratio between years, the minimum value was based on eggs required:

- 50 million eggs for natural spawning in the Stamp River,
- 9.3 million eggs for Robertson Creek Hatchery,
- a 1:1 sex ratio for spawning guidelines within the hatchery, and
- an expected 20% pre-spawning mortality.

These requirements translate into a minimum escapement requirement in 1995 of 26,465 chinook.

In the absence of any changes in recent ocean fishery exploitation impacts, the total terminal run to Barkley Sound would not even meet this minimum escapement goal. The forecasted terminal run to outer Barkley Sound would be 33,370 chinook (+10%) and spawning escapement would be below goal after terminal fisheries. Further, the number of chinook projected to return to Barkley Sound in 1996 would be similar, but the number of females surviving would be less than 6,000 chinook. Therefore, to meet the minimum escapement goal set for 1996, to conserve the natural populations, and to quickly rebuild production from the enhanced populations; the Department has recommended reducing the total fishing mortality in Canadian fisheries on chinook salmon by 50% in 1995. The projected returns to Barkley Sound in 1995 would then be approximately 42,000 chinook and would achieve the escapement goal after allowing for terminal fisheries (at agreed upon levels in 1995). Canada's ability to conserve these stocks is limited by their far-northerly distribution which results in Alaskan fisheries accounting for 56% of their ocean fishing mortalities. The reductions realized in S.E. Alaska will be dependent upon

negotiations in the Pacific Salmon Treaty, but for these forecasts a 20% reduction was assumed in these Alaskan impacts.

3.3 Summary of stock status

Fishery management actions in 1995 will be focused on the conservation of WCVI chinook populations but the actions taken will also assist in the protection of other southern B.C. chinook stocks such as Strait of Georgia and Fraser River stocks. This is particularly true for 1995 since early observations in the recreational fishery and test troll fishing indicate that the abundance of chinook in the Strait of Georgia is very low. If the abundance is low because the stocks migrated outside of the Strait this year, then the large reductions in ocean fishing mortalities could substantially benefit each of these depressed stocks. If this is the case, however, management actions should be considered for the late summer and early fall periods when chinook from the Strait of Georgia would be expected to return into the Strait and their natal streams.

3.4 Inseason assessment information

Creel surveys will be conducted to monitor catch on an inseason basis in the major recreational fisheries impacting WCVI chinook, including Areas 1 and 2W, Area 23, and Area 25 (proposed by native co-management). Catch estimates should be available on a weekly basis.

Catch of the indicator stock, Robertson Creek Hatchery, in Area 23 recreational fishery will be estimated by CWT analysis inseason. Heads from adipose clipped fish caught in Area 23 will be dissected and read at Robertson Creek Hatchery on a weekly basis.

With the exception of some terminal fisheries, inseason monitoring is limited to fishery performance (catch and effort, by time and areas) since stock-specific data cannot be accumulated inseason.

On the west coast of Vancouver Island, terminal test fisheries in Barkley and Nootka Sounds provide information on the accumulation of chinook in these terminal areas.

Freshwater migrations are monitored in several southern B.C. chinook stocks but the migration does not begin until early to mid-September. Consequently, this information is only of value in managing late-season fisheries.

3.5 Post season assessment information

Post season assessments involve: (1) monitoring of spawning escapements and the collection of biological data from spawners, (2) de-coding of coded-wire tags recovered in fisheries and the spawning escapements, and aging scale samples collected, and (c) analysis of the fishery data and preparation of abundance forecasts for the next year.

1. **Monitoring of spawning escapements:** Monitoring of the numbers of spawners is undertaken by a number of groups, including Fishery Guardians, Operations and

Assessment staff, the Salmonid Enhancement Program, and under Native Co-management programs. These estimates vary in their rigor as some staff are required to examine numerous populations with varying access to these populations, while other staff monitor specific populations using quantitative sampling programs (i.e., Key Stream programs). In southern B.C. in 1995, Key Stream programs will be maintained on the Stamp/Somass system, the Quinsam/Campbell system, Big Qualicum River, and the Cowichan River. These Key Streams form the basis of our chinook assessments. Data on spawning escapements by age and exploitation information from coded-wire tagging allow examination of marine survival rates, annual exploitation rates by fishery and age, distributions by stock, and forecasts of future abundances.

In 1995, an additional quantitative monitoring program will begin in the Nanaimo River. A counting fence will be installed as a co-management program between DFO Stock Assessment, South Coast Section, and the Nanaimo Band.

2. De-coding of coded-wire tags is conducted under contract to J.O. Thomas and Assoc.; aging of chinook samples are conducted within DFO. These analyses are prioritized by stock to ensure that forecasts are available for U.S./Canada negotiations on ocean fishing plans and catch ceilings.
3. Analyses of these data are conducted through the Stock Assessment Division and provides abundance forecasts in the winter time period, followed by detailed assessments by stock (reviewed through the Pacific Stock Assessment Review Committee), and coastwide chinook stock and fishery assessments conducted by the Chinook Technical Committee of the Pacific Salmon Commission.

4. BIOLOGICAL AND MANAGEMENT OBJECTIVES

- To ensure conservation of natural populations of chinook salmon on West Coast Vancouver Island (WCVI).
- Ensure adequate conservation and protection measures on WCVI chinook stocks are implemented in 1995 and 1996 in order to meet minimum escapement requirements.
- Assuming at least a 20% reduction in harvest rate in Alaska, reduce the overall harvest rate on West Coast Vancouver Island chinook stocks in Canadian fisheries by 50% in 1995.
- Reduce harvest of immature chinook in northern areas to increase returns of adult WCVI chinook in 1996.

- To ensure that social and economic objectives of the people of Canada are maximized, recognizing the priority given to First Nations. Provide some fishing opportunities for all user groups.
- To develop fishing plans consistent with principles of conservation through a consultative process with users of the resource.
- Decrease rebuilding response time of chinook populations by increasing productive potential through enhancement in 1995 and 1996.

5. MANAGEMENT ISSUES AND CONSIDERATIONS

General considerations in achieving the 50% reduction in harvest rate include:

- **The WCVI chinook stocks are widely distributed along the WCVI up through central and northern B.C. (NCBC) and south east Alaska. The distribution of total fishing mortalities on the Robertson Creek chinook stock are presented in Figure 1.**
- **On average, about 70% of the catch of the Robertson Creek Hatchery stock is taken in ocean fisheries.**
- **With respect to chinook stocks in areas 22, 24, 26, and 27, probably 95% of the catch is taken in ocean fisheries.**
- **A majority of the wild chinook populations are small, with less than about 500 spawners. The magnitude of the reduction in returns will setback rebuilding and may even lead to a risk of extinction.**
- **Risk aversion mandate in fisheries management.**

5.1 International Considerations

- **On average, about 38% of the total catch (or 55% of the ocean catch) of RCH chinook are taken in Alaska.**
- **The WCVI stocks are a major component of the Alaskan chinook fisheries. The contribution of Canadian stocks to the SE Alaskan fisheries (all gear) is presented in the following table (from Chinook Technical Committee annual reports). In 1995 it is predicted that approximately 50% of the SE Alaskan catch will be of Canadian origin.**

Percent of SE Alaskan catch attributed to Canadian stocks.

Stock	1993	1992	1991
WCVI total	37.51%	30.59%	26.09%
NCBC	12.98%	11.13%	12.23%
Fraser total	6.50%	7.62%	8.17%
GST total	2.43%	2.96%	2.61%
Total Canadian	59.42%	52.30%	49.10%

- **SE Alaskan fisheries must be included** in any conservation plan for WCVI stocks.

5.2 Domestic Considerations

5.2.1 Aboriginal Fishery Considerations

- **Ensure native requirements are met.** Sufficient actions must be taken in the ocean fisheries to conserve chinook and ensure native allocations are provided in the terminal areas. On the WCVI, chinook are harvested by local Nuu-chah-nulth (NTC) First Nations in Areas 21 through 26. The Pacheenaht First Nation in Port Renfrew also harvests some chinook in Area 20-1.
- **Management actions in the terminal areas must include all user groups.** The negotiated allocation of Somass River chinook (Robertson Creek Hatchery and Stamp River) to the two Port Alberni area NTC bands is 3,000. The Opetchesaht Band has indicated that it is prepared to forego their portion of this allocation. The Tseshaht Band is considering a similar resolution; however, their actions may be predicated on the extent of limitations within the sport fishery terminal sport fishery.
- **If a native fishery goes ahead, then a harvest management plan must be developed within the context of the Somass pilot sales agreement.** A DFO/NTC Joint Management and Enforcement Committee has been tasked to prepare this fishing plan

plus catch monitoring plans. From DFO's point of view, the objectives are to distribute catch through the season and ensure the allocation is not exceeded.

- **Conservation measures must be addressed by other First Nations which harvest local chinook salmon.** Chinook catches by other WCVI native bands fall within Communal Fisheries Licences to provide Section 35 needs. There has been no discussion to date to eliminate or reduce the chinook allocation to reduce impact on WCVI stocks. A portion of the chinook catch by these bands will be WCVI stock. Catch monitoring plans should be developed with the remaining 12 NTC bands.

5.2.2 Recreational Fishery Considerations

- **The opportunity to fish for chinook salmon should be maintained,** considering the large infrastructure which has developed around the recreational fishery for chinook throughout B.C. Bookings for 1995 are generally in place. Recreational advisors provided varied views on the definition of opportunity, and how it is affected by bag and possession limits. Some suggest no obvious change in regulations such as bag and possession limits. Others suggest such reductions would have limited effect on effort or on catch. The question remains as to what is a sufficient opportunity for chinook salmon in the face of conservation requirements.
- **Reductions should be less in recreational fishery to recognize the higher value per fish** compared to the commercial troll and net fisheries. This is a contentious issue to the commercial fishers. Furthermore, the influence of the commercial sport sector (eg. lodges, charter vessels) on management actions has been questioned by commercial trollers and also by independent recreational anglers.
- **The WCVI chinook stock group constitutes a major component of the catch in ocean fisheries extending from Area 1 down to the terminal area.** The contribution of the WCVI stock group to each fishery increases from north to south. In the north (eg. Area 1), the composition of the fishery is similar to the troll fishery, (expected to be about 10% in 1995). In the terminal WCVI areas, during the period August to September, the WCVI stocks comprise 70-100% of the catch.
- **Areas 1 and 2W have the highest catches of WCVI chinook.** Recoveries of CWT from WCVI chinook in NCBC recreational catch indicates that 72% of the recoveries occur in Areas 1 and 2W with peak recoveries in August.
- **The transfer of catch between fisheries should be minimized.** A concern in implementing the recommended reductions in harvest rates is the transfer of catch between fisheries, since the abundance of fish conserved from one fishery will migrate into other fishing areas. Reduction in the Area 1 and 2W troll harvest rate and the expected migration pattern will result in increased abundance available to the northern sport fishery.

- **A portion of the chinook conserved in northern areas will contribute to escapement in 1996.** The northern fishery harvests two components to the chinook stocks, including feeding chinook which will return in 1996, and adult chinook on a migration back to the WCVI in 1995.
- **Along the WCVI, the WCVI stocks comprise the majority of the catch during late July through September** (and as early as July 15 in NWVI).
- **The the Labour Day Weekend derby in Alberni Inlet is the last major fishery on the Robertson Creek chinook stock.** It is important to maintain some opportunity for this derby.
- **Vulnerability increases in the extreme terminal areas** due to holding and pooling of the chinook salmon prior to movement into the rivers.
- **Non-tidal recreational fishery in the Somass/Stamp River** occurs in September through early November.
- **Bag and possession limits should be the same inside and outside the surfline.** The Port Alberni sport advisors are adamant about fishers out of Port Alberni, Bamfield, Ucluelet, and Tofino all having the same limits.

5.2.3 Commercial Ocean Troll Considerations

- **The troll sector will be required to take the largest reduction in catch.** Due to the magnitude of the troll catch, a greater reduction is required in troll to achieve the objective of 50% overall reduction in harvest rate.
- **The WCVI chinook stock group constitutes a major component of the catch in ocean fisheries extending from Area 1 down through the WCVI.** The contribution of the WCVI stock group to each fishery increases from north to south. In the north (eg. Area 1), the composition of the troll fishery is expected to be about 10% in 1995. Along the WCVI, during the period August to September, the WCVI stocks may comprise a significant portion of the catch.
- **A portion of the chinook conserved in northern areas will contribute to escapement in 1996.** The northern fishery harvests two components to the chinook stocks, including feeding chinook which will return in 1996, and adult chinook on a migration .
- **The greatest catch of WCVI stocks in NCBC troll occurs in Areas 1 and 2W.** However, these stocks are distributed throughout the north and central areas of B.C. Recoveries of CWT are more concentrated in Area 1 than is implied by the catch in Areas 1 and 2W; and more CWT are recovered in the central area (Areas 6-11) than is suggested by the catch.

- **The transfer of catch between fisheries should be minimized.** A concern in implementing the recommended reductions in harvest rates is the transfer of catch between fisheries, since the abundance of fish conserved from one fishery will migrate into other fishing areas. This migration and increased abundance must be accounted for when planning the overall harvest management.

5.2.4 Commercial Net Fisheries Considerations

- **No terminal area commercial net fisheries;** since there is no available surplus over optimum escapement targets anticipated in 1995 or 1996.
- **Bycatch of chinook in northern net fisheries during sockeye and pink fisheries.** The ceiling for chinook bycatch in the north coast net fisheries has been 35,000 fish in recent years.
- **Highest concentrations of CWT recoveries of Robertson Creek Hatchery chinook in northern net fisheries are in Areas 1 and 2W;** however, CWT recoveries are distributed throughout north coast net fisheries.
- **Net fisheries in Areas 1 and 2W have been managed to a ceiling of 4400 chinook each.** When the incidental catch of chinook in these net fisheries reached or approached this number, the fishery would be closed for the balance of the season. Closing Area 2W all year would reduce the northern net catch by 4400 chinook. Reducing the chinook ceiling in the Area 1 fishery to 2200 chinook would reduce the total north coast catch by a further 2200 fish.
- **In areas 3 to 10, seine vessels are requested to voluntarily release all live chinook.** It is uncertain how many fish this will save, but savings should be forthcoming from this request. Recent results from Biological Sciences Branch studies indicate that 75% of chinook released from seines in Johnstone Strait and Juan de Fuca survived.
- **Enforcement concerns for a total non-retention and non-possession of chinook.** The option of prohibiting retention or possession of chinook by seines was rejected due to the difficulty of enforcing this - all enforcement would have to take place at the unloading plants, as the fish go into the holds upon capture on the grounds. Unless the whole coast is closed to possession of chinook, even encountering chinook at the unloading plant would not be enough to convict, as proof of where the chinook were caught would have to be obtained.
- **High mortality of chinook in gillnets precludes catch and release in these fisheries.**

6. PROPOSED MANAGEMENT ACTIONS FOR 1995

6.1 Ocean Actions

FISHERY/AREA	REDUCTION IN HARVEST RATE*	PROPOSED ACTION
NCBC TROLL Areas 1 to 10	60%	Abundance adjusted ceiling reduced from 140,000 to 60,000. This will either result in short chinook fishery and longer non-retention period or closure of chinook sensitive areas for the majority or all of the season.
NORTHERN SPORT Areas 1 and 2W	25%	Catch ceiling for Areas 1 and 2W of 21,000. Actions to address distributing catch over entire season may be formulated by northern sport community. Bag/possession limits currently remain at 2/4. No action in Areas 3 to 11. The degree of harvest rate reduction depends on effort and abundance levels.
NORTHERN NET Areas 1 to 10	50% Areas 1,2W ?% Areas 3 to 10	No fisheries in Area 2W. Voluntary non-retention of live chinook for seines in areas 1, 3 to 10.
WCVI TROLL Areas 121 to 127	>75%	Management based on avoidance of WCVI chinook. Based on the observed timing distribution of WCVI chinook CWT, non-retention north of Estevan Point (Areas 125 to 127) starting July 15, and non-retention south of Estevan Point (Areas 121 to 124) starting August 1. Expected abundance suggests this action will provide a catch of about 88,000 chinook.
WCVI OCEAN SPORT Area 20 west of Sheringham Pt. Areas 121 - 127 not including Area 123	≤20%	Bag/possession immediately reduced to 2/4 all areas; further reduction to 1/3 for July 15 to September 30 north of Estevan Point (Areas 25 to 27, and 125 to 127), and 1/3 for August 1 to September 30 south of Estevan Point to Sheringham Point (Subareas 20-1,3,4; and Areas 21, 24, 121,123,124). Additional area closures may be required to limit catch rates in approach areas. The degree of harvest rate reduction depends on effort and abundance levels.

*Harvest Rate is the portion of the fishable stock caught. Estimate of harvest rate under various actions are approximate.

6.2 Terminal WCVI Actions

FISHERY/AREA	REDUCTION IN HARVEST RATE*	PROPOSED ACTION
TERMINAL COMMERCIAL	100%	No terminal gill net fisheries will be conducted.
ABORIGINAL Tseshah / Opetchesah		Negotiated allocation of 3,000 (down from previous allocations of 14,000 in 1994 and 20,000 in 1993).
TERMINAL SPORT Areas 22 -26	50%	Bag/possession immediately reduced to 2/4; further reduction to 1/3 for Aug 1 to Nov 30. Area closures as listed below.
Area 22 Nitinat Lake		
Nitinat River		Angling closure Aug 1 - Oct 31
Nitinat Lake (Upper): inside Windy Point - true east		Finfish closure Aug 1 - Oct 31
Nitinat Lake (Lower): from Whyac Point - Tsuquanah Point to Windy Point true east		Salmon closure Aug 1 - Oct 31
Area 23 - Barkley Sound / Alberni Inlet		
Somass River: whole river		- Chinook non-retention Aug 15 - Nov 15
Somass River: Stamp Falls (as extended in 1994), Girl Guide Run, Beaver Creek Falls, below Black Rock, 2km upstream and downstream of Robertson Cr Hatchery		-Angling closures Aug 15 - Nov 15
Upper Alberni Inlet: Lone Tree Pt - Paper Mill Dam		-Finfish closure Aug 1 - Oct 31
Nahmint area (1994 box boundary)		-Finfish closure Aug 1 - Oct 31
Trevor Channel - Lower Alberni Inlet: Seaward of Star Point true north and inside Chup Point - Fullerton Point and Danvers Island - East side of Robbers Pass		-Finfish closure Aug 1 - Oct 31
Uchucklesit Inlet inside Burrough Pt - Brooksby Pt		-Finfish closure July 15

Area 24 Clayoquot Sound

Shelter Inlet, Millar Channel, Herbert Inlet inside Starling Pt true north and north of Yates Pt - Clifford Pt. Sub-areas 24-3,-4,-13,-14	Chinook closure Aug 1 - Nov 30 (same areas as previous years except addition of 24-4 and -14, Millar Channel)
Bedwell Sound, Fortune Channel, Tofino Inlet and Browning Passage inside Roberts Pt - Kraan Is. and Grice Pt - Schindler Pt. Sub-Areas 24-5,-7,-10,-11,&-12	Chinook closure Aug 1 - Nov 30

Area 25 - Nootka / Esperanza

Muchalat Inlet, Hanna Channel, Tlupana Inlet inside Anderson Pt - Concepcion Pt and San Carlos Pt - northerly to a boundary sign	-Finfish closure Aug 1 - Nov 30
Tahsis Inlet / Zeballos Inlet inside Coopte Pt westerly to Strange Is. and Steamer Pt westerly to boundary sign	-Finfish closure Aug 1 - Nov 30

Area 26 Kyuquot Sound

Kyuquot Channel, Crowther Channel and waters inside Rugged Pt light and White Cliff Head and inside boundary signs at entrance to Crowther Channel	-Finfish closure Aug 1 - Nov 30
Malksope Inlet inside boundary signs at entrance	-Finfish closure Aug 1 - Nov 30
Ououkinsh Inlet inside Izard Pt westerly to a boundary sign	-Finfish closure Aug 1 - Nov 30
Nasparti Inlet inside boundary signs northerly of Scarf Island	-Finfish closure Aug 1 - Nov 30

6.3 Contingency Plans

Due to the high level of effort and potential catch in the Area 23 recreational fishery, a contingency plan has been developed for this area to ensure the harvest reductions are achieved. The contingency plan includes:

- additional closures in Trevor Channel area of Barkley Sound if the catch of Somass chinook in Barkley Sound appears to have the potential of exceeding 3,000 Somass chinook, which is the expected catch under the harvest rate reductions.
- additional closures in the head of Alberni Inlet (eg. Stamp Narrows to China Creek) if the total catch in Alberni Inlet appears to have the potential of exceeding 2,000 chinook.

No other contingency plans are thought to be required in other areas.

7. ENFORCEMENT ISSUES AND MEASURES

7.1 South Coast

7.1.1 Strategic Enforcement Plan

A proper resource mix will be integrated into the management plans in 1995 to enhance DFO's ability to maintain control of all fisheries. This will include Fisheries Patrol Vessels, Charter Vessels, air surveillance, vehicles and Fishery Officer operated boats.

Fishery Patrol Vessels will be deployed by C&P sector to maintain orderly control of fisheries. They will be chiefly responsible for enforcement activities, openings and closures, boundary patrols, close time patrols and licensing compliance. There will also be a requirement for collection of in-season catch data and stream enumeration work.

Charter Patrol Vessels will be deployed by Fisheries Management sector. They are used to augment the FPV fleet and are chiefly employed for stock assessment [in-fishery hauls], stream enumerations and limited enforcement duties (including ORR - observe, record & report).

Air surveillance will be conducted on opening and closure patrols, closed time and area patrols, fleet enumeration, stream enumerations and deployment of staff. Both Fisheries Management and Conservation and Protection will have a flying budget, and both will liaise closely with each other when a flight is planned, in order to maximize our effectiveness.

Fishery Officer operated vessels, consisting of rigid hull inflatables, jet boats and skiffs, will be deployed from FPV's or from land based facilities, in several geographic areas. The small boat fleet is used mainly for short periods for conveyance of Fishery Officers to allow for faster and greater coverage of an area while performing monitoring and enforcement activities.

Vehicles will be used for conveyance of Fishery Officers to monitoring ports, designated landing sites and fishing sites in communal, sport and commercial fisheries. Vehicles which are outfitted with emergency equipment will conduct vehicle checks and may be called upon to assist in road blocks.

Special Operations will be organized as required to maintain control of illegal activities. This may result in redeployment of key staff and some equipment.

7.1.2 Commercial Net

7.1.2.1 Overview

In 1995 there is no intention to harvest chinooks by net gear therefore the majority of efforts will be dedicated to patrol closed areas and times. The patrols on this fishery will be done by DFO and Charter Vessels and Charter Aircraft.

In 1995 the only potential for a directed Aboriginal fishery on chinook salmon will be on the Somass River system by the local First Nations people. The patrols will be done by vessel, aircraft and vehicle. These patrols will be undertaken by Fishery Officers in concert with the Aboriginal Guardians.

Other issues that are addressed on an on-going basis are:

- a) monitoring closed times/closed areas.
- b) introduction of Sec 35. (Aboriginal) fish into the market place.
- c) illegal sales of chinook salmon taken from the West Coast of Vancouver Island
- d) compliance levels.

7.1.2.2 Main Program Activities

The main program activity for the upcoming season will be to patrol the closed area to insure that no illegal chinook net fisheries develop incidental to other ongoing fisheries. The main problem area will be the San Juan and the Area 111 and 11 fishing areas.

7.1.2.3 Enforcement Resources

Sea Days: Two patrol vessels will be utilized on the West Coast of Vancouver Island to address the above noted closure from August to late October. The two vessels stationed on the West Coast will be augmented by two Headquarters vessels as required. Designated deck officers will provide enforcement presence while on patrol. The Deck Officers on the patrol vessels will be complemented by Fishery Officers as is required as the season progresses.

Charter Vessels: Up to 9 charter patrol vessels will be employed to assist DFO patrol vessels and staff to patrol the areas of concern. The masters on these vessels will provide basic enforcement presence while on patrol.

Air Hours: Air patrol will be provided in concert with other mandated patrols of the same areas.

7.1.2.4 Enforcement Plan Evaluation Criteria

- a. Number of patrols sea and air
- b. Number on salmon harvested
- c. Number on commercial vessels checked in the area (inclusive of boardings)
- d. Number on nets checked
- e. Number on warnings
- f. Number on charges laid
- g. Number on complaints or incidents reported
- h. Feedback from industry and advisors
- i. Results of client surveys
- j. Number of violations detected as a result of air and sea surveillance
- k. Feedback from Fishery Officers
- l. Media Coverage

7.1.3 Commercial Troll - WCVI

7.1.3.1 Overview

The chinook troll fishery occurs predominantly off the west coast of Vancouver Island in the near shore waters of Areas 121 to 127. It occurs from the opening date in July until August/September. The management program is complex, at times it will require closures in various areas to reduce the overall catches to the appropriate levels. In 1995 the main area of concern will be the closed areas - north and south of Estevan Point - that will be used to achieve the designated harvest rates.

7.1.3.2 Main Program Activities

Enforcement and management flights, in conjunction with vessel patrols of closed and open areas, will be conducted during the troll season. One to two flights per week of the entire area will be required to patrol and manage the fishery. The DFO air and sea patrols of the open and closed areas will be augmented by the Charter patrol vessels in the area.

7.1.3.3 Enforcement Resources

Sea Days: Two patrol vessels will be utilized on the West Coast of Vancouver Island to address the opening and closures involved in this fishery from July to September. The two vessels stationed on the West Coast will be augmented by two Headquarters vessels as required. Designated deck officers will provide enforcement presence while on patrol. The Deck Officers on the patrol vessels will be complemented by Fishery Officers as is required as the season progresses.

Charter Vessels: Up to 9 charter patrol vessels will be employed to assist DFO patrol vessels and staff to patrol the areas of concern. The masters on these vessels will provide basic enforcement presence while on patrol.

Air Hours: Air patrol will be provided in concert with other mandated patrols of the same areas. As the season progresses and where appropriate we will coordinate our efforts with Canadian Coast Guard and Department of National Defence to augment our flight resources, they may be able to provide either fixed or rotary wing aircraft to assist in our patrols.

7.1.3.4 Enforcement Plan Evaluation Criteria

- a. Number of patrols sea and air
- b. Number on salmon harvested
- c. Number on commercial vessels checked in the area
- d. Number on vessels boarded (trollers) at sea
- e. Number on warnings
- f. Number on charges laid
- g. Number on complaints or incidents reported
- h. Feedback from industry and advisors
- i. Results of client surveys
- j. Number of violations detected as a result of air and sea surveillance
- k. Feedback from Fishery Officers
- l. Media Coverage
- m. Number of boardings at dockside
- n. Number on sanctions and penalties
- o. Number of prosecutions and penalties

7.1.4 Recreational Fishery - Tidal and Non-Tidal

7.1.4.1 Overview

The sport fishery on the West Coast of Vancouver Island occurs both in tidal and non-tidal waters. The area involved is expansive and the total number of angler days is growing. The

fishery occurs predominantly in the very near shore waters of Vancouver Island from Brooks Peninsula south to Port Renfrew. In the recent past the only dominant chinook river fisheries have occurred in the Nitinat and Somass Rivers. As a result of the conversation concerns there will be closures and or bag limit reductions in both tidal and non-tidal waters. Patrols will be dedicated to enforcing the conservation measures.

7.1.4.2 Main Program Activities

The enforcement patrols for these fisheries will be coordinated with the patrol undertaken to address the various other fisheries that occur in the same areas. For example; the commercial troll enforcement plans will provide for opportunities to conduct sports patrols in many of the areas, similarly regular patrols of the Nitinat and Somass River systems will provide for opportunities to ensure chinook conservation measures are adhered to.

Ramp and dockside checks in the various communities will be undertaken to ensure bag limits are adhered to.

7.1.4.3 Enforcement Resources

Sea Days: DFO patrol vessels and vessels operated by Fishery Officers will be utilized to patrol the commercial troll fishery and as the opportunities arise they will conduct sport fish patrols in the areas of concern. The non-tidal fisheries will be patrolled by small vessels and vehicles as the season progresses.

Charter Patrol Vessels: The tidal waters off the West Coast of Vancouver Island will be patrolled by up to 9 Charter Patrol vessels. The masters and the vessels will be able to provide some basic enforcement duties and therefore provide some deterrence while on patrol.

Air Hours: Aircraft will be utilized as available and in concert with other patrols.

7.1.4.4 Enforcement Plan Evaluation Criteria

- a. Number of sport vessels checked
- b. Number of incident reports
- c. Number of boardings at sea
- d. Number of ramp checks
- e. Number of persons checked
- f. Number of vehicles checked
- g. Number of violations
- h. Number of written warnings given
- i. Number of charges laid
- j. Number of prosecutions and penalties
- k. Number of patrols
- l. Number of violations detected as a result of vehicle, vessel, and air patrols

- m. Results of client surveys
- n. Feedback from fishery officers
- o. Feedback from advisors
- p. Media coverage

7.1.5 Recreational Fishery - Non-Tidal (as covered above)

7.1.6 Food, Social and Ceremonial Fishery - (Section 35 Aboriginal)

7.1.6.1 Overview

The main aboriginal fisheries on chinook salmon occur on the WCVI by way of a net fishery in Alberni Inlet and a troll fishery conducted by the outside bands. Patrols will be undertaken to insure proper control and management of this fishery.

The outside bands are spread from Nitinat to Kyuquot and their principal means of acquiring their allocation of chinook salmon is by troll gear. Patrolling of this fishery will be conducted in concert with the regular commercial troll and sport enforcement duties.

Discussions and efforts to monitor the aboriginal food fishery continue with the Aboriginal Fisheries Coordinators and the respective First Nations people.

Closure and in-fishery patrols will be conducted.

7.1.6.2 Main Program Activities

The enforcement efforts to address the various First Nations chinook fisheries both in the Somass River system and in the coastal waters on Vancouver Island will be addressed in concert with the other fisheries that occur in the area at the same time. Dedicated patrols will be undertaken as the opportunities arise and as required.

In general the fisheries will be patrolled by aircraft, patrol vessel, vehicle, foot and where required special operations in all the areas of concern. Efforts are being made to have the First Nations guardians assist in the proper management and protection of the various fisheries.

7.1.6.3 Enforcement Resources Required

Sea Days: DFO patrol vessels and vessels operated by Fishery Officers will be utilized to patrol the commercial troll and recreational fishery, as the opportunities arise they will conduct sport fish patrols in the areas of concern. The non-tidal waters will be patrolled by small vessels, foot and vehicles as the season progresses.

Charter Patrol Vessels: The tidal waters off the West Coast of Vancouver Island will be patrolled by up to 9 charter patrol vessels. The masters and the vessels will be able to provide some basic enforcements and deterrence while on patrol.

Air Hours: Aircraft will be utilized as available and in concert with other patrols.

7.1.6.4 Enforcement Plan Evaluation Criteria

- a. Number of vessels checked
- b. Number of incident reports
- c. Number of boardings at sea

- d. Number of landing sites checked
- e. Number of persons checked
- f. Number of vehicles checked
- g. Number of violations
- h. Number of written warnings given
- i. Number of charges laid
- j. Number of prosecutions and penalties
- k. Number of patrols
- l. Number of violations detected as a result of vehicle, vessel, and air patrols
- m. Results of client surveys
- n. Feedback from fishery officers
- o. Feedback from advisors
- p. Media coverage
- q. Number on plant inspections
- r. Number of seizures of illegal gear

7.2 North Coast

7.2.1 Commercial Troll

7.2.1.1 Overview

The North Coast Troll fishery impacts WCVI Chinook primarily on the west coast of the Queen Charlotte Islands (WQCI). The normal fishing pattern is to allow trollers onto the WQCI area for specified periods during the troll season to harvest Chinooks.

Recent years' Chinook catches (comprising all Chinook stocks) for the WQCI fisheries have been averaging approximately 130,000 to 150,000 pieces. As there has not been any tagging related studies for this fishery, no information is available as to what percentage the WCVI Chinook catch would comprise the total catch for WQCI.

For 1995, WQCI will remain closed during the July 1st start, and the area will not open until the Fraser Sockeye start. With the extended closure for WQCI in 1995, enforcement flights will be increased. It is the intent to monitor all fishing activity. If troller presence is found during the closed period, a DFO patrol boat (FPV) will be dispatched if not already in the area.

7.2.1.2 Main Program Activities

Enforcement flights (to be increased from previous years) will concentrate on closed areas. If troller presence is found, an FPV will be dispatched to board the troller(s).

In conjunction with the enforcement flights, regular FPV monitoring of closed areas will be conducted during the troll season. Charter Patrol Vessels (CPV's) are also a presence in the WQCI area. There are a decreased number of CPV's working in the WQCI area for 1995. The two boats will be redeployed to cover as much area as possible throughout the troll season.

7.2.1.3 Enforcement Resources

Person Years:	0.25
Salary Dollars:	\$ 12,000
Overtime Dollars:	\$ 3,000
O &M Support Dollars:	\$ 2,000

Sea Days: The 'Sooke Post' will be routinely utilized during the troll season. Fishery Officers will be onboard to work with Ship's personnel (who have enforcement training) to monitor and provide compliance of closures. The 'Tanu' will provide additional coverage during critical periods of the WQCI area troll season.

Charter Patrol Vessels (CPV): Two CPV's are employed to cover WQCI for 1995 (a decrease from previous years). One CPV charter is specifically employed to work with the troll fishery. It's capacity to travel and work during adverse weather conditions allows significant coverage of the WQCI area when larger trollers continue to work during poor weather conditions. A second CPV is utilized for troll and net fisheries. As the Sockeye net fisheries are non-existent for 1995, this CPV will be tasked to also monitor the troll fishery during the season.

Air Hours: Requirements for flight monitoring of closed areas will be increased for 1995. Canadian Coast Guard (CCG) helicopters and aircraft will also be tasked with Fishery Officers onboard when CCG flights will be working the WQCI area.

7.2.1.4 Enforcement Plan Evaluation Criteria

- a. Number of commercial trollers in WQCI
- b. Number of troller sightings in open areas
- c. Number of troller sightings in closed areas
- d. Number of trollers checked
- e. Number of boardings at sea
- f. Number of boardings at dockside
- g. Number of Violations (by type)
- h. Number of Charges (by type)
- i. Number of Prosecutions & Penalties (by type)

- j. Number of Sanctions & Penalties
- k. Number of Patrols (FPV, CPV, Air, CCG)
- l. Number of Violations detected by FPV, CPV, Air, CCG
- m. Results of Industry, Advisors, & Public surveys
- n. Feedback from Fishery Officers
- o. Media coverage

7.2.2 Recreational Fishery- Tidal

7.2.2.1 Overview

The tidal water sport fishery is very diverse. Angling for Chinooks is where the majority of recreational tidal fishing places its effort. Angling effort increases substantially in May when the sportfishing lodges and charter boats begin their season, and continues into September. Coded wire tagging information is insufficient to establish what percentage of the Chinooks caught are from WCVI origin.

In 1994, there were approximately 30 lodges and charter operations throughout WQCI, and about 20 of these operations cater to the Langara Island area. These operations ranged from the large lodges at Langara Island and Naden Harbour, to small vessel charters throughout the Charlottes. Fishing for large chinooks in the Northern Graham Island area is very productive (two peak times: early June and early August). Catches of chinook salmon in 1994 exceeded 20,000 pieces, almost half of the total North Coast Chinook recreational allocation of 42,000 pieces.

7.2.2.2 Main Program Activities

In conjunction with enforcement flights, regular FPV monitoring of the recreational fishery will be conducted during the summer. A special CPV charter has been established in 1995 to provide increased monitoring and enforcement of the fishery.

Most recreational fishery issues are of a regulatory nature and are dealt with by active enforcement patrols. Due to the North Coast Chinook catch ceiling, it is important to enforce bag limits and recording of chinook on licences.

Fishery Officer efforts are also placed on evening and weekend dock and ramp checks, as a large portion of the local fishers return at this time. Enforcement checks at the Sandspit Airport are made to provide estimates of the total season's Chinook catch, and to ensure catch limit compliance of clients coming from the different lodges at Langara Island and Naden Harbour. Joint patrols with the local Conservation Officer are made, often to do compliance checks at the ferry terminal in Skidegate.

7.2.2.3 Enforcement Resources

Person Years:	0.75
Salary Dollars:	\$ 30,000
Overtime Dollars:	\$ 2,000
O &M Support Dollars:	\$ 4,000

Sea Days: .An FPV will be utilized when necessary for extended recreational patrols throughout the Charlottes in 1995.

Charter Patrol Vessels (CPV): A special CPV (100 day charter) will provide 75% of its days in the Langara Island area. Increased monitoring of the Langara fishery is required to provide accurate information as to the total number of Chinooks harvested.

Air Hours: Aircraft have been used to get out to the lodges and provide accurate gear counts during peak periods of the Langara area. Five (5) hours will cover these flights, and additional time will be utilized if required.

7.2.2.4 Enforcement Plan Evaluation Criteria

- a. Number of recreational fishers throughout QCI
- b. Number of recreational fishers checked
- c. Number of boardings at sea
- d. Number and frequency of lodge checks and inspections
- e. Number of ramp checks
- f. Number of airport inspections
- g. Number of ferry terminal inspections
- h. Number of Violations (by type)
- i. Number of Charges (by type)
- j. Number of Prosecutions & Penalties (by type)
- k. Number of Sanctions & Penalties
- l. Number of Patrols (FPV, CPV, Air, CCG)
- m. Number of Violations detected by FPV, CPV, Air, CCG
- n. Results of Industry, Advisors, & Public surveys
- o. Feedback from Fishery Officers
- p. Media coverage

8. INSEASON ADJUSTMENT MECHANISMS

8.1 Inseason Stock Assessment

It is not possible at this time to provide inseason adjustments to the predicted run size with a greater degree of accuracy than the current preseason forecast procedure. Even in Alberni Inlet, the majority of the fishery has generally occurred prior to the 50% point in run timing. Consequently, it is unlikely that inseason adjustments to run size are possible.

Inseason adjustments to achieve harvest reduction goals in each fishery include:

- **Areas 1 and 2W recreational:** Proposal to form a committee of DFO managers and QCI sport fish lodge operators to address possible management actions to be taken if or when the catch levels approach the ceiling. The first meeting is proposed for July 4.
- **Northern troll fishery:** On-water hails will be conducted. Fishery may be closed on short notice or red line closures implemented to reduce catch rate.
- **WCVI troll fishery:** NWVI troll closed to chinook retention as of July 15, so no inseason adjustments are anticipated. SWVI troll expected to close August 1. However, high catch rates prior to this date or high incidence of WCVI chinook (as determined from CWT sampling by MRP) may require earlier closure date.
- **WCVI ocean sport fishery (outside surfline):** In area 23/24 Long Beach - Tofino area, catch rates will be monitored. High catch rates may require area closures of chinook sensitive areas. Limited information in other areas precludes any inseason adjustments.
- **WCVI terminal sport fisheries (inside surfline):** creel survey in Area 23 and direct sampling of CWT from chinook salmon, may permit fishing to a ceiling of Somass River stock. Objective is to provide fishing opportunity within Alberni Inlet through Labour Day weekend. Increased area closures may be utilized to maintain opportunity.
- **WCVI native fisheries:** On Somass River system, available catch monitoring data may be used to adjust fishing effort to distribute catch over longer period.

8.2 In-season communications

The Chief of Fisheries Management will have overall responsibility to ensure that various user groups and agencies are informed of management status as the season progresses. In-season management changes to all fisheries will require effective communication between Fisheries Management and Conservation and Protection staff at the field and divisional level.

In the commercial fishery, catch and effort data will be submitted to the appropriate Management Coordinator, summarized and forwarded to the Salmon Manager. Recreational openings and closures required as a result in-season decisions will be coordinated by the Recreational Fisheries Coordinator with the appropriate Fishery Managers and C&P staff. Variations orders and associated public notices will be completed and posted by local C&P. Communication releases will be developed by the Recreational and Management Coordinator, and with Communications Branch where necessary.

Weekly decisions are communicated to industry by Notice to Industry and patrol vessel announcements. Outside troll announcements are made from patrol vessels on Thursday afternoon. Inside troll announcements are made on Wednesday and Friday as required from patrol vessels. In season catch and escapement data are provided to industry, aboriginal groups, DFO field, divisional and regional offices by the Salmon Manager.

CONTACT LIST

South Coast Salmon Manager	John Greenlee	723-0057
Inside Troll/Net Manager Areas 14-18	Gord McEachen	339-1029
Johnstone St Manager Areas 11,12,13,27	Greg Savard	287-2102
WCVI Manager (non-troll) Areas 21-26	Laurie Gordon	723-0118
Juan de Fuca (Area 20) Manager	Randy Brahniuk	754-0208
Outside Troll Manager	Randy Brahniuk	754-0208
Chief, Fish Management	Ed Lochbaum	756-7288
Area Manager	Sue Farlinger	756-7280
Chief, C&P	Norm Lemmen	756-7159
Manager, Aboriginal Fisheries	Colin Masson	756-7001
Recreational Fishery Coordinator	Terry Gjernes	756-7222

8.3 Decision Making Process

8.3.1 Aboriginal Fisheries

- For aboriginal fisheries, in-season adjustments will be in consultation with local bands and tribal groups.

8.3.2 Recreational Fisheries

- For recreational fisheries, adjustments to local fishing plans will be made through consultation with the local sport fish representatives, the Recreational Fishery Coordinator and the local Fishery Management Coordinator. Regional changes to fishing plans will be made through consultation with the SFAB and senior DFO management.

8.3.3 Commercial Fisheries

- Monday to Wednesday - collection and summarizing of commercial and aboriginal fisheries data by Fisheries Managers. Data entered and forwarded to the Salmon Fisheries Manager, who will distribute the data as required to industry, aboriginal groups and DFO offices.
- Internal managers phone conference Wednesday 1000 hrs, WCVI Troll: WCVI Troll manager, Salmon Coordinator, Northern Coordinator, C&P when required
- Internal managers phone conference Thursday 0830 hrs, Net Fisheries: Chief Fisheries Management, Salmon Fisheries Manager, Regional Salmon Coordinator, and appropriate Fisheries Managers, C&P when required.
- Fraser Panel Friday a.m. to guide weekly fishery decisions in panel waters.
- All sector area committees meet monthly to keep sector communications open.
- Internal managers phone conference Thursday p.m.- Inside Troll: Inside Troll Manager, Regional Salmon Coordinator, others as required.
- Region/division/NHQ update Tuesday and Thursday by teleconference: Area Managers, Sector Chiefs, Regional Director and NHQ.
- Decisions that will be very disruptive to the fleet will be made in consultation with inseason advisors or subcommittees of the SCAC or OTAC.

9. EVALUATION AND PUBLIC CONSULTATION

A post season review of the 1995 fishing season will occur within the commercial, recreational and aboriginal sectors. This consultation process will include a review of management actions implemented during the season including fishery catch and effort estimations. Escapement information will not be available until the spring of 1996.

The process for consultation includes post season meetings with the following advisory Committees and Boards:

Commercial Sector

Outside Fishery - Outside Troll Advisory Committee

Net Fishery - Queen Charlotte Islands Advisory Board, North Coast Advisory Committee, Central Coast Advisory Board, and South Coast Advisory Committee.

Recreational Sector

Sport Fish Advisory Board - and consultation with Sub-Committee's and local Committees.

Aboriginal Sector - consultation with First Nation Bands and Tribal Councils.

10. CREDITS

The following people were involved in preparing this management plan.

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