MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director

DATE: September 17, 1992

SUBJECT: Staff Tasking

ACTION REQUIRED

Review proposals received, current tasking, and give staff direction.

BACKGROUND

Item D-9(a) provides a summary of the current status of staff tasking. This list includes some items which are completed or near completion, but many items which still require substantial work by staff.

There is one item of note which the Council may wish to revisit under this discussion - the seasonal allocation of Pacific cod in the BS/AI. Though there is a current draft amendment analysis before the Council which deals with allocating Pacific cod to specific gear types, the analysis for seasonal allocation was requested by the Council last year, and due to the press of other business, has not been completed. The North Pacific Longline Association (NPLA) has, however, contracted with LGL Research Associates to perform a preliminary analysis of this issue. That analysis is available for Council review. The Groundfish Plan Teams have reviewed the analysis and feel that it provides a very solid basis for further development of an EA/RIR/IRFA, if the Council wishes to go forward with this amendment.

Item D-9(b) is a request from NPLA for the Council to proceed with this amendment.

STATUS OF COUNCIL TASKING

SEPTEMBER 20, 1992

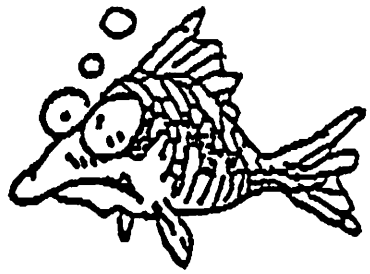
ACTION	STATUS	TASKING
REPORTS		
1. Rockfish management	Report in Sept	Center/Region/ADFG/Council
2. Discard issue	Report in Sept	Council/Center/Region
3. Total wt measurement	Report in Sept	Region
4. Interactive Comm.	Report in Sept	Region
5. Crab catcher vess observers	Report in Sept	ADFG
REGULATORY AMENDMENTS		
1. CDQ criteria and proposals	Comment on PR in Sept Review proposals	Region/State
2. Insh-offsh/CDQ bycatch	Initial review in Sept	Council/Region/Center
3. Performance pelagic trawls	Final action in Sept	Region
4. 1993 Rept/record requirements	Comment on PR in Dec	Region
5. Observer requirements 1993	Initial review in Sept	Region/Center/Council
6. Donut Hole prohibitions	Update in Sept	Region
7. Fixed gear halibut PSC	Final action in Sept	Council/Center
8. Prohibit landing of undersized halibut from beyond EEZ	Proposed rule to WDC in Oct	Region/Center
9. Require offloading of PSC species caught beyond EEZ	Proposed rule to WDC in Oct	Region/Center
10. Standard PRRs	Proposed rule to FR in Sept	Region
11. Pollock roe-stripping PRR	Proposed rule to FR in Sept	Region

ACTION	STATUS	TASKING
12. Define legal gear types	Review in Sept	Region
PLAN AMENDMENTS		
1. Moratorium	Submit to SOC Review in October	Council/Region
2. BSA-18 insh/offsh	Submit to SOC in Sept	Council
3. Bycatch rate std 1992 (amd19/24)	Final rule to DC in July Effective Sept	Region
4. Sablefish/Halibut IFQs	Submit to SOC Review in Sept	Council/Region
5. NPFR Plan	Submit to SOC Review in Oct	Council/Region/Center
6. GOA-26 King crab closures/ BSA-21 trawl halibut PSC & Pot exemptions from PSC	Submit to SOC Review in Sept	Council/Region/Center
7. Trawl test zones A 21/27	Send to WDC in July; Indiv comments on PR	Region
8. Pref allocations of cod	Initial review in Sept	Center
9. Opilio OY	Initial review in Dec	Crab team
10. Seasonal allocations of cod	Pending staff availability	No assignment
11. EGOA Closure	Final action in Sept	ADFG/Council/Center
12. Pribilof closures	Initial review in Sept	ADFG
13. Salmon bycatch	Initial review in Dec	ADFG
14. B season delay/excl reg area	Initial review in Sept	Council/ISER/Region
15. Sitka block/Hegge block 1000 pd floor	Discussion doc in Sept	State
16. Comprehensive Rational Plan	Discussion paper in Sept	Council

ACTION	STATUS	TASKING
OTHER ACTIONS		
1. June 24, 1992 control date	FR notice to WDC in Oct	Region
2. Herring PSC inseason adjust	FO (3-day action) for misspecification	Region/ADFG
3. Explain length overall & Explain miles=n.m./Walrus Is.	Interpretive rule	Region
4. Annual EA for Specs	Review in Dec	Region

AGENDA D-9(b)
SEPTEMBER 1992

North Pacific Longline Association



September 22, 1992

Mr. Richard B. Lauber, Chairman
North Pacific Fishery Management Council
605 West 4th Avenue
Anchorage, AK

RE: Seasonal Apportionment of Pacific Cod TAC

Dear Rick:

The Council has repeatedly called for analysis of a proposed amendment to provide authority for the seasonal apportionment of BSAI Pacific cod TAC. The proposal essentially calls for an extension of authority now existing for seasonal apportionment of pollock TAC.

At its June meeting in Sitka the Council reviewed a DRAFT analysis of the issue prepared by LGL Alaska Research Associates, Inc., and referred it to the Plan Team for review. At a recent Plan Team meeting in Seattle the document was said to be a comprehensive compendium of available data, a neutral presentation of complex issues, a good basis for cod management - precisely the characteristics intended by the authors and the sponsors.

The time-consuming task of gathering and formatting biological data has been completed; all that remains is economic analysis of the Council's proposed alternatives. The alternatives present a range of extremes suitable for analysing a general framework authority. Within the extremes we have identified an apportionment scheme which could be used to manage the 1993 fishery.

WE RESPECTFULLY REQUEST THAT THE COUNCIL DIRECT THE PLAN TEAM TO COMPLETE ANALYSIS OF THE AMENDMENT FOR FINAL COUNCIL REVIEW IN DECEMBER.

The merits of the proposal have been discussed exhaustively, and need not be revisited. Recent events have suggested yet another valuable use for this authority, however - a limitation on the amount of cod TAC which can be taken in the summer months of June, July and August. There are two reasons for such a limitation. First, cod are not in good physical condition in this post-spawning period.

4209 21st Avenue West, Suite 300, Seattle, Washington 98199
TEL: 206-282-4639; FAX: 206-282-4684

Market demand and price are low. It is far wiser to harvest and sell cod in the winter when product recovery rates and prices are considerably higher. Second, longline fisheries in the BSAI have experienced particularly high halibut PSC bycatches during the summer months. Limitation or elimination of the summer fishery would reduce halibut bycatch and mortality substantially. It might be necessary to allow some fishing during the summer months by pot fishermen and by small longliners. For example, a 65%, 10%, 25% split for the trimesters described in the analysis might be suitable to all parties. It seems likely that a compromise could be reached on this issue.

Industry has sponsored the bulk of the analysis required for the seasonal apportionment proposal. We request that the Council now follow through by scheduling economic analysis of its selected alternatives for final consideration in December.

Thank you for your attention.

Sincerely,

Thorn

Thorn Smith

AGENDA D-9
SEPTEMBER 1992
SUPPLEMENTAL

KODIAK LONGLINE VESSEL OWNERS' ASSOCIATION

326 CENTER AVENUE, P.O. BOX 135
KODIAK, ALASKA 99615
(907) 486-3781 FAX (907) 486-2470

HALIBUT • SABLEFISH • PACIFIC COD • CRAB

September 18, 1992

Mr. Steve Pennoyer, Regional Director
NATIONAL MARINE FISHERIES SERVICE
P. O. Box 21668
Juneau, Alaska 99802

SEP 18

SENT BY FAX: 586-7131

Dear Steve,

We would like to request that National Marine Fisheries Service implement a regulatory amendment which changes the allowable percentage of retention for Greenland turbot in the Bering Sea/Aleutian Islands.

In 1992 the retainable amount was 1% in the Pacific cod fishery and 20% of the sablefish fishery. At present with most fisheries closed which would take Greenland Turbot as bycatch, it appears that over 75% of the quota remains unharvested.

We realize that the trawl fleet has experienced high bycatch rates of halibut in the directed turbot fishery and don't feel that it is appropriate to raise their percentage of allowable retention. However, that case does not apply to the longline fleet. We would ask that you consider implementing a regulatory amendment which would allow longline vessels to retain 5% of the Greenland turbot in the Pacific cod fishery and 20% in the sablefish fishery. This allowance would more closely approximate real turbot bycatch in certan areas of the BSAI management area, specifically in the Aleutian Islands area. We are aware of at least several vessels which were in a constant discard situation with the retention level set at 1%.

Approximately 4,500 metric tons of Greenland turbot remain unharvested and this equates to a value of about $9,000,000 which has been foregone due to the low retention amount allowed for the longline fleet.

Let me thank you very much for your consideration of this matter.

Sincerely,

Linda Kozak

Linda Kozak
Director

cc: Rick Lauber, Chair
North Pacific Fishery Management Council

T. Smith

NPLA Proposal for 1993 BSAI Cod Management

NPFMC - September, 1992

I. Complete Analysis of Seasonal Apportionment Amendment

A. Task Plan Team to Complete Economic Analysis of Identified Alternatives - for Council Reveiw and Approval in December (LGL has done most of the analytical work)

1. Status Quo - All TAC Available January 1
2. Start Season September 1 (TAC Available Then) - Discuss Rationale (Product Quality, Market Demand, Price)
3. Preferred Alternative - 65/10/25 Trimester Apportionment of TAC (January - May, June - August, September - December), Published for Public Comment

    a. Based on Recent Historical Catch, but
    b. Freezer-Longliner Effort Deayed to Third Trimester (Product Quality, Halibut Bycatch Reduction)
    c. Proportions Could Be Amended after Public Comment

B. Implement Early in 1993 by Emergency Rule or Regulation (Retroactive)

II. Seasonally Apportion Longline Halibut PSC

A. Publish Proposed Apportionment for Comment - Decision in December (Amendment 21 Authority), E/R or Retroactive Regulation
B. Trawl PSC Apportionment Authority Exists

III. Select Fair and Realistic Longline Halibut PSC Cap

IV. Develop and Analyse Careful Release Requirement (Longline Halibut PSC)

A. Include "Shaking" Alternative
B. Rule of Reason - 75%
C. Fixed First-Year Assumed Mortality Rate
D. Extrapolate Observer Data
E. Implement by E/R or Retroactive Regulation

V. Review Cod Bycatch and Retention Limits in Other Fisheries - YFS/O Flats

AGENDA D-9
SEPT 1992
SUPPLEMENTAL

THE HIGHLINERS ASSOCIATION

4055 21st Avenue West, Suite 200
Seattle, Washington 98199

Phone: (206) 285-3480
Fax: (206) 283-8263

9/21/1992

MEMORANDUM

DATE: September 17, 1992

TO: North Pacific Fishery Management Council

FROM: The Highliners Association, Technical Advisor

SUBJECT: Reduction in Unmarketable Small Pollock Taken in Directed Pollock Fishery - A Proposal

It has become increasingly obvious to all sectors of the Alaska fishing community that small mesh, multi-layer codends have led to significant levels of bycatch in the pollock fisheries conducted in the Bering Sea and Gulf of Alaska. According to the National Marine Fisheries Service figures, pollock discard (bycatch) constituted 7% and 8% in these two areas, respectively, in 1991 and is expected to reach levels of 10% and 14% in these respective areas in 1992. The high bycatch levels in 1992 apparently reflect a strong increase in age-two recruits, coupled with continued use of multi-layer codends by elements of the pollock fleet.

The undersized pollock bycatch in 1992 constitutes an economic loss to the fishing industry, but the perception of wastage in fisheries also presents a growing threat--not just to the pollock fishery, but also to all sectors of our industry.

The nature and character of the undersized pollock bycatch problem has been increasingly discussed by many groups within the trawl industry. Earlier, The Highliners Association wrote to all elements of the trawl industry encouraging operators not to use double mesh, particularly on the upper portions of the codends. Although we received a number of positive comments regarding this proposal, many vessels could not respond before the pollock "B" season fishery began (1992) because of the lateness of our communiqué.

The theoretical basis for eliminating undersized fish taken in trawl fisheries through the use of mesh size regulation is well founded in the literature. In most instances mesh size regulations have been adopted to (1) maximize yield per recruitment and/or (2) minimize waste. Obviously at times these goals are not mutually exclusive. In order to deal with the consequences of bycatch losses in terms of Council-established TAC quotas, bycatch is added to the total retained catch. Although this practice may deal effectively with the conservation aspects of management, it does not deal with the underlying economic and waste losses generated by current fishing practices.

As Council members well know, mesh rulings are used to regulate a variety of world fisheries. Large mesh sizes are most often fostered by management agencies when there is evidence that fishing practices are harvesting too many fish before cohorts reach critical size or when a significant harvest of unwanted, undersized, and unmarketable fish occurs. The adaptation of mesh regulations has as its primary assumption that most of the fish passing through the net survive. Although this has not in all instances been supported by experiments designed to test this hypothesis, in most cases survival of roundfishes (hake, cod, and Atlantic pollock) subjected to such tests has been very good (Carr et al. 1992, Main and Sangster 1991, Jacobson and Thomsen 1992.)

Recent underwater observations of trawls in action have shown that the vast majority of fish escaping from codends escape through the upper portion of the codend and for the most part just forward of fish captured in the codend (Wardle 1992, Castro and DeAlteris 1992). This escapement pattern is apparently enhanced by both water flow and visual stimuli. Regardless of the nature of the stimuli, increasing the mesh size and the maintenance of open mesh in the upper portion of the codend is now considered essential for codend selectively and reduction in number of undersized fish taken.

Currently two large markets provide for Alaska pollock--the surimi market in Japan and the fillet/block market in the U.S. and Europe. A much smaller but viable market for pollock also exists in Korea and Japan for headed and gutted product. These market outlets and product forms result in a spectrum of lower sizes generally acceptable to buyers. Surimi trawlers will generally process fish 12" and greater, while vessels targeting on fish for the fillet (block) and H&G market prefer somewhat larger fish (> 14"). Thus for all practical purposes regardless of market destination of the fish, most trawlers discard or make meal out of pollock less than 31 to 32 cm in length. The greatest portion of the current discard appears to be two- and three-year-old fish ranging from 20 to 30 cm in length. Hence, in terms of minimizing current discard waste, a mesh regulation designed to significantly reduce catches of pollock less than 31 cm long seems highly desirable.

At the present time codend mesh used in the pollock fishery ranges from 3.5" to 4.5" (89 mm to 114 mm). Codend design may include either single or double mesh with various amounts of "hang in" on the riblines. As currently measured, stretch measure includes one knot, so actual "between knot" (BK) mesh size will vary depending on twine diameter and net material used. Escapement will depend on mesh size

used, twine size, twine configuration, "hang in," and codend net geometry during fishing operations.

The consequence to industry of the current bycatch levels may be related directly to the discarded catch. These values can be estimated using NMFS figures for 1991 and estimated losses for 1992 based on bycatch rates recorded through June 1992. Based on an estimated bycatch of 95,130 mt in the Bering Sea and 7,520 mt in the Gulf of Alaska for 1991 and 135,000 mt in the Bering Sea and 11,200 mt for the Gulf for 1992, and an average ex-vessel price of 10 cents for 1991 and 12 cents for 1992, the loss for these years is estimated at $22.6 million for 1991 and $38.7 million for 1992.

Not a great deal of information has been collected on the size spectrum and net selectivity of current codends used in the Northeast Pacific pollock fisheries. Early studies on U.S. foreign joint ventures showed that most pollock designated for surimi trawlers ranged from less than 29 cm to about 50 cm. As noted earlier, current practices lead to catch ranges from about 20 cm to 55 cm. Data collected by the NMFS would seem to confirm observations that early joint venture and domestic fisheries (1978-1980) caught or retained smaller fish than is the current practice (1984-1990). However, these data should not be confused with actual net selectivity studies because the samples do not include discards (Exhibits 1a, 1b, and 1c) and mesh sizes are undefined. The curves reflect the proportion of fish at various lengths taken by various fisheries during the years noted.

We are aware that several experimental U.S. codend net selectivity studies for Alaska pollock which will help to address this issue are underway. The results are not yet available. However, in a cooperative study carried out by Japanese and Soviet investigators, selection curves for Alaska pollock based on 45 mm[1] diamond single mesh (trouser codend), 45 mm single-layer, double-twine, diamond mesh (standard codend), 45 mm square (trouser codend), and 55 mm square mesh standard codend have been described. Note that these mesh designations are "bar" measure and should be doubled to convert to stretch mesh measurements commonly used in the Pacific Northwest and Alaskan fisheries.

Details of the selectivity experiment and results are shown in Exhibits 4 and 5. The 90 mm (45 mm bar measure) diamond single mesh trouser codend selection occurred between about 18 cm and 32 cm with a 50% retention of pollock about 25 cm in length. It is perhaps somewhat surprising that this codend caught smaller fish than the 90 mm diamond double twine codend, but it should be noted that the "hang in" on this codend was only 5%, compared to 7% for the double mesh codend. The 90 mm (45 mm bar measure) square mesh trouser codend caught substantially larger fish, the selectivity range being between about 21 cm and 40 cm. Finally, a very significant increase in size selectivity occurs for the 110 mm (55 mm bar measure) square mesh. For this codend the selectivity range occurs between 31 cm and about 50 cm.

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1 All measurements in this experiment refer to bar mesh measure. Stretch mesh measure will be double the noted value.

In terms of current U.S. fishing practices, both the 90 mm single and double diamond mesh catch substantial amounts of fish below 30 cm which may be discarded at sea or on shore. The 90 mm test using square mesh caught very small quantities of fish less than 30 cm while harvesting most fish 35 cm and larger (>70%). Assuming that fish 31 cm and larger will be used by the surimi fleet, then 90 mm stretch measure square mesh codend would seem to provide a selectivity range appropriate for this fishery. On the other hand, a somewhat larger mesh size might be appropriate for vessels targeting on fish for the fillet/block and H&G markets, e.g., 100 mm square mesh, a selectivity curve between that noted for the 90 mm and 110 mm square mesh curves (Exhibit 3).

The options noted above are based on current market selection and do not consider yield per recruit considerations. In 1992, NRC undertook an extensive review of the yield per recruitment for Alaskan pollock. The essential elements of this study are attached in Exhibit 4. The data show that the weight growth of a pollock cohort (year class) increases rapidly during its first few years of life and that the cohort maximizes its weight sometime during its fourth year when the average size is somewhat greater than 38 cm (Exhibit 5).

Several facts are obvious from Exhibit 5. First, the weight of a particular year class doubles, taking into account natural mortality, between ages one and three. Second, the cohort weight is maximized between ages four and five. Finally, the decay or decline in the biomass weight is relatively slow between ages five and seven. The consequence of fishing as it relates to potential yields, considering various sizes of recruits (30 to 45 cm) and fishing rates (F), are shown in Exhibits 6 and 7.

These data suggest that at a low fishing rate of (F=.1), there is little value from a yield per recruit concept of increasing size of entry above 30 cm. Even at a moderate fishing rate of .2, yield from the fishery is not improved by increasing size of entry over 30 cm. On the other hand, significant catches of small pollock caught and discarded do result in a major loss of catch to the fishery and the future of biomass of the exploitable population--that is, the fish discarded would normally double their weight by age four. In terms of rational use, eliminating the catch of undersized discards would:

1. Greatly increase the economic value of the fishery by increasing the tonnage which can be processed

2. Increase the future biomass of the pollock >30 cm

3. Reduce mortalities on young fish considered important to marine mammal and bird populations

4. Significantly reduce perceived biological waste

5. Increase the size of the spawning biomass

The question is what is the most desirable mesh size, codend structure, etc., to be adopted and put into regulation. It is very apparent that codend escapement of undersized fish will depend on mesh and twine size, single or double twine, or single or double mesh structure, square or diamond webbing, and "hang in" for diamond webbing. Of these variables, escapement opportunity between knots and the geometry of the webbing, particularly in the upper section of the codend and intermediate, are most important.

An effective mesh regulation should consider, among other factors:

1. Minimum mesh opening expressed in between knot measures (BK)

2. Single layer construction for the top panel of the codend

3. Presence of chafing gear, wire straps, and other accessories that might mask or constrict the mesh opening in the upper half of the codend

4. Mesh size in the intermediate

5. Where diamond mesh is used, a minimum ribline "hang in" and ideally a non-stretchable ribline material used

Based on these considerations, The Highliners Association, in discussion with other sectors of the industry, proposes that a mesh regulation be implemented requiring codends to be designed with (Exhibit 8):

1. At least four riblines made of material having little elasticity

2. The top upper portion of the codend (between upper riblines) made of 90 mm single-layer square mesh (BK measurement should not be less than _____ mm)

3. All diamond mesh used in the codend hung in at least 7%

4. Chafing gear and other accessories other than strengthening straps and choker straps be confined to the lower half of the codend

EXHIBIT 1a

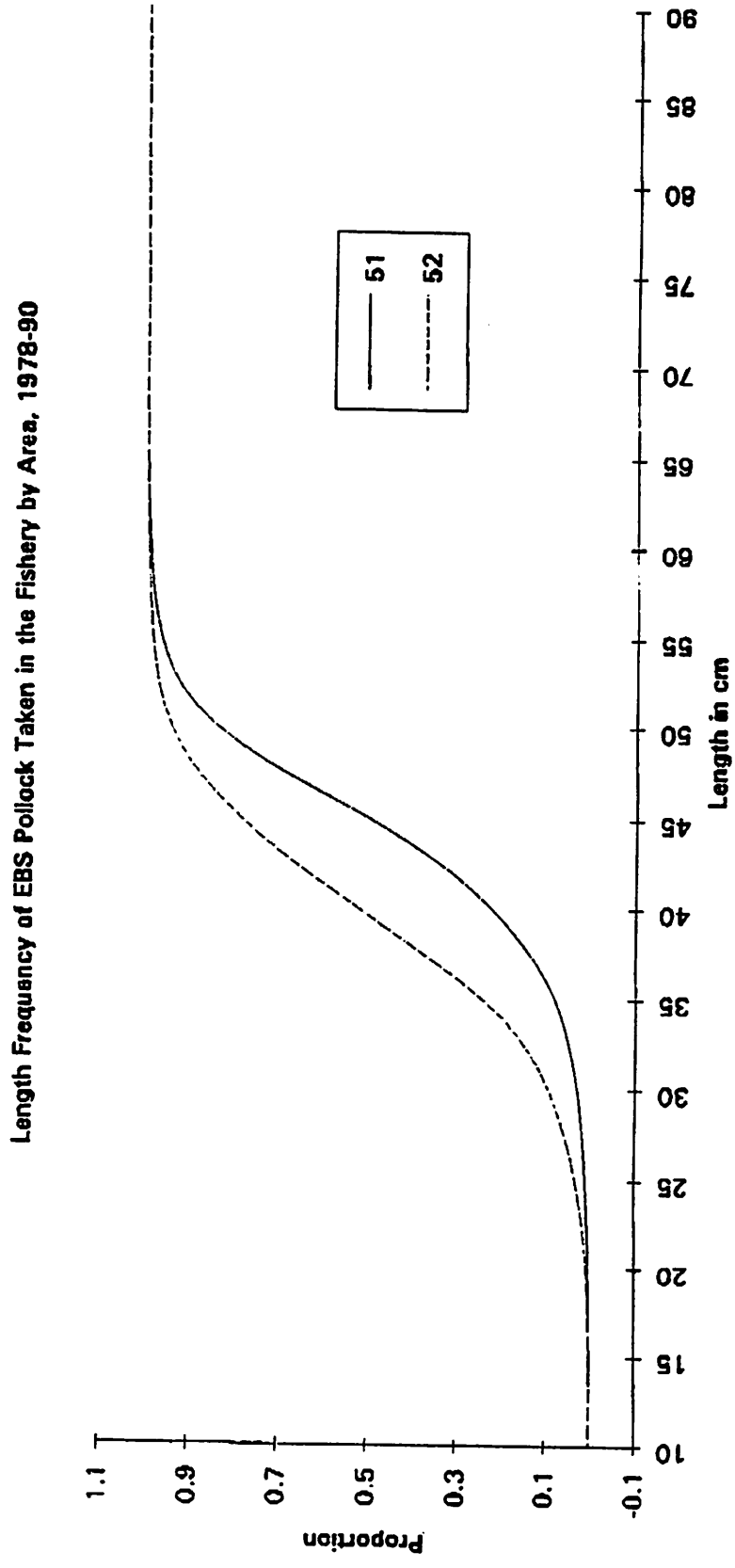
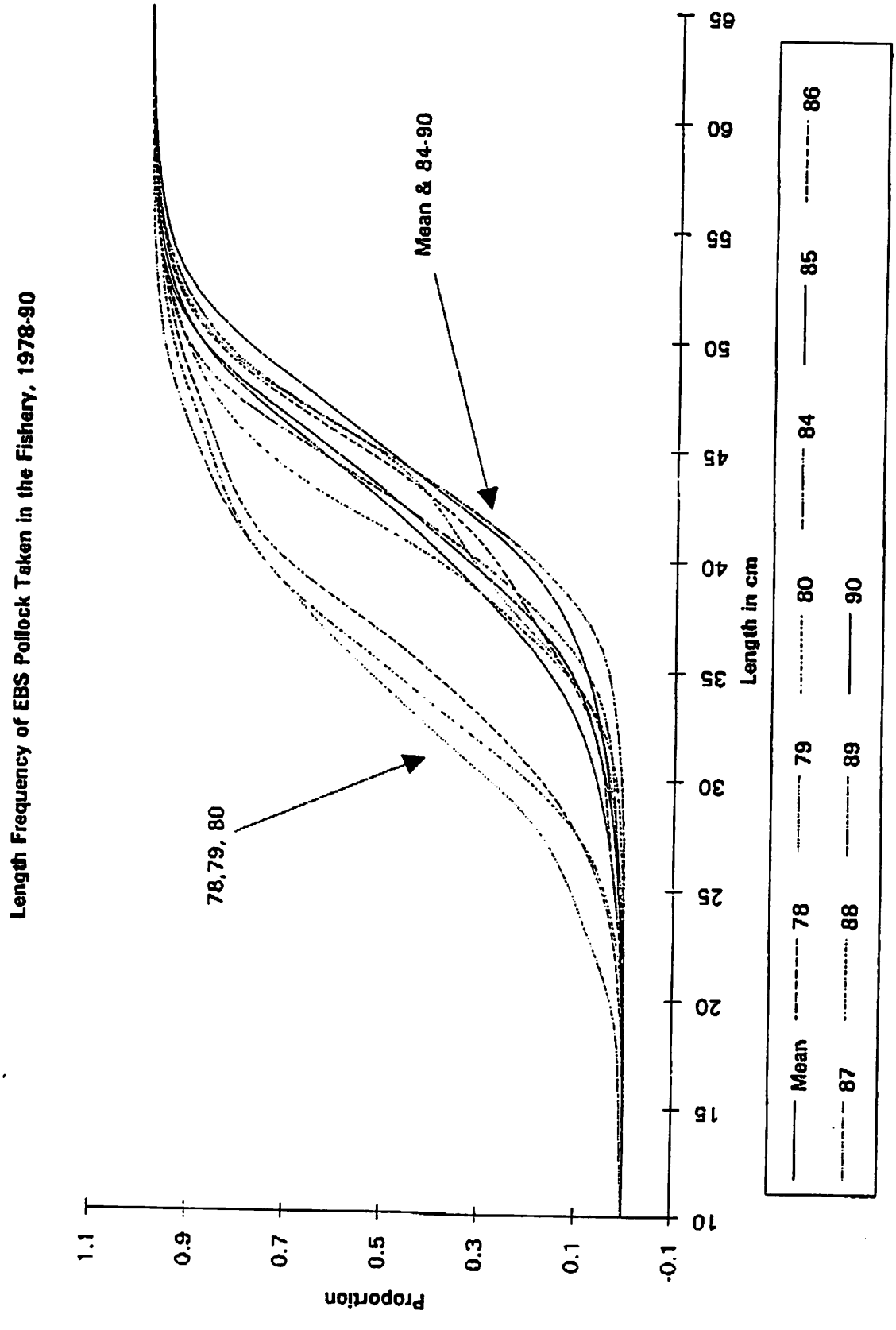
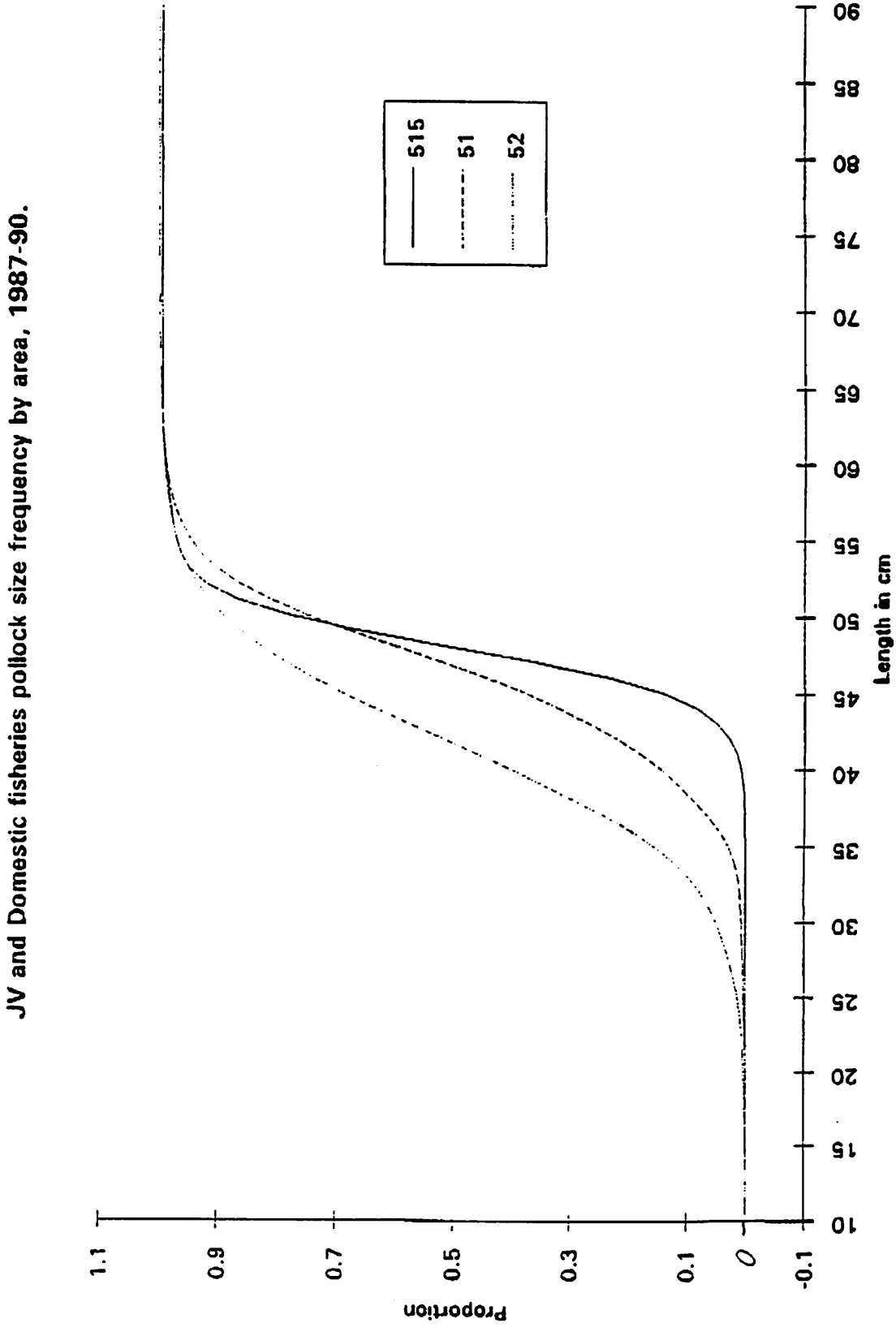

Length Frequency of EBS Pollock Taken in the Fishery by Area, 1978-90
51
52
Length in cm
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
Proportion
-0.1
0.1
0.3
0.5
0.7
0.9
1.1

EXHIBIT 1b

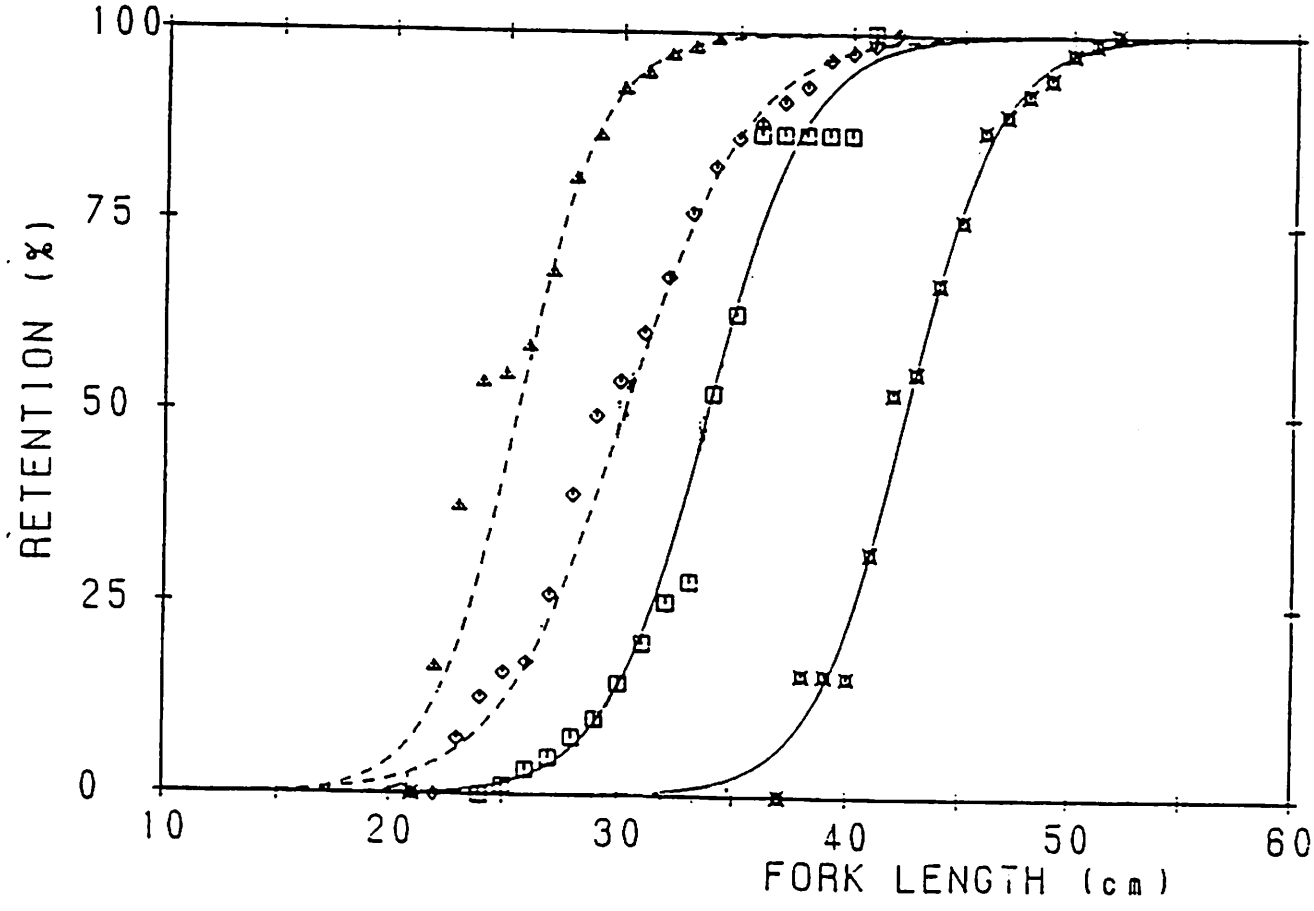

Length Frequency of EBS Pollock Taken in the Fishery, 1978-90
Mean & 84-90
78,79, 80
Proportion
1.1
0.9
0.7
0.5
0.3
0.1
-0.1
Length in cm
10
15
20
25
30
35
40
45
50
55
60
65
Mean
78
79
80
84
85
86
87
88
89
90


JV and Domestic fisheries pollock size frequency by area, 1987-90.
515
51
52
Proportion
1.1
0.9
0.7
0.5
0.3
0.1
0
-0.1
Length in cm
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90

Details of the selectivity experiment.

Date	Type of codend and mesh size(1 bar)	The hanging ratio	number of experiment	Total catch
'90 9/11-16	Single body Dia 45mm(knotted)	7%	11	21.01 ton
'90 9/17-19	Single body , Dia double 45mm(knotted)	7%	10	12.10 ton
'90 10/24-11/7	Trouser Dia and Squ 45mm(knotless)	5% (diamond)	9	7.75 ton
'89 10/12-11/13	Single body Squ 55mm(knotless)	—	13	11.84 ton

EXHIBIT 3



Selection curves for Walleye pollack

△ 45mm diamond (trouser) □ 45mm square (trouser)

◇ 45mm diamond ⌑ 55mm square

THEORETICAL BASIS FOR SIZE MANAGEMENT

Establishing size limits on fish has been used as a conservation management technique in order to 1) prevent unnecessary waste, 2) limit harvest to sizes acceptable to markets, 3) postpone harvest until maturation has occurred, 4) manage production from the biological material produced by nature, and/or 5) maximize the economic return from the available biological surplus. Although any one or a combination of these objectives may form the basis of a management strategy, most frequently size limits are used in association with control of fishing effort to optimize the yield from a given number of recruits.

The yield-per-recruit concept is based on the fact that any group of animals born or spawned together (a cohort) will maximize their aggregate weight at some time in the life span of the cohort. Initially, as larvae, they will have a relatively small biomass. As they begin to grow, some will die but the remaining animals will have an increased total biomass. At some point in the life span of the cohort, the group of animals spawned together will loose as much material to death as it gains from growth. At this point in the group's life history, it will have achieved a maximum biomass. During subsequent periods, the cohort biomass will decline because losses due to death will exceed the aggregate weight growth of the group. Finally, all the animals of the original cohort will die, and the biomass will cease to exist (Figure 1).

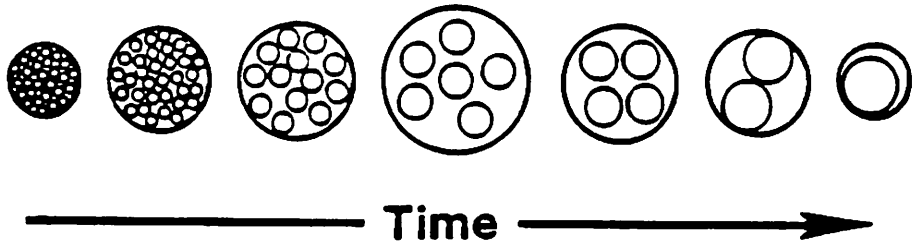


Figure 1. A diagrammatic illustration of changes in a cohort "energy" system with time.

From a use strategy viewpoint, the maximum yield from any group can be attained at the point in the life history of the cohort that maximum biomass occurs. This point in time is frequently referred to as the critical age or size of the fish. An example of the concept of maximizing the yield per recruit is that of a fruit tree, e.g., apple. If you allow your children to pick all the apples while they are green and small, the total weight of harvest will be relatively small. If, on the other hand, you pick them as they ripen and mature, you will get a larger yield. If you wait too long, most of the apples will fall to the ground and be lost.

The yield-per-recruit strategy in fisheries follows the same approach; that is, instituting a fishery at a size and with the amount of effort that allows you to maximize the yield from whatever nature produces. Inasmuch as it is physically impossible to generate enough effort to harvest all the fish available in a short time frame, the fishery must begin before the critical age occurs and extend beyond the critical age. The trick is to match fishing effort with the growth characteristics of the fish in a manner that provides the greatest biological yield. From an economic viewpoint, if different values are placed on different sizes of fish, then the manager may wish to consider biological attributes of the population in the light of economic objectives, e.g., to maximize the dollar value of the harvest.

In actual practice, managers frequently couple the yield-per-recruit approach with some pragmatic consideration of a spawner recruit relationship. Thus, the allowable effort seldom reaches that required to maximize yields using the yield-per-recruit relationship.

The growth and decay of a pollock population in the absence of a fishery was examined for constant annual survival rates of 0.70 and 0.74 and for age-specific rates given by Wespestad (personal communication, 1982). From Ricker's (1958) table of exponential functions, the annual survival rates of 0.70 and 0.74 correspond to instantaneous natural mortality rates of 0.35 and 0.30, respectively.

The shape of the growth and decay curve (based on 1000 recruits) was little affected over the range of survival rates examined. The indicated weight of the population was greatest between ages 3 and 6, peaking at age 4 for a constant survival rate of 0.70 and at age 5 for a constant survival rate of 0.74 and for Wespestad's age-specific rates (Figures 2, 3 and 4). As can be seen, the maximum biomass occurs at age 4 with relatively small reduction in size of the biomass from ages 4 through 7. Data used to support these graphs are given in Tables 1-3. A graphic illustration of the growth and decay of a pollock cohort having an annual average natural mortality rate of 0.3 or survival of 0.7 is given in Figure 5.

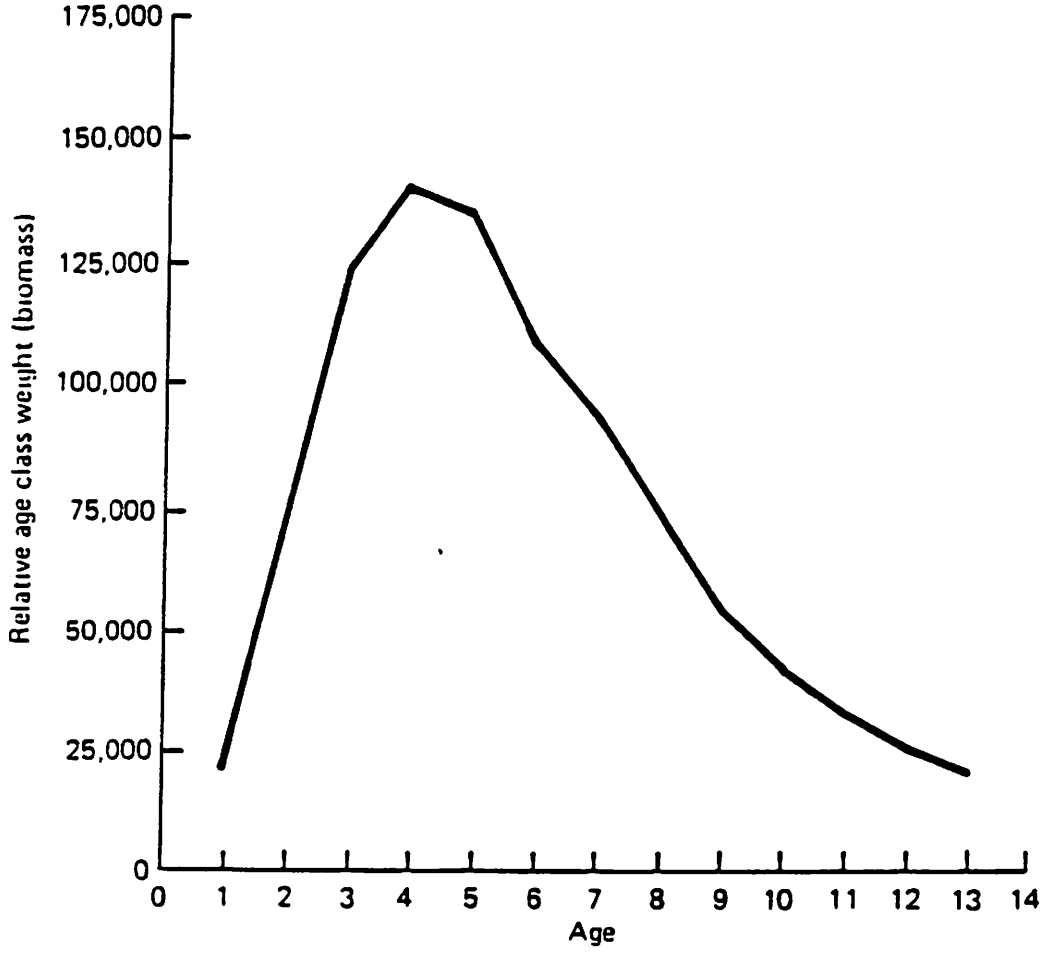


Figure 2. Relative age class strengths at indicated ages using mean body weights given by Smith (1981, Table 33-6) and a constant annual survival rate of 0.70.

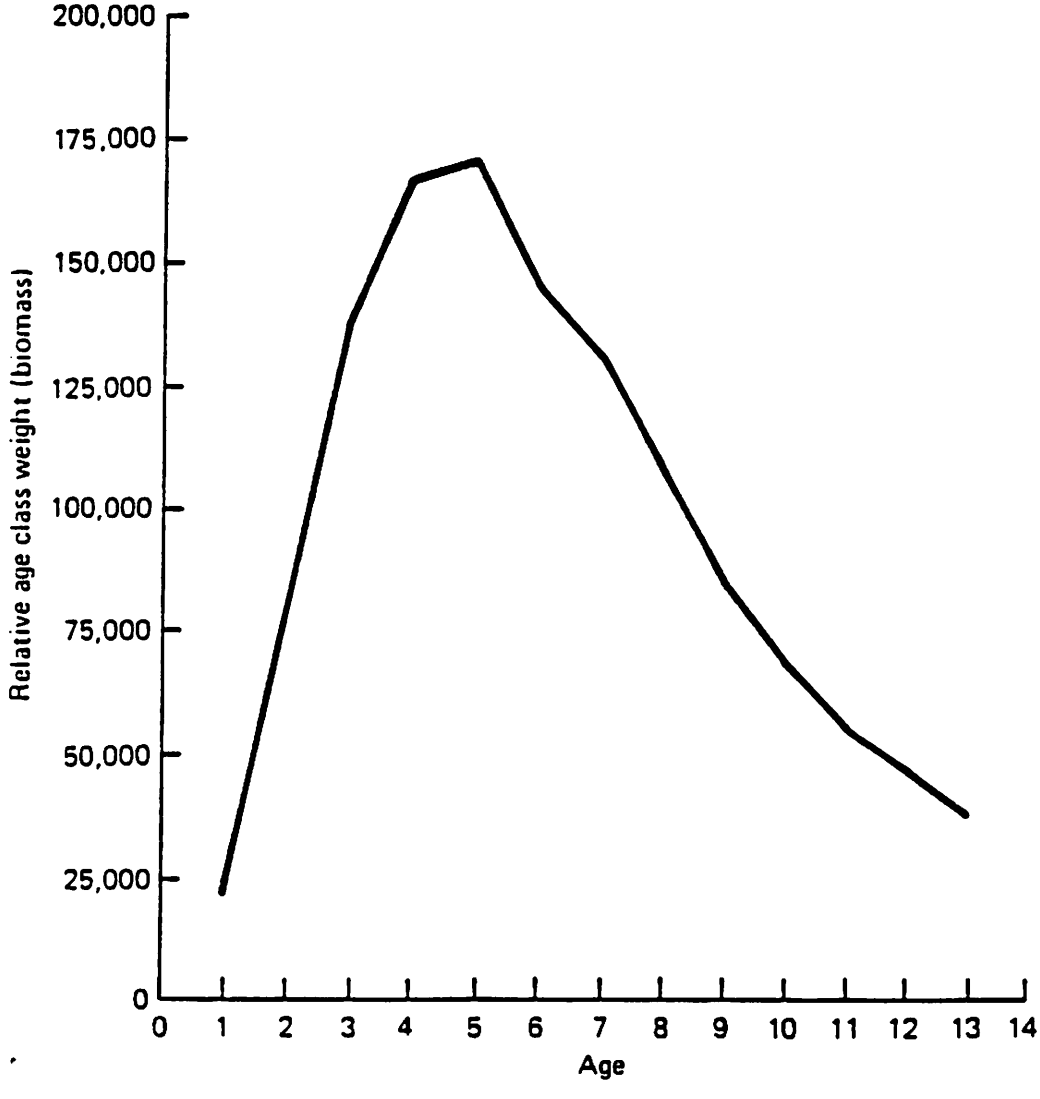


Figure 3. Relative age class strengths at indicated ages using mean body weights given by Smith (1981, Table 33-6) and a constant annual survival rate of 0.7408.

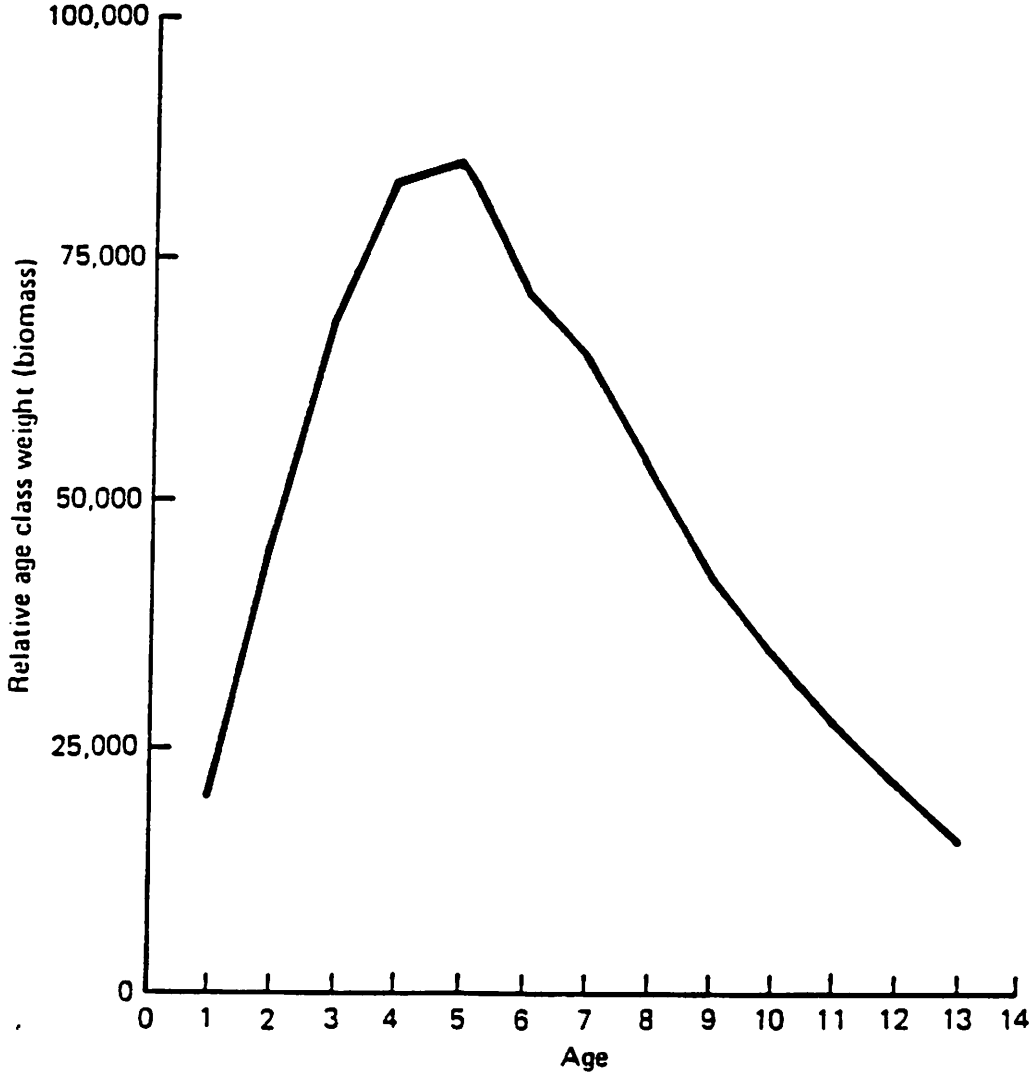


Figure 4. Relative age class strength at indicated ages using mean body weights given by Smith (1981, Table 33-6) and age-specific instantaneous natural mortality rates given by Wespestad (1982), converted to corresponding annual survival rates.

Table 1. Growth and decay of pollock using figures from Smith (1981, Table 33-6) for mean body weights at indicated ages and lengths and a constant annual natural mortality of 0.3 (0.7 survival).

AGE	MEAN FORK LENGTH IN cm.	MEAN BODY WEIGHT IN GRAMS	ANNUAL SURVIVAL RATE	NUMBER OF FISH	RELATIVE AGE CLASS WEIGHT
1	14.4	21.9	0.70	1000	21,900
2	24.7	105.2	0.70	700	73,640
3	33.0	251.0	0.70	490	122,990
4	39.0	409.6	0.70	343	140,493
5	43.5	565.0	0.70	240	135,600
6	45.5	650.9	0.70	168	109,351
7	48.7	796.6	0.70	118	93,999
8	50.6	892.6	0.70	83	74,086
9	51.6	945.4	0.70	58	54,833
10	53.2	1034.0	0.70	41	42,394
11	54.8	1125.0	0.70	29	32,625
12	57.3	1298.0	0.70	20	25,960
13	59.2	1436.0	0.70	14	20,104

Table 2. Growth and decay of pollock using figures from Smith (1981, Table 33-6) for mean body weights at indicated ages and a constant instantaneous natural mortality rate (M) of 0.3. From Ricker (1958), the annual mortality rate corresponding to an M of 0.3 is 0.2592, and the annual survival rate is 1-0.2592=0.7408.

AGE	MEAN BODY WEIGHT IN GRAMS	ANNUAL SURVIVAL RATE	NUMBER OF FISH	RELATIVE AGE CLASS WEIGHT
1	21.9	0.7408	1000.0	21,900
2	105.2	0.7408	740.8	77,932
3	251.0	0.7408	548.8	137,749
4	409.6	0.7408	406.6	166,543
5	565.0	0.7408	301.2	170,178
6	650.9	0.7408	223.1	145,216
7	796.6	0.7408	165.3	131,678
8	892.6	0.7408	122.5	109,344
9	945.4	0.7408	90.7	85,748
10	1034.0	0.7408	67.2	69,485
11	1125.0	0.7408	49.8	56,025
12	1298.0	0.7408	36.9	47,896
13	1436.0	0.7408	27.3	39,203

Table 3. Growth and decay of pollock using figures from Smith (1981, Table 33-6) for mean body weights at age and age-specific instantaneous natural mortality rates from Wespestad (1982) converted to annual rates.

AGE	MEAN BODY WEIGHT IN GRAMS	WESPESTAD'S VALUES OF M (INSTANTANEOUS)	CORRESPONDING ANNUAL MORTALITY RATE	ANNUAL SURVIVAL RATE	NUMBERS OF FISH	RELATIVE AGE CLASS WEIGHT
1	21.9	0.85	0.5726	0.4274	1000.0	21,900
2	105.2	0.45	0.3623	0.6376	427.4	44,962
3	251.0	0.30	0.2592	0.7408	272.5	68,398
4	409.6	0.30	0.2592	0.7408	201.9	82,698
5	565.0	0.30	0.2592	0.7408	149.6	84,524
6	650.9	0.30	0.2592	0.7408	110.8	72,120
7	796.6	0.30	0.2592	0.7408	82.1	65,401
8	892.6	0.30	0.2592	0.7408	60.8	54,270
9	945.4	0.30	0.2592	0.7408	45.0	42,543
10	1034.0	0.30	0.2592	0.7408	33.3	34,432
11	1125.0	0.40	0.3297	0.6703	24.7	27,788
12	1298.0	0.40	0.3297	0.6703	16.6	21,547
13	1436.0	0.40	0.3297	0.6703	11.1	15,940

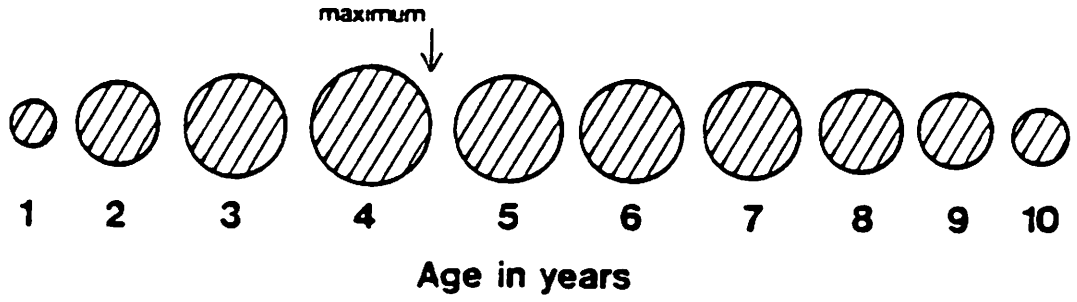


Figure 5. Relative size of biomass for Alaska pollock based on observed weights at age (as given by $W=0.075L^{2.977}$) and an annual survival rate of 0.7.

Simulation of 1000 pollock subjected to age-dependent natural mortality rates showing the resulting decline in population numbers and corresponding changes in population weight due to growth and mortality. The maximum biomass is obtained between 4 and 5 years of age. (Body weights given here and in Tables 10 and 11 are from a different source than those given in Tables 1-3. The differences do not affect the determination of relative biomass.)

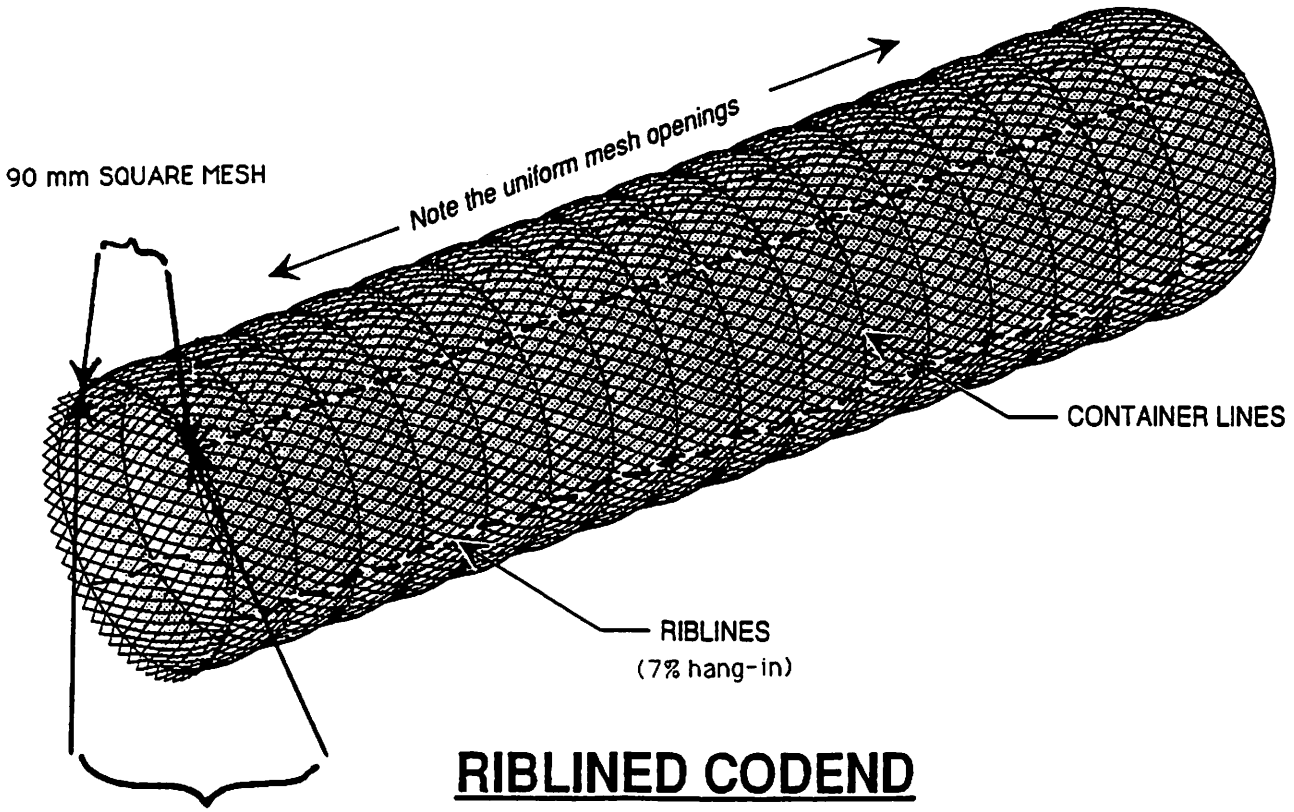
NUMBER FISH	AGE (YRS.)	LENGTH (CM.)	WEIGHT (GRAMS)	TOTAL BIOMASS (GRAMS)
427	1	13	16	6,952
273	2	24	95	25,809
202	3	32	225	45,450
150	4	38	379	56,618
111	5	43	532	58,942
82	6	46	672	55,154
61	7	49	793	48,195
45	8	51	893	40,215
33	9	52	974	32,496
25	10	53	1038	25,665
18	11	54	1089	19,938
12	12	55	1128	13,846
8	13	55	1158	9,530
6	14	56	1181	6,516
3	15	56	1199	4,012
2	16	56	1213	2.461

Eastern Bering Sea pollock yields calculated to result when fish enter the fisheries at four different sizes under stated conditions when F=0.1.

AGE	LENGTH (CM.)	WEIGHT (GRAMS)	YIELD (MT) AT SIZE OF ENTRY TO FISHERY 30 CM.	35 CM.	40 CM.	45 CM.
3	32	225	115,481	0	0	0
4	38	379	130,168	143,858	0	0
5	43	532	122,615	135,510	149,762	0
6	46	672	103,816	114,735	126,802	140,137
7	49	793	82,034	90,717	100,258	110,802
8	51	893	61,975	68,493	75,696	83,657
9	52	974	45,314	50,079	55,346	61,167
10	53	1,038	32,383	35,788	39,552	43,712
11	54	1,089	22,762	25,156	27,802	30,726
12	55	1,128	15,093	16,680	18,435	20,374
13	55	1,158	9,400	10,389	11,481	12,689
14	56	1,181	5,816	6,427	7,103	7,850
15	56	1,199	3,421	3,781	4,179	4,618
16	56	1,213	1,899	2,099	2,319	2,563
TOTAL YIELD (MT)			752,227	703,713	618,735	518,296

Eastern Bering Sea pollock yields calculated to result when fish enter the fisheries at four different sizes under stated conditions when F=0.2.

AGE	LENGTH (CM.)	WEIGHT (GRAMS)	YIELD (MT) AT SIZE OF ENTRY TO FISHERY 30 CM.	35 CM.	40 CM.	45 CM.
3	32	225	220,521	0	0	0
4	38	379	224,913	274,709	0	0
5	43	532	191,700	234,143	285,983	0
6	46	672	146,864	179,380	219,096	267,604
7	49	793	105,070	128,333	156,746	191,450
8	51	893	71,781	87,673	107,084	130,793
9	52	974	47,489	58,003	70,845	86,530
10	53	1,038	30,707	37,506	45,810	55,953
11	54	1,089	19,531	23,855	29,137	35,587
12	55	1,128	11,728	14,324	17,496	21,369
13	55	1,158	6,609	8,072	9,859	12,042
14	56	1,181	3,700	4,519	5,519	6,741
15	56	1,199	1,971	2,407	2,940	3,591
16	56	1,213	990	1,209	1,477	1,804
TOTAL YIELD (MT)			1,835,800	1,757,847	1,570,727	1,331,760



RIBLINED CODEND

100 mm or 110 mm or >
SINGLE OR DOUBLE LAYER
DIAMOND MESH, RESPECTIVELY

ISS INTERNATIONAL SHIPPING SERVICES, INC.

September 21, 1992

Mr. Rick Lauber, Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK 99501

re: Use of Foreign Vessels to Receive Seafoods Products in State Waters

Dear Mr. Lauber:

Attached please find a report we commissioned which details the substantial threats facing the seafood industry from current applications of the Magnuson Act. As the report points out, the U.S. seafood industry is heavily reliant upon the use of foreign tramper vessels to move its processed seafood products to their foreign markets.

Absent some immediate assistance from NMFS/NOAA, the entire industry and Alaskan coastal communities face economic upheaval.

We appreciate any support you and the Council may provide in highlighting the industry's concerns to NMFS/NOAA, the Secretary of Commerce, appropriate members of Congress and the Governors of Alaska, Washington and Oregon.

Sincerely,

Elwood Peterson, Director
International Shipping Services

cc: Congressional Delegations; Alaska, Washington and Oregon
Governors; Alaska, Washington and Oregon
Dr. John Knauss, Administrator, NOAA
Dr. Bill Fox, Director, NMFS
Dr. Steve Pennoyer, NMFS Regional Director, Alaska Region
NOAA General Counsel, Washington, D.C.
Ms. Lisa Linderman, NOAA General Counsel, Alaska Region

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Overview of Foreign Commerce/Transfer Problem

prepared for

International Shipping Services

by

Pacific Associates
119 Seward St., Suite 8
Juneau, Alaska 99801
(907) 586-3107

September 20, 1992

Executive Summary

The ISSUE: The Magnuson Act prohibits fishing and fishery support activities by foreign vessels in waters extending from the baseline out to three nautical miles.

- State waters are defined as those waters "inside the baseline", and those waters extending seaward of the baseline out to three nautical miles.

- NMFS/NOAA interprets transshipments of frozen/processed fish products for export from processors to foreign trampers to be a "support activity" when that activity occurs "at sea". "At sea" is interpreted as "all waters seaward of the baseline except for ports and barriers, and recognized roadsteads".

- Thus, transshipments of product are permitted if they occur in state waters shoreward of the baseline; they are an illegal activity if they occur in those state waters from the baseline seaward to three nautical miles, unless they occur in a recognized port or roadstead.

- Ports and roadsteads are generally found in the internal waters of the State. In a few areas, they are located in state waters seaward of the baseline (Sitka, for example).

The PROBLEM: The commercial fishing industry and dependent communities in Alaska rely upon transshipments of processed, frozen fish product in ports and roadsteads in state waters seaward of the baseline to move product to market. Most of these locations are not currently recognized by NMFS/NOAA as lawfully existing ports and roadsteads for foreign transfers.

- Recently, two Panamanian trampers were seized and fined for receiving fish product for export from U.S. processors while in state waters seaward of the baseline on the north side of St. Paul Island and Summit Island. The transfer activity occurred at locations which have historically been relied upon for the economic and efficient movement of product for export to market.

- The seizure of the two trampers highlights the fact that transfers which occur in state waters seaward of the baseline subject the foreign

tramper to seizure and forfeiture action, unless the location is one which NMFS/NOAA recognizes as a defined port or roadstead.

The IMPACT: The commercial fishing industry and dependent communities are economically threatened by this application of the Magnuson Act and by the classification of foreign cargo transfers in state waters seaward of the baseline as "fishing" or as "fishery support activity".

- The north side of St. Paul Island, historically used for transshipments of groundfish and crab, may no longer be legally used as a port or roadstead to transship product for export.

- The Togiak herring fishery is heavily dependent upon processors transshipping product for export to foreign trampers in state waters seaward of the baseline near Togiak. Waters inside the baseline in the area are too shallow for deep draft trampers and processors. Without the use of trampers, U.S. floating processors will not be able to process the entire Togiak harvest.

- Many other ports and roadsteads seaward of the baseline have been used by the industry, but continued use of these traditional areas for transshipment activity is not permitted, unless those locations are formally designated as ports or roadsteads.

SHORT TERM SOLUTIONS: NMFS/NOAA have pledged to work with the industry to resolve this problem. Clearly, these provisions of the Act (the definitions of "fishing", "activities in support of fishing", and "at sea") made sense when directed foreign fishing was legal in the EEZ, but the current situation disadvantages American fishermen and dependent communities.

- NMFS/NOAA has pledged to work with the industry to identify and approve ports and roadsteads within state waters seaward of the baseline where a historical commercial nexus can be established between the port or roadstead and a nearby village.

- NMFS/NOAA may be persuaded to change their interpretation of fishing so that activity occurring after a product has been processed and consigned for export is not defined as fishing. In this manner, fishery

products for export, like timber and other products, can then be transshipped wherever the Customs Service permits (either inside the baseline or in state waters seaward of the baseline).

- NMFS/NOAA may be persuaded to change their interpretation of "at sea" to mean those "waters three nautical miles seaward of the baseline" and out to 200 nautical miles from the baseline. Through this approach "at sea" would apply only to the waters of the EEZ. As a result, transfer activities could occur in state waters seaward of the baseline.

LONG TERM SOLUTION: The Act needs to be amended to ensure that the domestic industry is not threatened by, and does not suffer from, the unintended but injurious applications of the law.

- Amend Section 307 (2) (A) by adding "(except transporting product for export)" after "fishing".

- Amend Section 306 (c) to define "internal waters" to include state waters shoreward and seaward of the baseline, and to clarify that transfers of product for export to foreign trampers is contained within the allowable exception for foreign activity in a state's internal waters.

Introduction

During the past few months, the U.S. Coast Guard, NMFS Enforcement, and NOAA General Counsel, have arrested and fined two Panamanian registered transport vessels for allegedly violating a Magnuson Act prohibition against engaging in "support activities" in the territorial sea. Each vessel was fined over $50,000 (including seizure costs to the government). This action has generated considerable concern within the Alaska fishing industry since the industry substantially relies upon the use of foreign trampers to transport product for export.[1]

The reliance of domestic processors on foreign trampers stems primarily from the lack of refrigerated United States tramper vessels capable of engaging in ocean-wide trade. All of the product transferred to the foreign vessels is product-for-export. The elimination of access to foreign trampers would impose a substantial economic hardship on U.S. processors, U.S. fishermen, and nearby communities which rely upon the ancillary revenue generated by such activity. Additionally, the health and safety of U.S. processors and fishermen would be jeopardized due to their inability to transfer cargo at safe anchorage and the fact that they will then be forced into longer transits and exposed to frequently adverse weather conditions (particularly during the winter crab fisheries in the Bering Sea) to off-load their cargo.

This issue is distinct from the issue concerning the use of American labor on foreign tramper vessels. That issue concerns whether or not American labor should be used on board foreign vessels during stevedore operations, not whether foreign vessels should be allowed to accept cargo for export. The distinction is particularly acute in remote areas of Alaska where there is no American labor available to perform stevedoring activity on the foreign vessel.

The Alaska Region, NMFS Director and NOAA Office of General Counsel concur that the current application of the rule prohibiting transfer of fish products in the territorial sea is problematic for the U.S. seafood industry. They have committed to work diligently with the industry to seek short term solutions to the hardship imposed by this action and to develop a long term solution.

Basis Of The Problem

In 1977, then NOAA General Counsel William C. Brewer, Jr., issued an interpretation of "at sea". The interpretation states:[2]

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[1]According to the Alaska Commercial Fisherman, July 24, 1992, page 17, 65% of Alaska seafood production during 1991 was moved by foreign trampers.

[2]Letter from William C. Brewer, Jr., NOAA General Counsel, to Robert C. Ely, Esq., dated November 25, 1977.

Overview of Foreign Commerce/Transfer Problem

". . . § 307 (2) (A) prohibits foreign vessels from engaging in fishing within the boundaries of any state. The term "fishing" is then defined by the FCMA to include support activities when conducted "at sea." . . . We read "at sea" to encompass all oceanic waters extending outward from the baseline of the territorial sea except for ports and barriers, and recognized roadsteads customarily used in lieu of ports for the loading and unloading of goods. Therefore, our conclusion is that a foreign processing vessel is forbidden from conducting fishery support activities in the territorial sea, except for ports or 'constructive' ports."

This interpretation of "at sea" allows the transfer of cargo to a foreign tramper within state waters which fall inside the baseline, or within a recognized roadstead or port that fall outside of the baseline. Conversely, the interpretation prohibits foreign transfer activities which occur in state waters seaward of the baseline extending outward three nautical miles, unless they occur within a recognized roadstead or port. Since other provisions of the Magnuson Act provide the flexibility to allow foreign fishing within the EEZ, state waters seaward of the baseline become a "no-man's land" where no foreign fishing of whatever kind can occur (with the single exception of recognized roadsteads or ports).

In 1982, when Congress was considering the internal waters processing amendment, NOAA General Counsel cautioned that the proposed amendment would cause state waters seaward of the baseline to be treated differently than either internal waters or the EEZ since the proposed definition of "internal waters" excluded those waters "seaward of the baseline from which the territorial sea is measured".[3] It is the opinion of NOAA Office of General Counsel that the adoption by Congress of the internal waters definition, over NOAA's caution to the contrary, served to ratify NOAA's position that state waters seaward of the baseline would be treated differently from either internal waters or the EEZ. This opinion is supported by the fact that Section 307 (2) (A) clearly prohibits foreign fishing "within the boundaries of any state" except, as stated in (2) (C), for fish processing within internal waters (shoreward of the baseline). The exception in 307 (2) (C) was adopted by Congress simultaneously with the adoption of the internal waters amendment.

In many areas of Alaska, the baseline conforms to the mean low lower water mark along the shore and does not encompass waters adjacent to the shore which offer reasonable anchorage. Those waters three nautical miles seaward of the baseline are state waters of the territorial sea where foreign "fishing" activity (in this case, transfer of product-for-export) is prohibited unless the activity occurs at a recognized roadstead or port. Transfers have consistently occurred in many of these areas since the enactment of the

[3]Section 306 (a) (4) (B) of the Act.

Magnuson Act, despite the fact that the locations were not technically "recognized roadsteads or ports".

Apparent Contradictions Within The Law

From a layman's perspective, there appear to be several contradictions and convolutions within the Act as it pertains to this problem. In many areas, the law is not clearly focused. The following are some examples.

1. Section 306 (a) and (b) address a state's right to manage fisheries within its jurisdiction. Section 306 (a) (1) states that "[e]xcept as provided in subsection (b), nothing in this Act shall be construed as extending or diminishing the jurisdiction or authority of any State within its boundaries". [Emphasis added] Section 306-(a) (2) then clarifies that the state jurisdiction extends to all waters encompassed by the "territorial sea". Yet, Section 307 (2) (A) prohibits all foreign fishing "within the boundaries of any State".

2.) The 1977 Brewer interpretation of "at sea" extended the exemption seaward of the baseline to include "ports or 'constructive' ports". Nowhere in the Magnuson Act is such an exemption provided. In fact, as discussed above, Section 307 (2) (A) prohibits all "fishing within the boundaries of any State" with the exception of internal waters shoreward of the baseline. Under what authority does the Brewer interpretation exist? Do the "ports or 'constructive' ports" constitute enclaves where all foreign fishing activity, including processing, can occur? If not, what rationale is used and what legal basis applies to differentiate between foreign transfers and foreign processing, both of which are defined as "fishing" under Section 3 (10), (11), and (12)?

A partial answer to the different treatment offered transfers of cargo to foreign vessels within designated ports or roadsteads in state waters seaward of the baseline is found in comments made by President Ford when he signed the Magnuson Act into law. At that time he commented that the Act should not serve to impede the flow of commerce between the United States and foreign nations. Although the comment may serve as Presidential intent, the strict application of the Act now serves to impede the flow of commerce.

3.) The current prohibition on transfers of seafood products for export to foreign vessels in state waters seaward of the baseline seems to be the only United States prohibition of its type. We have been unable to identify any other products produced in the United States for export that fall under a similar prohibition. Timber, for example, harvested in Alaska may be transferred to a foreign carrier for export regardless of

whether the vessel is located within the baseline or in state waters seaward of the baseline.

Impact Of Interpretation The Act

The application of the Act as currently applied creates a double standard between activities which can occur inside the internal waters of a state (inside the baseline) and in the EEZ, and activities which can occur in state waters seaward of the baseline. Whereas transfers and other support activity can legally occur within the EEZ or the internal waters of a state, they cannot occur in state waters seaward of the baseline.

The inability to access foreign trampers in those areas which do not offer safe anchorage within the baseline or within a designated port or roadstead, will force the industry to curtail transfer of products for export, processing and other activities in those areas. The following two examples illustrate this point:

- The north side of St. Paul Island is a sheltered area which has traditionally been used to transfer cargo for export to foreign trampers, as well as personnel, mail, supplies, groceries, etc., to and from the City of St. Paul when weather prohibits the use of other suitable anchorage locations nearer the City of St. Paul Island. The north side of St. Paul Island does not, however, fall within the baseline and is not currently a recognized roadstead or port; therefore, transfer of cargo to foreign trampers at that location is unlawful. The absence of safe, adequate anchorage locations around St. Paul that fall within a designated port or roadstead will force the factory trawl and floating processing sector to transfer product for export at some other, distant, site.

- A more acute example occurs in the area around Togiak. Traditionally, during the spring roe herring fishery, foreign trampers moor alongside domestic floating processors, and frozen, processed product for export is continuously transferred from the domestic processor to the foreign tramper. In the Togiak area, the baseline essentially follows the shoreline (or closes a bay which is essentially a tidal flat), and the traditional area where transfer operations have occurred is not currently within a recognized port or roadstead; therefore, the use of foreign trampers in the traditional area where such transfers have occurred in the past is unlawful.

Overview of Foreign Commerce/Transfer Problem

The absence of a current "designated port or roadstead" seaward of the baseline poses enormous and devastating problems for the Togiak roe herring fishery. Togiak is a pulse fishery; thousands of tons of herring are harvested and processed within a few hours. The freezing capacity on most of the domestic processing vessels is far greater than their frozen storage capacity. The F/V *INDEPENDENCE*, for example, a floating processor owned by Trident Seafoods which normally operates in the Togiak fishery, can freeze up to 200 tons of herring per day but can only hold 50 tons of frozen product. To operate efficiently and economically she must continuously transfer frozen product to a foreign tramper moored alongside. The absence of the tramper would limit the Independence to 50 tons of total production, far less than that necessary to service the fishing fleet or economically justify the use of the Independence in that fishery. This demonstrates the vital, inter-dependent relationship between the foreign tramper and the economic viability of the F/V *INDEPENDENCE* in this fishery.

This situation is repeated on virtually every other floating processing operation present in Togiak. If these vessels are unable to transfer their processed product directly to foreign trampers for export, they will be unable to process the Togiak harvest. Additionally, there are insufficient domestic freezer transport vessels available and capable of receiving the product for export and transporting the product overseas. The absence of available shoreside processing capacity further aggravates the situation since fishermen will not have access to alternative processing capacity or buyers.

Realistically, failure to rectify this problem will result in a lack of sufficient domestic processing capacity to handle the Togiak fishery. The lack of capacity would likely cause fishermen to petition to allow foreign processors into Alaska to buy and process the herring the domestic industry no longer has the capacity to handle.

Unfortunately for the fishermen, the foreign processors would also be limited to operating in the internal waters — the same waters the domestic industry is unable to operate in because of their shallow depth. It is questionable whether the foreign processors could operate in the same location. Even if they could handle the shallow waters, the internal waters processing permits for foreign vessels may only be issued to vessels from countries which have a current Governing International Fishery Agreement (GIFA) or other fishing treaty with the United States. Very few countries have such an agreement any longer. The result of this situation is that the Togiak herring fishery, the largest and most valuable herring fishery in North America, may not occur during 1993, or until this problem is resolved.

Similar situations exist throughout Alaska.

This cannot reasonably be viewed as the intent of the Magnuson Act. In fact, it flatly contradicts the intent of the Act in several areas, including the intent to take into account the impact upon coastal communities and the intent of the Act to Americanize the fishery. It makes no sense for the application of the Act to inhibit the capability of American processors and catcher/processors from fully utilizing the fishery resources of the Nation, and then to make it impossible for fishermen to be able to harvest those same resources.

Possible Solutions

Depending upon the flexibility of NOAA Office of General Counsel to render a more viable and updated interpretation of the Act, this problem can be solved immediately; if an alternate interpretation is not possible, then the Act must be amended. . If an amendment is necessary, short term solutions to specific area problems must be identified. The following series of options deal first with possible interpretations of the Act to rectify the problem and, second, with short term and long term solutions.

Alternate Interpretations

1.) Exclude Product Which Has Been Sold Or Consigned

The Act regulates "fishing" activity, but it does not define when that activity has terminated and another activity which is not covered by the Act has commenced. For instance, few would dispute that fishing activity has ceased when the consumer is preparing the product for consumption. At what point, however, does fishing activity cease and other activities relating to the use of product commence? The distinction is important since it may be that activities which are not defined as "fishing" or "in support of fishing" are beyond the reach of the Act.

A fisherman's fishing activity relative to the product he produces (his catch) ceases after he has delivered the fish to the first buyer. From a processor's perspective, the sale or consignment of product terminates his "fishing" activity and/or his activity "in support of fishing" relative to the product. The acceptance, therefore, by a foreign (or domestic) tramper of product which has been sold or consigned by the processor is arguably not an operation or activity "in support of" or "aiding and assisting" in a fishing operation. The "fishing" operation and activity ceased for the fisherman and the processor when the physical product was sold and transferred.

The acceptance by the tramper of the product is more realistically an operation "in support of" the purchaser of the product. The purchaser of the product may be a

consumer, or a trading company which intends to sell it to a consumer. In either case, the focus of activity has shifted from "fishing" to "consumption". Arguably, a foreign tramper, in accepting the product for export which has already been sold or consigned for sale, is not engaged in "fishing" or "in support of" fishing as defined by the Act since that activity has already ceased; hence, the transfer of product could legally occur seaward of the baseline.

Consideration should be given to petitioning the Secretary to state the point at which "fishing" has ceased. Such a declaration by the Secretary could be made by rule making and, with the proper declaration, this problem would be resolved.

2.) Redefine The Definition Of "At-Sea"

The phrase "at sea" is used in the definitions section (Section 3) of the Act in subsection (10) and (11). Both subsections are stated below.

Section 3 (10) of the Act defines "fishing" as:

> (A) the catching, taking, or harvesting of fish;
> (B) the attempted catching, taking, or harvesting of fish;
> (C) any other activity which can reasonably be expected to result in the catching, taking, or harvesting of fish; or
> (D) any operations at sea in support of, or in preparation for, any activity described in subparagraphs (A) through (C).

Section 3 (11) defines a "fishing vessel" as a vessel engaged in:

> (A) fishing; or
> (B) aiding or assisting one or more vessels at sea in the performance of any activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing.
> [Emphasis added]

The 1977 Brewer definition interpreted "at sea" as encompassing "all oceanic waters extending outward from the baseline of the territorial sea except for ports and barriers, and recognized roadsteads customarily used in lieu of ports . . .". Since the Magnuson Act is intended to manage fisheries and fishery resources within the EEZ, one might conclude that a better definition of "at sea" would be "all waters from three nautical miles seaward of the baseline from which the territorial sea is measured out to 200 nautical miles from the baseline". That is a logical definition which one might consider to be consistent with the scope and intent of the Magnuson Act.

This would also solve the transfer problem. Through this approach "at sea" would apply only to the waters of the EEZ. As a result, those activities defined in Section 3 (10) (D) and Section 3 (11) (B) above that occur "at sea" would be regulated under the Act in the EEZ, but not within state waters (seaward of the baseline in the territorial sea). The other activities defined in both of those sections are regulated in all waters of a state or the EEZ, and their regulation under the Act would not be affected by such an interpretation.

Short Term Solutions If No Alternate Interpretations Are Available

NOAA General Counsel has advised that new ports or roadsteads seaward of the baseline could be defined providing that a "commerce nexus" between a "reasonably proximate" community lacking a deep water port facility and the port or roadstead exists. The definition of "commerce" and "reasonably proximate" are critical to the resolution of this problem.

In this past, crews, groceries, supplies and mail were regularly transferred to and from a vessel and the City of St. Paul at the north end of the island (not currently defined as a port or roadstead); will the definition of "commerce" recognize that commercial activity occurred during these transfers to and from the City of St. Paul? Similarly, will traditional fish camps be viewed as a "community"? Assuming the answers to these two questions are affirmative, some of the locational problems can be resolved.

A small working group, consisting of knowledgeable fishing and shipping industry representatives, should be formed to work with NOAA Office of General Counsel, NMFS, NMFS Enforcement, and the State of Alaska to clarify existing ports and roadsteads within and seaward of the baseline, and to define additional ports and roadsteads outside the baseline. This group needs to convene as soon as practical, and not later than Monday, October 19.

Long Term Solutions

The only practical long term solution, absent a compelling new interpretation, is to amend the Act. NOAA Office of General Counsel has offered to assist in the development of appropriate amendment language. There are (at least) two possible approaches:

1.) Amend Section 307 (2) (A) by adding "(except transporting product for export)" after "fishing". This would continue the prohibition of foreign fishing in state waters seaward of the baseline and allow for the use of foreign trampers.

2.) Amend Section 306 (c) to define "internal waters" to include state waters shoreward and seaward of the baseline, and clarify that the transfer of product for export to foreign trampers is contained within the allowable exceptions in state waters. Through this approach, the Governor of any State would have the authority to approve or deny permits for foreign vessels to accept cargo for export within the newly defined internal waters of the State.

Conclusions

Failure to rectify the problems generated by the current application of the law will result in the loss of tens of millions of dollars of revenue to fishermen, communities and processors. Optimum yield will not be achieved. The production of food as envisioned by the Act will be inhibited. No good will accrue to anyone from these losses.

The threat of economic and food loss is very real. Corrective action is necessary, immediately, if the intent of the Magnuson Act and the well-being of the industry is to be served.