

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director



ESTIMATED TIME

1 HOUR

DATE: May 31, 1994

SUBJECT: Salmon Management

ACTION REQUIRED

Review Southeast Alaska salmon measures intended to address Endangered Species Act concerns for Pacific Northwest salmon.

BACKGROUND

In April we received a letter from Steve Pennoyer noting that the Council needs to assure that the management regime proposed by the State for the Southeast Alaska chinook fishery satisfies ESA requirements vis a vis Pacific Northwest salmon. The State and NMFS did not have the details of the proposed 1994 management regime or biological opinion available for Council review in April, and so the Council, through formal motion, authorized the Regional Director to review the State's proposed 1994 management regime and to make findings on its behalf as to whether provisions of the salmon plan and ESA have been satisfied.

The Regional Director will inform the Council whether he has certified State management or will be requiring emergency action by the Council to satisfy Federal obligations under the Pacific Salmon Treaty, the Salmon FMP, the Magnuson Act, and other applicable law.

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^AP-AK--Salmon War<

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! Alaska News !

^Canada Imposes Stiff Fee on U.S. Fishing Boats on B.C. Coast<

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(Vancouver, British Columbia) -- Canada announced today it will require license fees of more than one-thousand dollars on U-S commercial fishing boats.

The fee will be required for boats moving through the inside passage along the British Columbia coast between Alaska and the Lower 48 states.

The Canadian minister of fisheries and oceans, Brian Tobin, announced the fee at a news conference today in Vancouver, British Columbia.

Tobin says the fees will be required starting next Wednesday. He says the action targets U-S boats that fish off the southeast tip of Alaska, intercepting fish returning to Canadian waters.

Tobin says this is not (not) a salmon war. He says Canada is willing to return to talks with the United States on a West Coast fishing agreement. He blames the breakdown in the talks on a disagreement among the states of Alaska, Washington and Oregon.

The fee for each one-way passage in British Columbia waters would be 15-hundred Canadian dollars. That's about eleven-hundred U-S dollars.

APNF-06-09-94 1112PDT<

No chance to testify -
Sent out in Council
mailing

Testimony of
the Columbia River Treaty Tribes
before the
North Pacific Fishery Management Council
June 11, 1994
Anchorage, Alaska

Good Afternoon Mr. Chairman and members of the Council. My name is Levi J. Holt and I am here today to present comments on behalf of the four Columbia River treaty tribes (Nez Perce, Yakama, Warm Springs, and Umatilla). It has been a long time since the four tribes have provided comments before this Council but the current status of chinook stocks, the stalled Pacific Salmon Treaty negotiations and the threat of a "fish war," and the National Marine Fishery Service's Endangered Species Act (ESA) evaluation of this fishery require us to provide these comments.

It is no secret to the members of this Council or to anyone else that substantial efforts are now under way in the Pacific Northwest to address conservation concerns for severely depressed chinook and coho stocks. The depressed status of these stocks has been brought on by a combination of factors, some temporary, such as the El Nino, and other longer term problems, such as a hydropower and irrigation system run without adequate concern for the needs of the salmon, misdirected hatchery programs, and the continued loss and degradation of important spawning and rearing habitat due to poor land management practices. Our tribes would agree with members of this Council that would call for more drastic actions to deal with these longer term problems. We in fact welcome and congratulate the state of Alaska for participating in efforts to correct the serious defects in the management of the hydropower system in the Columbia River basin. But while we work cooperatively to deal with the primary factors impacting chinook stocks, we cannot put aside sound conservation based fishery management plans and principles.

The United States entered into the Pacific Salmon Treaty with Canada in 1985, largely in response to a coastwide chinook conservation crisis. In order to effectively deal with the chinook conservation crisis, the parties implemented a chinook rebuilding program. As a tool, not as the program itself, a harvest ceiling - not a harvest quota - was imposed on several ocean fisheries impacting chinook stocks. These ceilings, including the one for the all gear catch of southeast Alaska, were based on a major assumption: a concentrated, cooperative effort to increase chinook stocks coastwide would increase overall stock abundance over time, thereby reducing the harvest rate impacts over time. Ultimately, by making these harvest adjustments, coupled with focused enhancement activities and habitat improvements, we would achieve our goal: chinook stocks at optimum production levels so that we could fairly share in the bounty of a resource important to our tribes and to your fishery.

We now know that this major assumption was flawed: enhancement activities did not result in as many salmon as anticipated coastwide, the salmon continue to suffer from habitat loss and degradation and a hydropower system that should be providing safe passage continues to chew up fish instead. We have also already learned that the tool we had selected to implement the rebuilding program - ceilings - have not adequately addressed annual variations in stock abundance and so we have embarked on developing alternatives. But we, as co-managers, cannot wait until we all agree an alternative system. Nor can we adopt a status quo approach using an outdated ceiling as a management tool.

At the same time, the National Marine Fishery Service has called for a reduction in the all gear catch of chinook in the Southeast Alaska salmon fishery based upon an evaluation of the fishery's impact on the Snake River fall chinook, which NMFS has listed as a threatened "species" under the Endangered Species Act. While we agree with NMFS that harvest reductions are necessary for the Southeast Alaska salmon fishery; we do not agree with the method by which they got there - managing for a single ESA listed salmon "species." Though NMFS' recommendation may work for just the ESA listed Snake River fall chinook, it would not be consistent with the overall goal and obligation of the Treaty's rebuilding program. Sound fishery management, and the Pacific Salmon Treaty's chinook rebuilding program, require harvest restrictions in Southeast Alaska's chinook fishery based upon the depressed status of the stocks.

Information drawn from the Pacific Salmon Commission's Chinook Technical Committee (CTC) reports shows that fifty percent of the chinook stocks evaluated by the CTC are not rebuilding. The current abundance of chinook in all of the PSC fisheries, including Southeast Alaska, are substantially below what was expected at this point in the coastwide rebuilding program. The best available scientific and commercial information does not indicate a quick change in the status of those stocks and in fact indicates that the major contributing, or "workhorse," stocks will be depressed below pre-Treaty levels for the next couple of years. These are the Upriver Bright and tule chinook stocks of the Columbia River, the Oregon Coastal north migrating stocks, and Canada's Robertson Creek. Without harvest cutbacks, the depressed status of these "workhorse" stocks will result in increased harvest rates on most stocks, including weak stocks such as the mid-Columbia summers, the West Coast Vancouver Island wild stocks, and yes, even on what NMFS calls the Snake River fall chinook.

The need to protect a suite of weak stocks in this mixed stock fishery, not just a single stock, must be recognized: proposals to just shape the fishery in a way to protect a single stock, without actually reducing overall harvest impacts, invariably results in increasing impacts on other stocks. Such attempts may work when these other stocks are healthy, but these other stocks simply cannot bear this burden considering their

current depressed status.

We are not asking the Council and the state of Alaska to take these actions alone. The Pacific Fishery Management Council, and the states of Washington, Oregon, and Idaho, have already instituted draconian measures in response to the needs of these stocks. In-river fisheries of the Columbia will be managed consistent with the conservation based Columbia River Fish Management Plan, resulting in continued restrictive harvests. Nor are we ignoring the impact that Canadian fisheries have on these stocks. Rather than proclaiming an imminent "fish war" in a misguided attempt at achieving "Equity," Canada must manage their fisheries, including their sport fisheries on the West Coast of Vancouver Island, consistent with the chinook rebuilding program and conservation needs of the salmon resource. This means that Canada must also manage the West Coast Vancouver Island fishery for a drastically reduced harvest. And consistent with the rebuilding program and Treaty principles, Canada would be expected to match Southeast Alaska's chinook fishery reductions in their own North and Central British Columbia chinook fisheries.

At least for the next two years, or until an acceptable alternative management approach can be adopted by the U.S. and Canada, the all gear catch of chinook in Southeast Alaska must be capped at a substantially reduced levels. Absent an agreement under the Pacific Salmon Treaty for this year, the Council should take action to cap the Southeast Alaska all gear chinook catch at 207,000 fish. This cap is based upon a ratio of current abundance to expected abundance for this fishery and would include the impacts from the recently completed winter troll fishery. Again, it is expected that Canada would match this reduction on the same basis in its North and Central Coast chinook fisheries, as well as to manage for the reduced chinook and coho abundance in a conservation based plan for the West Coast Vancouver Island fisheries. Because of expectations of even lower stock abundance in the ocean fisheries in 1996, harvest reductions will need to be even greater for that year. Management actions should also take into account the need to decrease incidental mortalities in these fisheries as well. This approach will meet the needs identified by the NMFS as part of their section seven evaluation of this fishery. Just as importantly, it will be consistent with the U.S.' international obligations of the United States under the Pacific Salmon Treaty, the chinook rebuilding program, and our obligation to preserve and restore this important resource for future generations. This concludes my statement. Thank you very much.

Results From Preliminary Recalibration of the Chinook Model
CTC Technical Note 9401
February 11, 1994

This report provides a brief summary of enhancements to the Chinook Technical Committee (CTC) chinook model and results from a preliminary calibration for 1994. The report includes information requested by the Chinook Work Group (CWG) in past years including:

- 1) A summary of changes in the input data for the chinook model;
- 2) Estimates of abundance indices for 1994; and
- 3) The predicted date of rebuilding for natural stocks in the chinook model.

The calibration is considered preliminary since age specific forecasts of abundance for Columbia River fall stocks are not yet available and the CTC has not yet had a chance to fully review the calibration.

MODEL ENHANCEMENTS 1993-1994

The chinook model has been enhanced in a number of significant ways since the 1992-1993 negotiation cycle:

- 1) The Columbia River Summer stock in the model was modified to represent only the mainstem Columbia River component of the run (i.e., the Snake River component was removed). The escapement goal for the Columbia River Summer stock was set equal to 35,600.

This enhancement serves two purposes. First, the available tagging data indicate that summer chinook originating in the mainstem of the Columbia River are exploited at a substantially higher rate in ocean fisheries than Snake River summer chinook. Applying an exploitation rate estimated from coded-wire-tag (CWT) groups from the Wells Hatchery (on the mainstem of the Columbia River) to the abundance of the entire summer stock may result in a positive bias in the modelled harvest. Second, a petition has been submitted to list the mainstem stock (referred to as the Mid-Columbia Summer stock in the petition) under the Endangered Species Act. Consistency between the model stock and the petitioned stock will simplify interpretation of model analyses.

- 2) The Columbia River Bright stock in the model has been split into a Mid-Columbia Bright stock (hatchery) and a Columbia Upriver Bright stock (primarily natural).

Due to increased enhancement, the Mid-Columbia Bright stock now comprises a significant proportion of the Columbia River Bright stock (39% of the adult terminal run in 1992). The mixing of stocks of hatchery and natural origin in the model contributed to a positive bias in the estimated productivity of the Columbia Upriver Bright stock and complicated the interpretation of the model predictions for the terminal run. The escapement goal for the Columbia Upriver Bright stock remains at 40,000.

- 3) The model input data for the Lower Georgia Strait Natural and Lower Georgia Strait Hatchery stocks have been updated to incorporate revised estimates of CWT recoveries in the Strait of Georgia sport (GSSPT) fishery.

The 1992 Annual Report of the CTC (TCChinook (93)-01, page 35) noted that some terminal sport recoveries of CWT groups from the Big Qualicum Hatchery stock (located on the Strait of Georgia) had previously been inadvertently included in the GSSPT fishery. These recoveries have now been removed.

- 4) New estimates of the escapement of the Oregon Fall North Migrating stock have been incorporated in the calibration.

The Oregon Department of Fish and Wildlife provided a new time series of escapement for the Oregon Fall North Migrating stock. The new escapement data 1) incorporates improved estimates of spawner abundance and 2) excludes the escapement of the mid-Oregon coastal stock, a less abundant stock with a more southerly distribution (similar to Columbia River Tule stocks).

- 5) Preliminary postseason estimates of abundance in 1993 and forecasts of abundance for 1994 have been utilized in the new calibration of the model (Table 1).

ASSUMPTIONS OF MODEL ANALYSES

Model predictions of rebuilding and abundance in 1995-1998 depend heavily upon assumptions regarding survival rates for future broods (post-1991 for most stocks). For the current analysis, survival rates were set equal to the long-term average for all stocks except the 1992 broods of the West Coast Vancouver Island (WCVI) natural and hatchery stocks. Cohort analysis of the 1990 CWT groups from the Robertson Creek Hatchery stock (located on the WCVI) indicates that the survival rate was the lowest since the "Death Brood" of 1983 (TCChinook (93)-02). This is consistent with the model calibration, which estimated that the survival rates of the 1990 and 1991 broods were, respectively, 25% and 82% less than the longterm average. Although estimates of survival derived from CWT analysis are not yet available for the 1992 brood, sampling conducted by the CDFO indicates that predation by mackerel was severe in both 1991 and 1992. For this reason, the survival rate for the 1992 brood was set equal to the 1983 brood survival rate.

Assumptions for fishery catch levels or exploitation rates were as follows:

Southeast Alaska. An all gear catch quota of 263,000 in 1994 and a catch ceiling of 263,000 from 1995 through 1998.

North/Central B.C. An all gear catch quota of 263,000 in 1994 and a catch ceiling of 263,000 from 1995 through 1998. In addition, a terminal exclusion of 6,000 in the North B.C. net and 1,000 in the Central B.C. net was assumed for 1994 through 1998.

WCVI Troll and Outside Sport. Exploitation rates were assumed to be reduced by 24% from the 1979-1982 base period level. This is equal to the 1985 target reduction for the troll fishery and approximately equal to the average reduction in the troll fishery in the years 1989-1992.

Georgia Strait Sport and Troll. The troll catch was assumed equal to 31,000 and the exploitation rates in the sport fishery were set equal to the average from 1983-1992 (equal to no reduction from the base period).

Washington/Oregon Troll and Sport. Exploitation rates were assumed to be reduced by 25% from the base period.

Puget Sound Sport. Exploitation rates were assumed to be equal to the base period level.

North Puget Sound Net. Exploitation rates were assumed to be equal to the base period level.

Information on assumptions regarding catches or exploitation rates in other fisheries is available upon request. The analysis assumed that no further changes in minimum size limits occurred. Other assumptions of the model are discussed in TCChinook (93)-02.

1994 ABUNDANCE INDICES

1994 abundance indices for the Southeast Alaska troll, North/Central B.C. troll, WCVI troll, and Strait of Georgia sport and troll fisheries were computed by dividing the predicted abundance by the average abundance during the years 1979 through 1982¹ (Figures 1-4 and Table 2). Results by fishery are summarized below.

Southeast Alaska Troll:	Abundance is predicted to continue the decline begun in 1988 and be 24% below the abundance estimated for 1993.
North/Central B.C. Troll:	Abundance is predicted to be 20% below the level estimated for 1993.
WCVI Troll:	Abundance is predicted to be 5% below the level estimated for 1993.
Georgia Strait Sport/Troll:	Abundance is predicted to be 24% larger than the level estimated for 1993.

PREDICTED DATE OF REBUILDING

Predicted dates of rebuilding obtained from the chinook model and stock status obtained from the 1992 CTC assessment of rebuilding are given in Table 3. For comparative purposes, the predicted date of rebuilding is provided for both the previous calibration of the chinook model (TCChinook (93)-02) and the current calibration. The current predicted date of rebuilding differs significantly for several stocks:

WCVI Wild. The stock is now predicted to be 59% of goal in 1998 versus 3% previously. Based on current forecasts, survival rates are much lower than recent years, but not as low as assumed in the fall 1993 analysis. The fall calibration used assumed rates for the 1991 and 1992

¹ Methods for computing the index are presented in TCChinook (93)-02.

broods based upon the professional judgement of local managers.

Upper Georgia Strait. The stock is now predicted to be at 53% of the goal in 1998 versus 97% previously. The decline results from reductions in escapement in 1993.

Stillaguamish Summer/Fall. The stock is now predicted to be 65% of the goal in 1998 versus previously achieving the goal in that year. The decline results from the continued low escapements for the stock.

Snohomish Summer/Fall. The stock is now predicted to be 67% of the goal in 1998 versus 84% previously. The reduced escapement results from the continued depressed escapements of the stock and a poor escapement in 1993.

Columbia Upriver Summer. The slightly improved status predicted for 1998 (44% of goal versus 35% previously) results from the splitting of the stock into a mainstem and Snake River component) and the resultant reduced escapement goal for the mainstem component.

Table 1. Status of stock abundance estimates utilized in preliminary 1994 chinook model calibration. (● nonage specific estimate; A age specific estimate utilized.)

STOCK	1993 PRELIMINARY POSTSEASON ESTIMATE	1994 PRELIMINARY PRESEASON FORECAST
Alaska South SE	●	
North/Central BC	●	
Fraser Early	●	
Fraser Late	A	A
WCVI Hatchery + Natural	A	A
Upper Georgia Strait	A	
Lower Georgia Strait Natural	●	
Lower Georgia Strait Hatchery	●	
Nooksack Fall	●	●
Puget Sound Fingerling + Yearling	●	●
Puget Sound Natural	●	●
Nooksack Spring		
Skagit Summer/Fall	●	●
Snohomish Summer/Fall	●	●
Washington Coastal Hatchery	●	
Columbia Upriver Bright	A	●
Mid Columbia Brights	A	●
Spring Creek Hatchery	A	●
Lower Bonneville Hatchery	A	●
Lewis River Wild	A	●
Cowlitz Spring	A	●
Willamette River Hatchery	A	A
Columbia Upriver Summer	●	●
Oregon Coastal North Migrating	A	A
Washington Coastal Natural	●	
Snake River Fall	●	

Table 2. PSC chinook model abundance indices in ceiling fisheries. Indices are from the calibration of November, 1993 as reported in TCCHINOOK (93)-2 and calibration number 9401, February 11, 1994.

Year	Alaska Troll		NCBC Troll		WCVI Troll		Geo. St. Troll & Spt	
	Annual Report	February 1994	Annual Report	February 1994	Annual Report	February 1994	Annual Report	February 1994
1979	0.97	0.98	1.01	1.02	1.02	1.03	1.13	1.17
1980	0.95	0.97	0.96	0.96	0.97	1.00	1.03	1.03
1981	0.93	0.91	0.94	0.93	0.93	0.95	0.96	0.94
1982	1.15	1.14	1.09	1.09	1.08	1.02	0.88	0.86
1983	1.37	1.40	1.19	1.16	0.97	0.83	0.90	0.79
1984	1.53	1.71	1.26	1.37	0.96	0.94	1.00	0.96
1985	1.48	1.63	1.23	1.31	0.94	0.95	0.90	0.96
1986	1.59	1.70	1.16	1.25	0.99	0.95	0.69	0.85
1987	1.85	1.87	1.38	1.44	1.24	1.15	0.48	0.49
1988	2.27	2.35	1.51	1.55	1.05	0.95	0.54	0.43
1989	1.97	2.11	1.48	1.60	0.90	0.92	0.73	0.65
1990	1.96	2.24	1.40	1.62	0.88	0.92	0.71	0.84
1991	1.81	2.23	1.33	1.50	0.73	0.75	0.67	0.55
1992	1.76	1.93	1.37	1.40	0.82	0.78	0.83	0.72
1993	1.65	1.82	1.26	1.33	0.83	0.74	0.95	0.71
1994 (predicted)	1.26	1.39	1.09	1.06	0.84	0.70	0.96	0.93

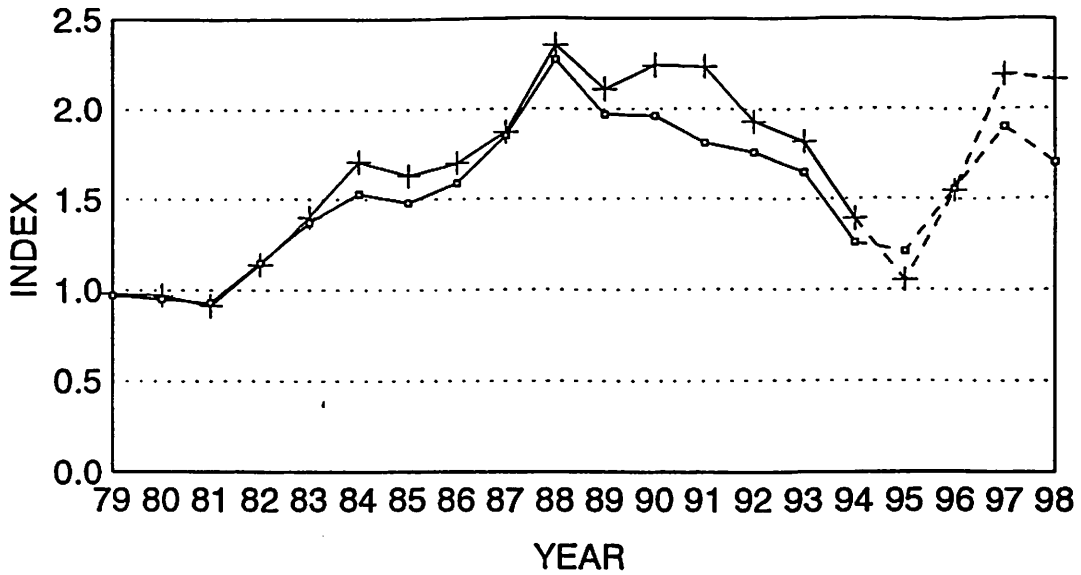
Table 3. PSC natural chinook model stocks, predicted date of rebuilding (both from the 1992 Chinook Technical Committee Annual Report and from the 2/11/94 calibration of the Chinook Model), associated escapement indicator stocks, and status of escapement indicator stocks (as assessed in the 1992 CTC Annual Report).

Model Stock	Year Rebuilt or % of Goal in 1998		Escapement Indicator	Stock Status
	Annual Report a/	Current b/		
Alaska South SE	1996	1997	Andrew Creek Keta King Salmon Chickamin Unuk Blossom	Above Goal Probably Not Rebuilding Probably Not Rebuilding Probably Not Rebuilding Probably Not Rebuilding Probably Not Rebuilding
North/Central BC	1992	1995	Yakoun Skeena Rivers Inlet Nass Area 8 Index Smith Inlet Area 6 Index	Above Goal Above Goal Rebuilding Indeterminate Probably Not Rebuilding Probably Not Rebuilding Not Rebuilding
WCVI Wild	3%	59%	WCVI	Probably Not Rebuilding
Upper Georgia Strait	97%	53%	Upper Georgia Strait	Indeterminate
Lower Georgia Strait	1998	1998	Lower Georgia Strait	Probably Not Rebuilding
Fraser Early	1985	1994	Upper Fraser Middle Fraser Thompson	Above Goal Above Goal Indeterminate
Fraser Late	1998	1998	Harrison	Probably Not Rebuilding
Skagit Summer/Fall	86%	58%	Skagit Summer/Fall	Probably Not Rebuilding
Stillaguamish Summer/Fall	1998	65%	Stillaguamish	Probably Not Rebuilding
Snohomish Summer/Fall	84%	67%	Snohomish	Not Rebuilding
Washington Coastal Wild	1993	1994	Grays Harbor Fall Quillayute Fall Hoh Fall Queets fall	Above Goal Not Classified Not Classified Not Classified
Lewis River Wild	1979	1994	Lewis River	Above Goal
Columbia Upriver Summer	35%	44%	Col. Upriver Summer	Probably Not Rebuilding
Columbia Upriver Bright	1983	1996	Col. Upriver Bright	Above Goal

a/ The "Annual Report" estimate is from the 1992 PSC CTC annual report (TCCHINOOK (93)-2).

b/ The "Current" estimate is from the 2/11/94 calibration of the PSC Chinook Model.

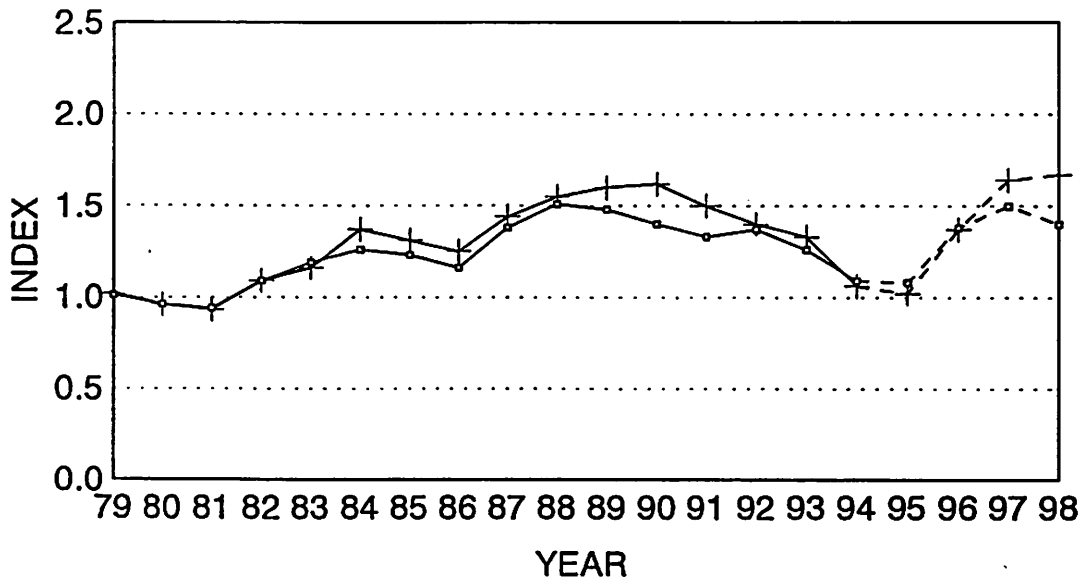
Alaska Troll Chinook Model Abundance Indices



Model Calibration
 ◯ Annual Report + February 94

Dashed lines denote uncertain forecasts

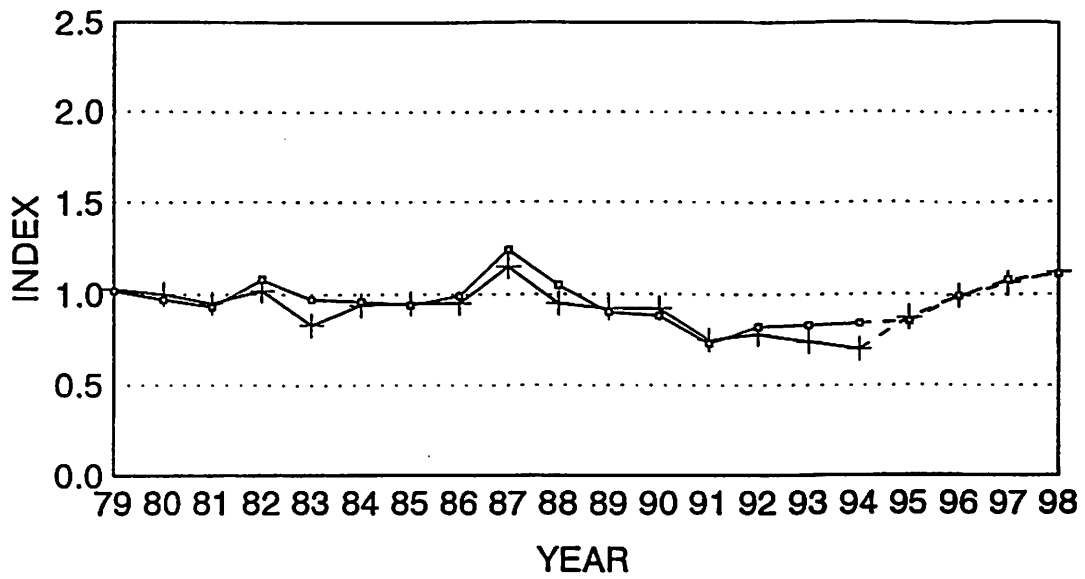
North Central BC Troll Chinook Model Abundance Indices



Model Calibration
 ◯ Annual Report + February 94

Dashed lines denote uncertain forecasts

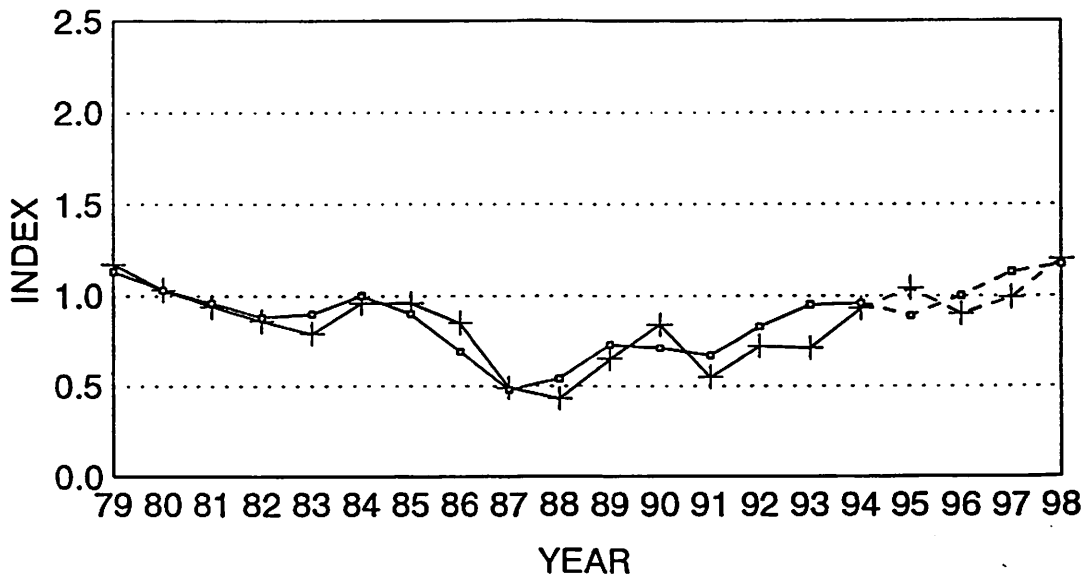
West Coast Vancouver Island Troll Chinook Model Abundance Indices



Model Calibration
 ○ Annual Report + February 94

Dashed lines denote uncertain forecasts

Georgia Strait Troll & Sport Chinook Model Abundance Indices



Model Calibration
 ○ Annual Report + February 94

Dashed lines denote uncertain forecasts