Exhibit E.1.a
Supplemental NMFS Report
April 2001

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

MAR 23 2001

F/SWR2:JJM

Mr. Jim Lone, Chair
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Dear Jim,

I am pleased to inform you that I have approved Amendment 9 to the Coastal Pelagic Species Fishery Management Plan (FMP). Amendment 9 describes the extent of bycatch in the fishery and makes recommendations that will ensure that the monitoring in place in the various states continues. Most of these recommendations were in effect in California, Oregon, and Washington before Amendment 9 was prepared but were not described in the FMP. Since submission of Amendment 9, final reports on the Oregon and Washington sardine fisheries, which had observer coverage, show that bycatch in these purse seine fisheries for coastal pelagic species has not been significant.

Amendment 9 also includes a framework process for implementing Indian fishing rights should such action be necessary in the future. When the FMP was implemented, there were no significant fisheries in Oregon and Washington for coastal pelagic species, and no description of Indian fishing rights existed in the FMP. The sardine resource has now expanded its range to the Pacific northwest and Canada; therefore, the Council has adopted a process to address a potential future management issue.

I look forward to working with the Council to implement the provisions of the amendment.

Sincerely,

Rod McInnis

for Rebecca Lent, Ph.D.
Regional Administrator

Exhibit E.1
Situation Summary
April 2001

NATIONAL MARINE FISHERIES SERVICE REPORT

Situation: National Marine Fisheries Service will provide a report on recent actions in the coastal pelagic species (CPS) fishery and the status of approval of Amendment 9 to the CPS fishery management plan.

Council Action: Discussion

Reference Materials:

1. Exhibit E.3, Supplemental NMFS Report.

PFMC
03/21/01

Capacity Goal for the CPS Finfish Limited Entry Fishery

Background

At its November, 2000 meeting, the Pacific Fishery Management Council directed the CPSMT to continue its analysis on establishing a harvesting capacity goal for the limited entry (LE) finfish fishery and to address other capacity related issues such as permit transferability. Alternative capacity goals should be developed following the three options outlined in the CPSMT's statement on the CPS limited entry fishery issues, capacity goal and permit transferability, presented to the Council at its November, 2000 meeting:

Fleet Profile Options –

Option 1. Maintain a larger, diverse CPS finfish fleet (current size?) which also relies on other fishing opportunities such as squid and tuna;

Option 2. Work the fleet down to a smaller number of vessels with certain characteristics (e.g., smaller number of larger, 'efficient' vessels; or smaller number composed of CPS finfish 'specialists');

Option 3. Base the fleet size on our expectations of long-term expected yields from the combined CPS finfish species and the number of vessels physically capable of harvesting that yield.

The analysis should include advice on the most preferred option; why it is most preferred; and how permit transferability would help achieve and maintain that goal.

Progress to Date

Profile of the Current CPS Limited Entry Fleet

The window period for CPS permit transferability closed as of 31 December, 2000. The fleet now consists of 65 vessels. Forty-five of these vessels initially qualified under the window period and the other 20 vessels were permit transfers (**Table 1**). Fifty-five of these boats also hold permits to fish for market squid in California waters, and at least four vessels have been active in the CPS live-bait fishery since 1996. The vessels range in age from 4 to 64 years old, with an average age of 30 years (Figure 1). There are two general age groups in the fleet, with one ranging from 11-30 years, and the other in the 51-70 year old 'vintage' category.

CPS LE vessels range in length from 40 to 95 feet, with an average length of 62 feet (Figure 2). Vessel physical capacity can range widely within length categories depending upon breadth and depth of the hull design. For this reason, we calculated vessel gross tonnage and used this measure in the CPS finfish harvesting capacity analysis as the best proxy for each vessel's capital stock. The calculated gross tonnage incorporates a vessel's length, breadth and depth, which are consistent measures across vessel registration and Coast Guard documentation lists. Net tonnage is a more ambiguous vessel attribute and was not considered a good proxy for a vessel's capital stock.

As described in 46CFR69.209, gross registered tonnage (GRT) is defined: GRT=(2/3*length*breadth*depth)/100. CPS LE vessel dimension data were obtained from the Coast Guard database. Gross tonnage for the current fleet ranges from 24 to 225 metric tons, with an average of 87 tons (Figure 3). Three general tonnage classes are apparent, with modes at 61-70 tons, 121-130 tons, and three vessels over 200 tons (Figure 3). This calculated GRT may not agree with a vessel's documented gross tonnage reported in Coast Guard documentation lists.

Data Revisions

Since the November Council meeting, a new capacity data set has been compiled which is comprised of comprehensive, individual landings data over the 1981-2000 period for the 65 vessels that acquired finfish limited entry permits. For each year a vessel had landings of any species, not just CPS, these landings and related information are captured in the data set. Because not all 65 vessels fished in each year of the 1981-2000 period, this is an unbalanced panel data set.

The landings data for the finfish limited entry fleet were compiled from vessel landings receipts (fish tickets) maintained in California's CMASTER data base. Each vessel's landings and corresponding ex-vessel revenues on a particular date were summarized and assumed to represent the landings and revenues for a unique trip. If a vessel had two or more fish tickets on the same date, this was considered a split load - - the catch from one trip was delivered to one or more buyers -- and counted as a single trip. Multiple tickets on the same date could actually reflect multiple trips on that date. Although this was deemed a rare event, a "common sense" filter was applied in instances where summarized landings per trip were anomalous (e.g. greatly exceeded the vessel's gross tonnage) to avoid a potential upward bias in landings per trip. The "common sense" filter was also used to deal with apparent fish ticket data entry errors.

The vessel landings data were used to demonstrate the high degree of variability that characterizes CPS fisheries, and to what extent vessels specialize in finfish fisheries compared to squid and fisheries for other species, primarily tuna.

To indicate the degree of variability in the finfish fisheries, plots of fleet-wide annual finfish landings (Figure 4) and annual weighted ex-vessel prices (Figure 5), as well as the relative number of annual finfish, squid and tuna trips per year (Figure 6) and trips per vessel (Figure 7) were generated for the limited entry fleet over the 1981-2000 period. Variability in resource availability is revealed by the pattern of annual landings and relative trips per vessel by species over the period. Variability attributable to fluctuations in market demand is reflected in the pattern of annual ex-vessel prices over the period.

Specialization in finfish was initially examined in terms of the share finfish trips comprised of a vessel's total annual trips. In this case, the greater finfish trips as a share of the vessel's total annual trips, indicates specialization in finfish (Figure 8).

To further indicate their degree of specialization in finfish, the proportion of each vessel's annual finfish revenue of their total ex-vessel revenue was calculated to show their economic dependency on finfish relative to other species, and how consistent the level of dependency on finfish was over the period (Figures 9-14 are shown as examples for each category).

Landings data were supplemented with vessel characteristics data from California fishing vessel registration and Coast Guard vessel documentation files. Vessel length, width and breadth data from these sources was used to calculate each vessel's gross tonnage. Overall, this data set provides a rich history of CPS and other species fishing activity for the limited entry fleet.

In addition to individual vessel data, a time series of CPS finfish biomass estimates was assembled for the 1937-2000 period (Figure 15). The current maximum sustainable yield and harvest target level control rules were applied to each species' annual biomass estimates for each year in the period to obtain harvest target levels (quota) in current time equivalents. These data were then used to project long-term, future aggregate finfish harvest target level (Figure 16).

Capacity Revisions

Background

Capacity is a short-run concept representing the maximum harvest that variable inputs (e.g. fuel and labor) are capable of producing given the observed capital stock. Changes in capacity come about from variations in the capital stock, and represent long-term investment decisions on the part of fishing firms.

A data envelopment analysis (DEA) was conducted using the landings and vessel characteristics data set to estimate finfish harvesting capacity and squid harvesting capacity for the limited entry finfish fleet. DEA is a means to estimate the per trip finfish and squid harvesting capacities for each vessel given its capital stock (fixed input) -- represented by its gross tonnage -- and observed output represented by volume of catch -- landings per trip. DEA determines which vessels, in terms of their gross tonnage, delineate a best-practice frontier. The best-practice frontier defines the maximum level of landings per trip that can be produced by a vessel, of distinct gross tonnage, when there is unrestricted availability and full utilization of variable inputs (fuel, labor, gear, etc.). DEA also provides a measure of capacity utilization (CU): the ratio of observed landings per trip to capacity landings per trip (Figure 17). Dividing each vessel's observed output per trip by its CU measure gives its corresponding capacity output per trip.

Two measures of finfish harvesting capacity per trip and squid harvesting capacity per trip were derived for each vessel (Figure 18): 1) based on the maximum landing of finfish, and maximum landing of squid recorded for the 1981-2000 period; and 2) based on the average landing of finfish and average landing of squid over the period.

The measure of harvesting capacity based on the maximum recorded landing approximates the vessels physical capacity. Physical capacity is a pure technological or engineering measure of the maximum potential output per unit of time. In terms of fish harvesting, physical capacity typically corresponds to the vessel's hold volume. In this sense, physical capacity provides a benchmark, maximum harvesting potential for a given vessel or fleet of vessels. Physical capacity is a fixed measure that will only change with a change in the capital stock; i.e., a change in a particular vessel's physical structure or a change in fleet size or composition.

The second measure of harvesting capacity approximates output per unit of time under what are considered typical or normal operating conditions. This concept of capacity incorporates the fisher's expectations concerning variations in resource availability, environmental conditions, and output demand, and in this case is considered a technological-economic measure of capacity.

Physical capacity is appropriately associated with some peak availability of fish, unique environmental conditions which enhance effort production, or peak demand for output. Technological-economic capacity accounts for typical patterns of resource availability, environmental conditions, and output demand. In cases like CPS, where resource availability, environmental conditions and market conditions are highly variable, there is no such thing as typical conditions, and therefore technological-economic capacity is likewise highly variable.

A vessel's physical harvest capacity and normal harvest capacity is measured on a per trip basis. Annual capacity for each vessel is its per trip capacity multiplied by a measure of its number of trips per year. Therefore annual harvest capacity is dependent on the amount of effort each vessel is expected to generate during the year. As with physical and normal measures of harvest capacity per trip, the amount of effort a vessel produces during the year can be considered in terms of that which is possible from a purely technological or engineering standpoint, versus that which reflects variability in resource availability, environmental conditions and market conditions. The former can be thought of as physical effort, the latter normal effort.

In this analysis, each vessel's physical effort was the maximum number of annual finfish landings (trips) observed over the 1981-2000 period. Each vessel's normal effort was the average number of annual trips over the period. Therefore, each vessel's annual physical harvesting capacity was defined as its physical capacity per trip multiplied by its maximum number of annual trips (physical effort), and each vessel's annual normal harvesting capacity was defined as its normal capacity per trip multiplied by its average number of

annual trips (normal effort).

Summing annual vessel capacities provides an estimate of annual capacity for the finfish limited entry fleet (Table 2).

Options

Consider four capacity goals: 1) Normal harvest capacity equal to the long-term expected aggregate finfish target harvest level, 108,306 mt, with physical capacity available to harvest peak period amounts of finfish, 273,507 mt; 2) normal harvest capacity equal to average total finfish landings over the 1981-2000 period, approximately 57,676 mt; 3) physical harvest capacity equal to the long-term expected target harvest level, 108,306 mt, without an excess capacity reserve; and 4) maintain fixed fleet of 65 vessels, with no capacity goal. These capacity goals are analyzed in conjunction with the fleet composition options described above.

Analysis

Capacity Option 1 (CPSMT Preferred Option)

Fleet Profile Option 1: Maintain a larger, diverse CPS finfish fleet, which also relies on other fishing opportunities such as squid and tuna, with normal harvesting capacity equal to the long-term expected aggregate finfish target harvest level, approximately 110,000 mt, and with physical capacity available to harvest peak period amounts of finfish, 275,000 mt.

The current finfish limited entry fleet would satisfy Fleet Profile Option 1, and Capacity Option 1. Under what might be considered typical or normal operating conditions -- harvesting capacity based on average finfish landings per trip and average number of finfish trips per year -- the finfish limited entry fleet would provide sufficient capacity to harvest the expected long-term average aggregate finfish harvest target level (Table 3). This fleet would also have the physical capacity -- harvesting capacity based on maximum finfish landings per trip and maximum number of finfish trips taken per year -- to harvest the maximum potential amount of finfish, that amount associated with peak period availability of fish, environmental conditions which are most favorable to effort production, and peak demand for output. This "excess capacity" could otherwise be directed towards the harvest of squid and tuna. In this regard it is important to note that the ability of vessels participating in the CPS finfish fishery to harvest alternate species reduces the need to reduce the size of the limited entry fleet. CPS finfish purse seine fisheries off California are flexible and accommodate significant changes in resource availability and market demand. When CPS finfish are unavailable or market conditions for CPS finfish are not favorable, CPS purse seine vessels tend to switch to alternative species, primarily market squid, tunas, and herring.

Capacity Option 2

Fleet Profile Option 2: Work the fleet down to a smaller number of vessels with certain characteristics (e.g., smaller number of larger, 'efficient' vessels; or smaller number composed of CPS finfish 'specialists'), with normal harvesting capacity equal to average total finfish landings over the 1981-2000 period, approximately 57,676 mt.

A substantially reduced fleet consisting of the 12 vessels identified as finfish specialists and 14 non-specialists ranked in descending order of capacity utilization (Table 3, Option 2-A) would have sufficient normal harvesting capacity to satisfy Capacity Option 2, and have physical capacity to harvest approximately 264,000 mt annually. Instead of including only those vessels considered specialists, the fleet could be reduced along a number of different dimensions (e.g. harvesting efficiency) to match capacity with 20-year average landings. Based on decreasing technical efficiency, increasing age and increasing gross tonnage, a fleet of 33 vessels would have sufficient normal harvesting capacity to satisfy Capacity Option 2, and enough physical capacity to harvest 275,000 mt annually(Table 3, Option 2-B). Assuming that at least some of the vessels losing their permits under Fleet Profile Option 2 would cease fishing, this option would probably severely limit the amount of harvest capacity that would remain for tuna, and would probably increase the need for squid specialists.

Capacity Option 3

Fleet Profile Option 3: Base the fleet size on our expectations of long-term expected yields from the combined CPS finfish species and the number of vessels physically capable of harvesting that yield, 110,000 mt annually, without an excess capacity reserve.

A reduced fleet with physical capacity -- harvesting capacity based on maximum finfish landings per trip and maximum number of finfish trips taken per year -- equal to the expected long-term average aggregate finfish harvest target level, 110,000 mt annually. This fleet would consist of the 12 finfish specialists when vessels are ranked by speciality and decreasing technical efficiency (Table 3, Option 3-A). This 12 vessel fleet would not have the capacity to take peak period amounts of finfish (275,000 mt) unless it made more finfish trips during the year than its observed maximum. If additional trips were made this would likely diminish the ability of these vessels to participate in other fisheries. This option would probably limit the amount of harvest capacity that would remain for tuna, and would probably increase the need for squid specialists. This fleet would have normal harvesting capacity of about 26,000 mt annually (Table 3, Option 3-A). Alternatively, when vessels are ranked by decreasing technical efficiency, increasing age and increasing gross tonnage, a fleet of 11 vessels would have sufficient physical capacity to harvest the expected long-term average aggregate finfish harvest target level, 110,000 mt annually. This fleet would have normal harvesting capacity of 23,000 mt annually (Table 3, Option 3-B).

Capacity Goal 4

Fleet Profile Option 1: Maintain a larger, diverse CPS finfish fleet, which also relies on other fishing opportunities such as squid and tuna, with normal harvesting capacity equal to the long-term expected aggregate finfish target harvest level, approximately 110,000 mt, and with physical capacity available to harvest peak period amounts of finfish, 275,000 mt.

Maintain a fixed fleet of 65 vessels, with no capacity goal. This reflects the status quo where there is no harvest capacity goal. Under conditions of unconstrained permit transferability, this option could result in significant increases in harvesting capacity.

Permit Transferability

Background

Limited entry programs are primarily designed to address economic problems associated with excess harvest capacity or overcapitalization in open access fisheries. In most cases significant economic benefits (efficiency gains) are realized by allowing unconstrained transfer of limited entry permits if the the initial allocation of permits is sub-optimal. Under an open market for limited entry permits, permits would tend to be sold to fishers who use the most efficient harvesting techniques. Fishers who use the most efficient harvesting technology will be able to outbid less efficient competitors. Over time this should lead to efficiency gains and increased profitability through a reduction in fleet harvesting costs. A transferable permit can become a highly valued asset to its holder. Non-transferability can lead to ossification of the fleet if there are no opportunities to replace or sell vessels.

Increased efficiency is not the overriding objective of Amendment 8. The limited entry program for the CPS finfish fishery has multiple objectives. In some cases, there are social, income distributional, or other benefits that may be of greater importance than efficiency, that can be realized by constraining permit transfer to maintain the initial allocation. In the latter cases, the initial allocation may be optimal in terms of preserving a particular pattern of fishing operations, or fishing community structure. It was for these reasons that a 70 vessel fleet was chosen over a more efficient 41 vessel limited entry fleet as the target fleet size, which would best strike a balance between economic and social objectives.

The CPS finfish limited entry program in Amendment 8 qualified 70 vessels for finfish limited entry permits. Permits issued to qualifying vessels were transferable unconditionally for one year following implementation of the limited entry program, January 1, 2000. After one year, transferability is limited to situations where the original vessel is lost, stolen, or no longer able to participate in federal fisheries. The replacement vessel must

be of equal or less net tonnage.

The window period for CPS permit transferability closed as of 31 December, 2000. The fleet now consists of 65 vessels. Forty-five of these vessels initially qualified under the window period and the other 20 vessels were permit transfers. These permit transfers may lead to improvements in economic efficiency and economic benefits from improved product quality, since permits would tend to be transferred to fishers who use more efficient or advanced harvesting and handling techniques.

These permit transfers may also reflect the dependency of CPS vessels on alternate species, particularly market squid, where under current conditions a California squid permit cannot be transferred to another vessel. In this case, there is likely to be an overall efficiency gain in terms of optimizing vessel operations over the suite of CPS fisheries opportunities. This is an important consideration in evaluating transferability options, i.e., the ability of vessels participating in the CPS finfish fishery to harvest alternate species when CPS finfish are unavailable, market conditions for CPS finfish are not favorable, or availability and market conditions for alternate species are more favorable. In this spirit, the Team has recommended that CPS finfish permits be freely transferable, and market forces (rather than policy decisions) be the guiding force in determining optimum harvesting capacity and fleet configuration across all CPS vessels' fishing opportunities.

Transferability Options

Option 1 No transferability of permits except 1) if the permitted vessel totally lost, stolen or scrapped, such that it cannot be used in a federally regulated commercial fishery, provided application for the permit originates from the vessel owner who must place it on a replacement vessel of the same or less harvesting capacity within one year of disability of the permitted vessel, or 2) the permit is placed on a replacement vessel of the same or less harvesting capacity provided the previously permitted vessel is permanently retired from all federally managed commercial fisheries for which a permit is required.

Option 2 Allow CPS finfish limited entry permits to be transferred without constraints.

Option 3 (CPSMT Preferred Option) Allow CPS finfish limited entry permits to be transferred with restrictions on the harvesting capacity of the vessel to which it would be transferred to: 1) full transferability of permits to vessels of comparable capacity, and 2) allow permits to be combined up to a greater level of capacity in cases where the vessel to be transferred to is of greater harvesting capacity than the one from which the permit will be transferred.

Analysis

Transferability Option 1 represents the status quo. For a given CPS finfish harvesting capacity goal and corresponding target fleet this option allows some modernization to occur while limiting growth of fishing capacity in the long term. It is likely to lead to greater specialization in the CPS finfish fishery since replacement vessels may be relatively inefficient in alternative fisheries. Although this option would seem to be most compatible with **Fleet Profile Option 2 - Capacity Option 2**, a finfish limited entry fleet consisting of a small number of larger, 'efficient' CPS finfish 'specialists', with normal harvesting capacity equal to average total finfish landings over the 1981-2000 period, it would not allow combining up of permits to replace more than one small vessel with a larger vessel. The number of vessels in the CPS finfish fishery and their corresponding harvesting capacity would be fixed.

Transferability Option 2 would allow full transferability by which market forces would determine optimum harvesting capacity and fleet configuration taking into account alternative opportunities for CPS vessels. Full transferability would likely be incompatible with a specified harvest capacity goal for CPS finfish. By allowing a replacement vessel to be of greater harvesting capacity than the originally permitted vessel on a one-for-one permit transfer basis, there would not be any constraint on vessel-level finfish harvesting capacity. A fleet of larger vessels could result in fleet harvesting capacity exceeding the capacity goal. Even with a trip limit in place, larger vessels could possibly make more trips so that the annual CPS finfish harvest would exceed the capacity goal. Although this might result in a sub-optimal fleet with respect to a CPS finfish harvest capacity goal, it would not preclude overall efficiency gains in the context of the full array of fishing possibilities available to CPS vessels.

Transferability Option 3 would restrict transferability by not allowing permit transfers on a one-for-one basis except in cases of comparable harvesting capacity. Transfers from a smaller vessel to a larger vessel would require combining the smaller permit with another permit for placement on the larger vessel. Option 3 represents a compromise between more restrictive transferability as per Option 1 and full transferability as per Option 2. Under Option 3, harvesting capacity would be fixed at some desired level, but the number of vessels corresponding to that capacity level initially awarded permits would only be a maximum. By allowing permits to be combined up, the number of vessels initially issued permits could be reduced.

This situation could arise when vessels seek to optimize their operations across the alternative fisheries in which they are capable of participating, market squid being the most likely species in terms of joint optimization. By allowing transferability within the confines of Option 3 the emerging fleet would represent the future expectations of industry members concerning vessels best suited to take advantage of joint harvesting opportunities without compromising the desired CPS finfish harvest capacity goal.

Option 3 will probably be most satisfactory in terms of harmonizing the CPS finfish limited entry program and California's pending squid limited entry program. At this point, California Department of Fish and Game (CDFG) is recommending full transferability of permits to vessels of comparable capacity (defined as within 5 percent of the transferor vessel's gross registered tonnage (GRT) as an element of California's squid limited entry program. In addition, for vessels wishing to increase capacity, CDFG is considering a '2-for-1' program which involves surrendering a permit if the vessel to be transferred to is in excess of the 5 percent capacity allowance and lower than 135 percent of the original vessel's GRT. If the replacement vessel's GRT exceeds 135 percent of the original vessel's GRT, two permits must be surrendered (i.e. '3-for-1') to upgrade. CDFG's proposed scheme for combining permits is designed to decrease capacity of the initial squid fleet through a reduction in the number of vessels. Since the CPSMT's preferred option is to maintain the CPS finfish fleet at it's current capacity, Option 3 could contain less restrictive exchange rates. For example, a '2-for-1' program for CPS finfish could require surrendering a permit if the vessel to be transferred to is in excess of 110 percent of the original vessel's GRT. A variation of the 2-for-1 program would require that the permit being surrendered be from a vessel with a GRT equal to the net increase in GRT of the replacement vessel less the comparable GRT allowances. For example, replacing a 50 GRT vessel with a 100 GRT vessel would require an additional permit from a 40 GRT vessel when the comparable GRT allowance is 10 percent (i.e. comparable GRT is 110 percent of the transferor vessel's GRT). Allowing permits to be combined up in this manner would enable a fleet to develop that is best suited for participation in both fisheries.

In terms of the CPS physical and normal capacity frontiers shown in figure 18, the proportional change in harvesting capacity for a given proportional change in gross tonnage is less than one over the range of observed gross tonnages. This means that a 100 percent increase in a vessel's gross tonnage will result in a less than 100 percent increase in its harvesting capacities. In the case of physical capacity the corresponding increase in capacity is about 90 percent, and in the case of normal capacity about 75 percent. Therefore, a 10 percent gross tonnage allowance is not expected to result in a substantial increase in harvest capacity. Additionally, this would allow combining up of a permit that is 10 percent less than the replacement GRT.

Option 3 would leave decisions about harvest capacity levels and transferability of permits within the policy arena, but given harvest capacity and transferability parameters, allows industry to determine what the fishery should "look like" in terms of the number of vessels and their corresponding harvesting capacities. Option 3 would not impose any restrictions on vessel physical attributes, but would require permits to have a gross tonnage endorsement. The CPS finfish harvesting capacity analysis establishes a linkage between a vessel's GRT and its harvesting capacity. Therefore, as is being considered for California's squid limited entry program, a vessel's finfish limited entry permit could carry a GRT endorsement that denotes its harvesting capacity.

125 Metric Ton Trip Limit

From the capacity analysis, vessels greater than or equal to 115 GRT, have a physical harvesting capacity greater than or equal to 125 metric tons per trip (Figure 18). Therefore, we would not expect to see permits being transferred to vessels with a GRT greater than 115, unless vessels of this size are optimum across all fisheries in which they participate.

Reevaluation of the Capacity Goal

For whichever transferability option that the Council adopts, it is advisable that conditions and effects of transferability be reevaluated periodically in conjunction with achievement of the capacity goal, and objectives of the FMP. The CPSMT recommends setting a trigger for reevaluation based on an overall change in fleet GRT of five percent.

Table 1. Coastal Pelagics Limited Entry Permit Vessel Listing

Vessel Name	Vessel Owner	CG #	LE #
Misty Moon	Misty Moon, Inc.,	578511	1
Paloma	Boat Anna Maria	236642	2
St. George II	St. George II Fishing, Inc., Frank Vuoso	238969	3
Barbara H*	David A. Haworth	643518	4
San Antonio	Mazara Inc., Antonino Ingrande	236947	5
Annie D	St. Teresa Fishing, Inc., Stanley DiMeglio	246533	6
San Pedro Pride	San Pedro Pride, Inc., Ercole (Joe) Terzoli	549506	7
Ferrigno Boy	Ferrigno Enterprises Inc., Nicolina Ferrigno	602455	8
King Philip*	King Philip, inc., Sal Tringali	1061827	9
Sea Wave	Sea Wave, Inc., Sal Tringali	951443	10
Mary Louise	Sea Lanes II, Inc., Tony Mattera	247128	11
Bainbridge	Bainbridge Inc., Richard Mirkovich	236505	12
Pioneer	JCJC Incorporated	246212	13
Maria	Brothers C	236760	14
St. Joseph	St. Joseph, Inc., Robert Cigliano	633570	15
Sea Scout	Sea Scout, Inc., Isidoro Amalfitano	248454	16
Retriever*	William Ford Hargrave and John Aiello	582022	17
Atlantis	F/V Atlantis, L.L.C., Christopher C. Peterson	649333	18
G. Nazzareno	Nazzareno, Inc.	246518	19
Sea Queen	Boat Sea Queen, Inc.	582167	20
Pacific Leader	Southern California Bait Co, Inc.	643138	21
Chovie Clipper	Southern California Bait Co., Inc.	524626	22
Tribute	Stanley J. Nelson	613318	23
Ocean Angel I	Ocean Angel I, LLC	584336	24
Maria T	Maria T., Inc.	509632	25
Manana	Manana Bait Co., Inc.	253321	26
Miss Juli	Stephen L. Lovejoy	548223	27
Mineo Bros.	Domenic Mineo	939449	28
Sea Queen	Sea Queen Corporation	583781	29
Little Joe II	Bella Lea, Inc.	531019	30
Caitlin Ann*	Caitlin Ann General Partnership	960836	31
Eldorado	Gaspare F. Aliotti	690849	32
Kristen Gail*	Bruce E. Joyce	618791	33
Fiore D'Mare*	Fiore Enterprises, Inc.	550564	34
Endurance*	Gaspare Aliotti	613302	35
New Sunbeam	Pacific Live Bait, Inc.	284470	36
Calogera A*	John, Nick R, & Anthony J. Alfieri	984694	37
Eileen	South Sound Fisheries, Inc.	252749	38
Pamela Rose	Pamela Rose, Inc., Stephen Greyshock	693271	39
New Stella	Sal Boy, Inc., Richard Aiello	598813	40
Traveler	Baitall Inc., Lawrence Vernand	661936	41
Lucky Star	Nick Jurlin Jr.	295673	42
Ocean Angel II	Ocean Angel II, LLC	622522	43
Mello Boy*	Arthur Mello	1061917	44
Trionfo	Aniello Guglielmo	625449	45
Jenny Lynn*	Vito Terzoli	541444	46
Heavy Duty*	Heavy Duty LLC, C.D. Franklin	655523	47

Aliotti Bros	Joseph D. Aliotti	685870	48
Lady J	Noto Corporation, Francesco Noto	647528	49
Anna's	Matteo M. Sardina	253402	50
Endeavor*	SBA Corporation	971540	51
Antoinette W	Oceanside Bait Co., Inc., James Gardner	606156	52
Donna B*	James A. Bunn	648720	53
Papa George*	Volcano Bay, Inc.	549243	54
Mercurio Bros	Sam Mercurio	650376	55
Kathy Jeanne*	Pacific Broadbill, Inc.	507798	56
Merva W	Merva W, Inc., Michael McHenry	532023	57
Santa Maria	Santa Maria Fishing, Inc.	236806	58
Buccaneer	David Crabbe, Sal Tringali	592177	59
Midnight Hour*	William Ford Hargarve and John Aiello	276920	60
Nancy B II*	Nancy B, LLC.	542513	61
Miss Kristina	Joe Fernandez	580843	62
Emerald Sea*	SRS Incorporated	626289	63
Connie Marie*	Kavon Incorporated	624240	64
Theresa Marie*	Harry D. Hofland	629721	65

* permit transfer

Table 2. Annual capacity estimates for vessels with CPS limited entry permits.

A. CPS Finfish Capacity

		Number of Trips	
		Maximum[3]	Average[4]
Capacity Output Per Trip	Maximum[1]	538,804	282,121
	Average[2]	213,251	111,395

B. Squid Capacity

		Number of Trips	
		Maximum[3]	Average[4]
Capacity Output Per Trip	Maximum[1]	391,616	184,104
	Average[2]	176,273	82,721

[1]Based on the maximum recorded landings per trip, per vessel over the period,1981-2000.
[2]Based on the average recorded landings per trip annually, per vessel, 1981-2000.
[3]Based on the maximum number of annual trips per vessel over the period, 1981-2000.
[4]Based on the average number of trips annually per vessel, 1981-2000.

Table 3. Number of vessels and corresponding capacity parameters for capacity goals and options.

Option	# Vessels	Physical Capacity	Normal Capacity
1	65	538,804	111,395
2-A[1]	26	263,663	58,652
2-B[2]	33	274,939	59,515
3-A[1]	12	107,368	25,682
3-B[2]	11	113,176	22,644

[1]Vessels primarily ranked by finfish specialists, generalists; secondarily by decreasing technical efficiency.
[2]Vessels primarily ranked by decreasing technical efficiency; secondarily ranked by increasing age; tertiary ranked by increasing gross tonnage.

Figure 1. CPS Limited Entry Fleet - Vessel Age

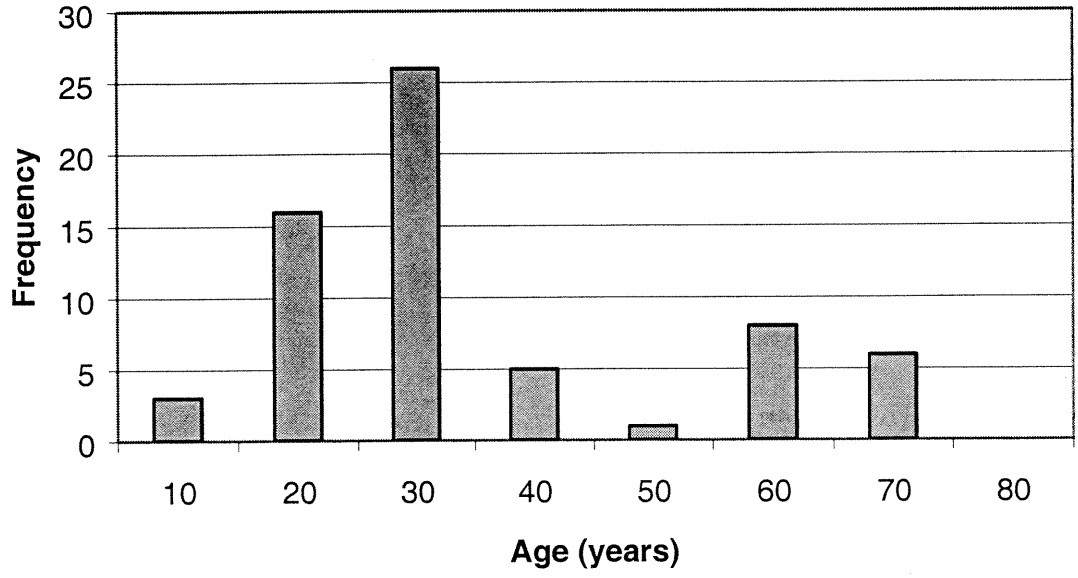


Figure 2. CPS Limited Entry Fleet - Vessel Lengths

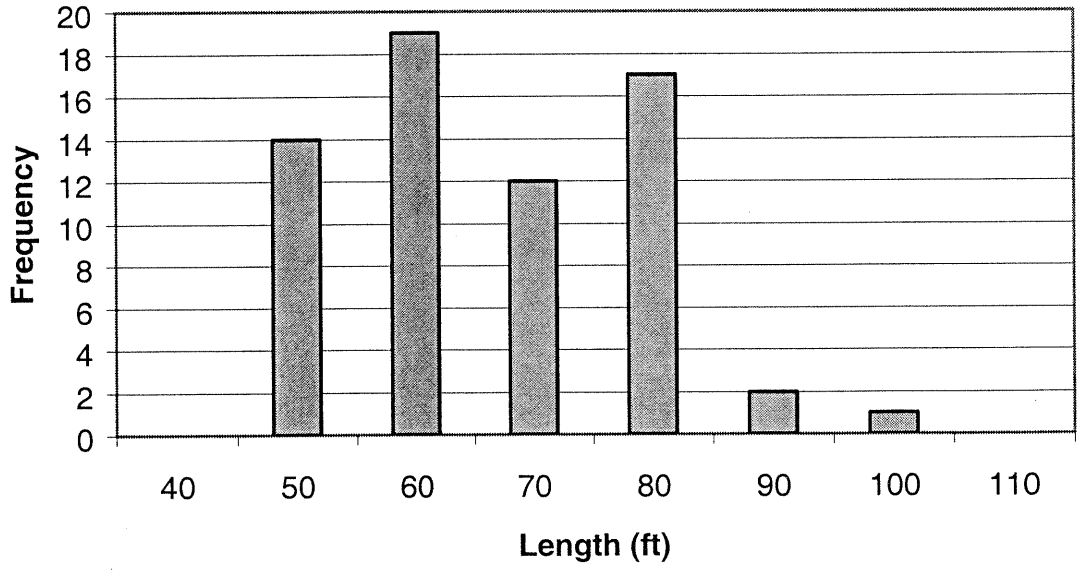


Figure 3. CPS Limited Entry Fleet - Gross Tonnage

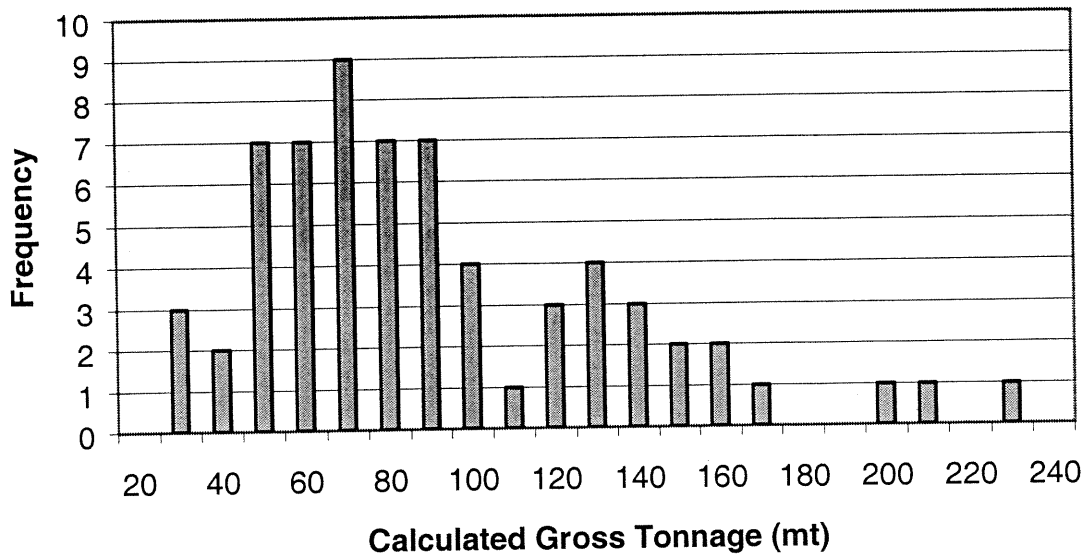


Figure 4. Annual aggregate finfish landings for limited entry fleet, 1981-2000.

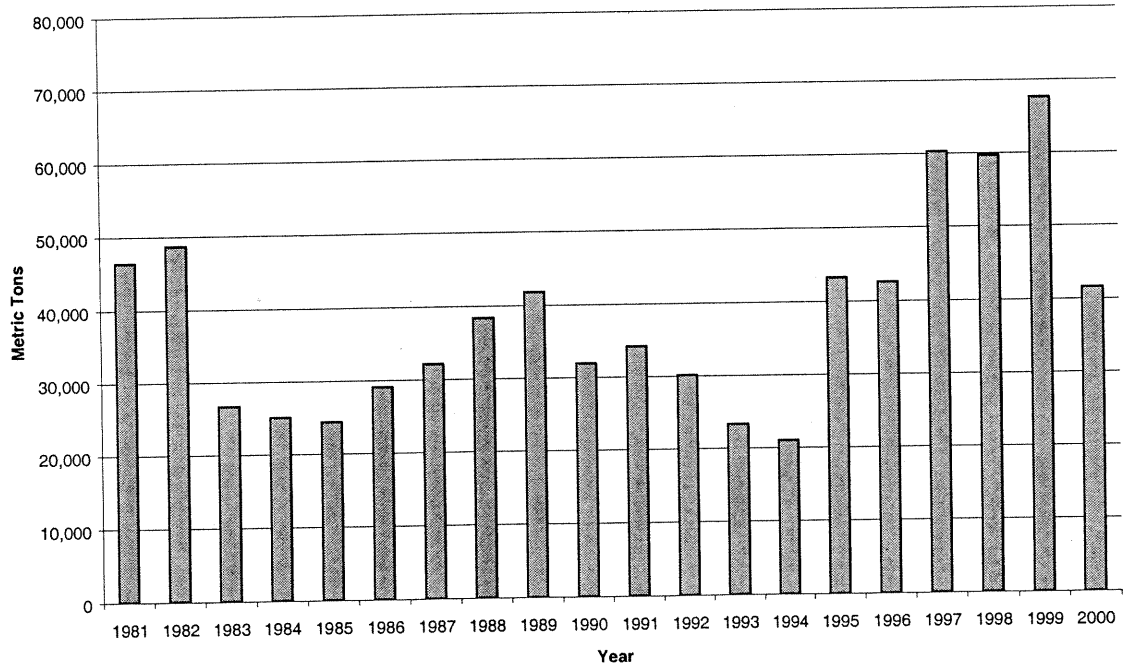


Figure 5. Average weighted price all finfish species in 1999 dollars, 1981-2000.

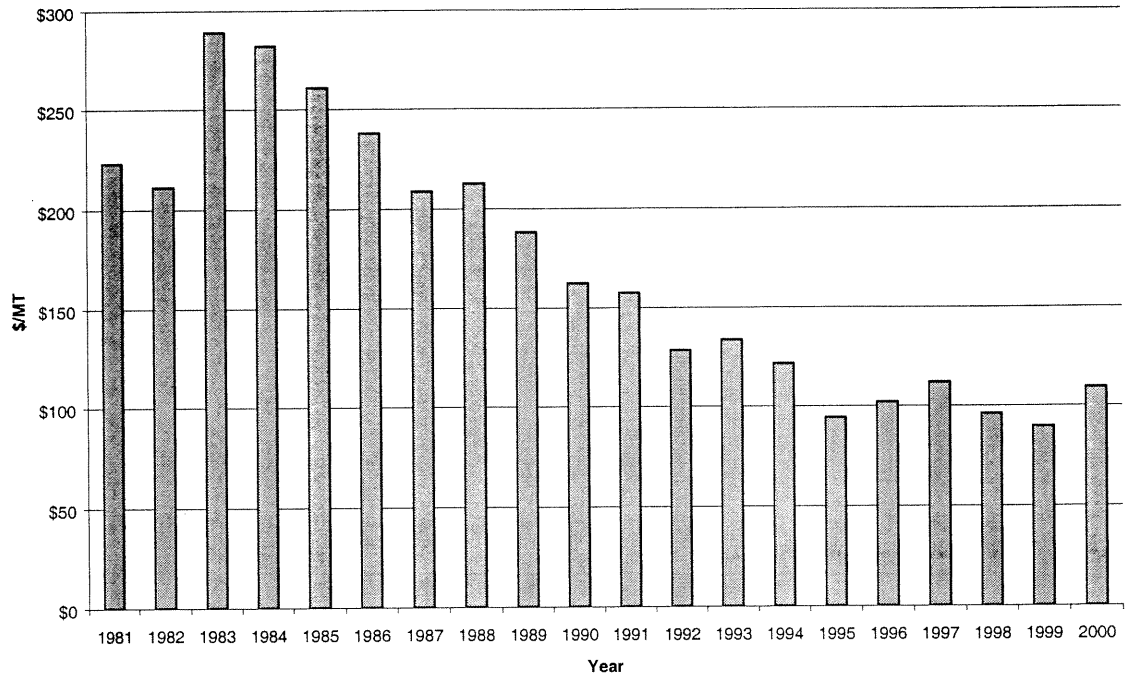
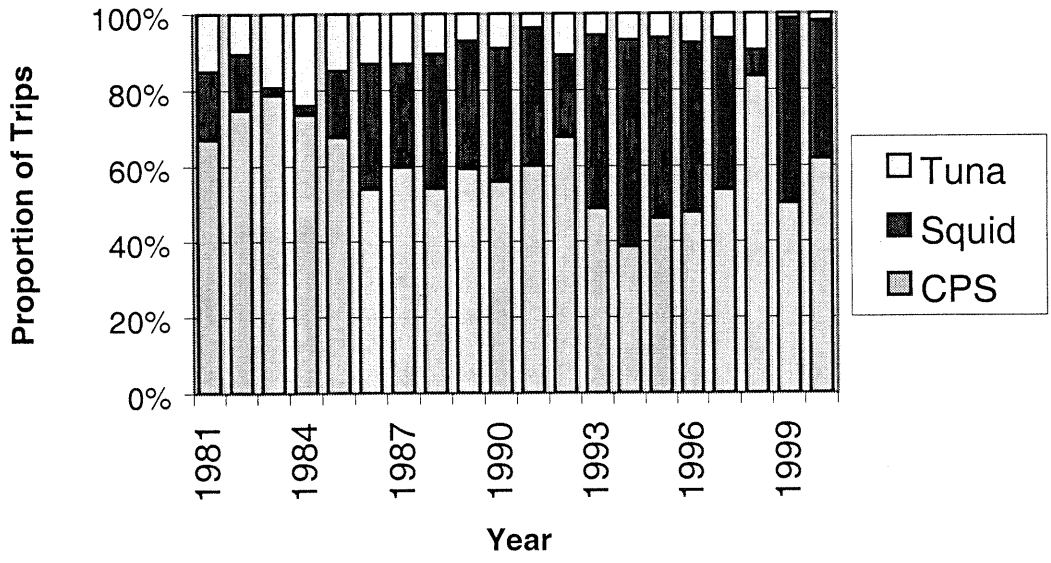


Figure 6. Relative Proportion of Trip Types



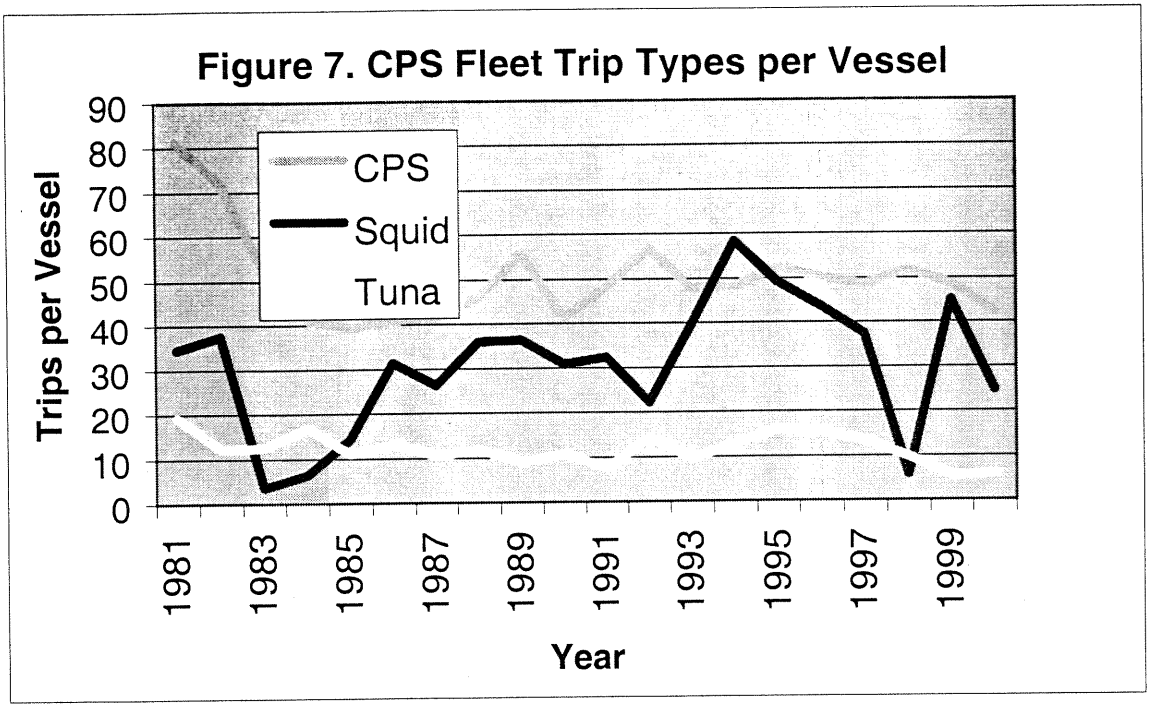


Figure 7. CPS Fleet Trip Types per Vessel
Trips per Vessel
90
80
70
60
50
40
30
20
10
0
CPS
Squid
Tuna
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
Year

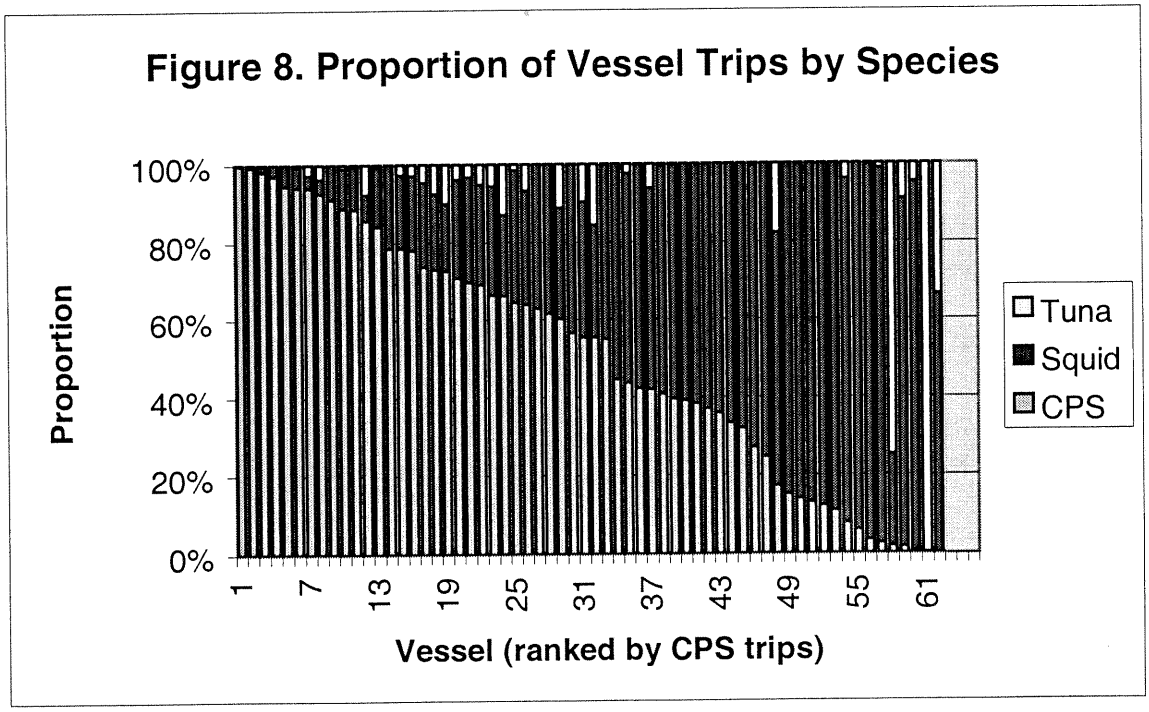


Figure 8. Proportion of Vessel Trips by Species
Proportion
100%
80%
60%
40%
20%
0%
Tuna
Squid
CPS
1
7
13
19
25
31
37
43
49
55
61
Vessel (ranked by CPS trips)

Figure 9. Vessel "AY" - CPS specialist

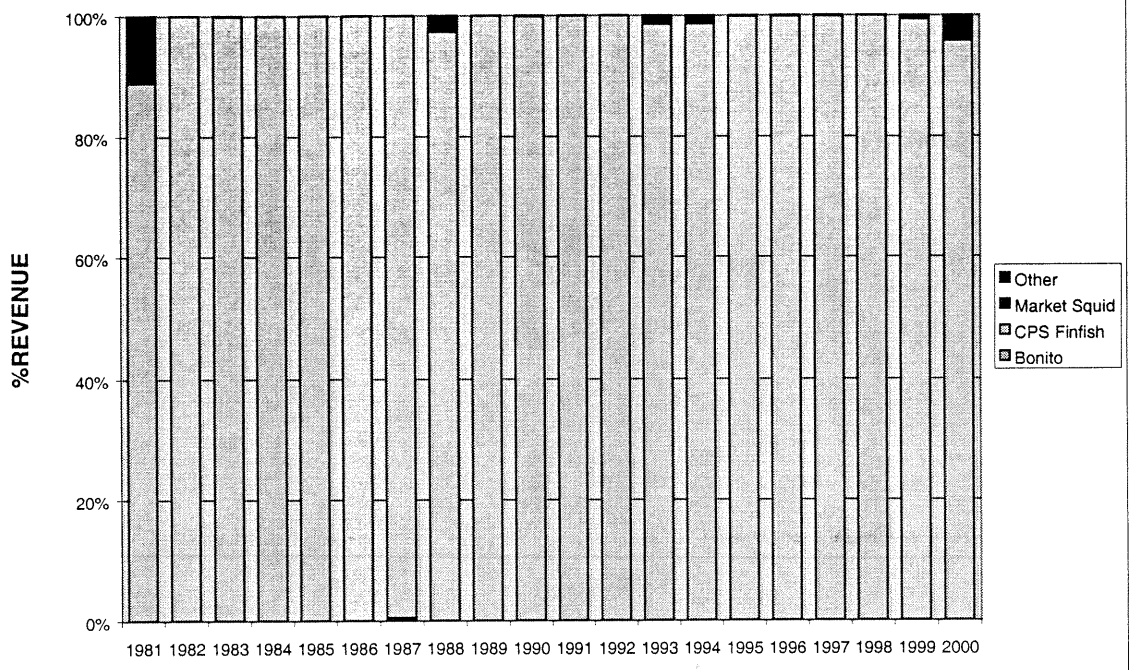


Figure 10. Vessel "BG" - CPS specialist

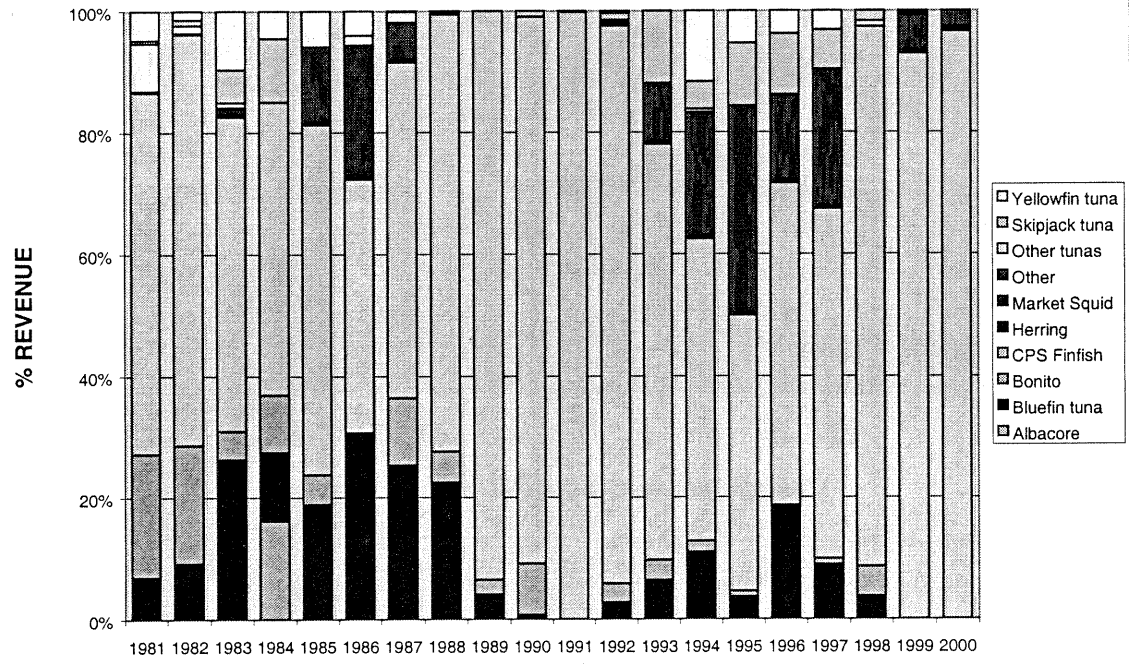


Figure 11. Vessel "A" - Squid specialist

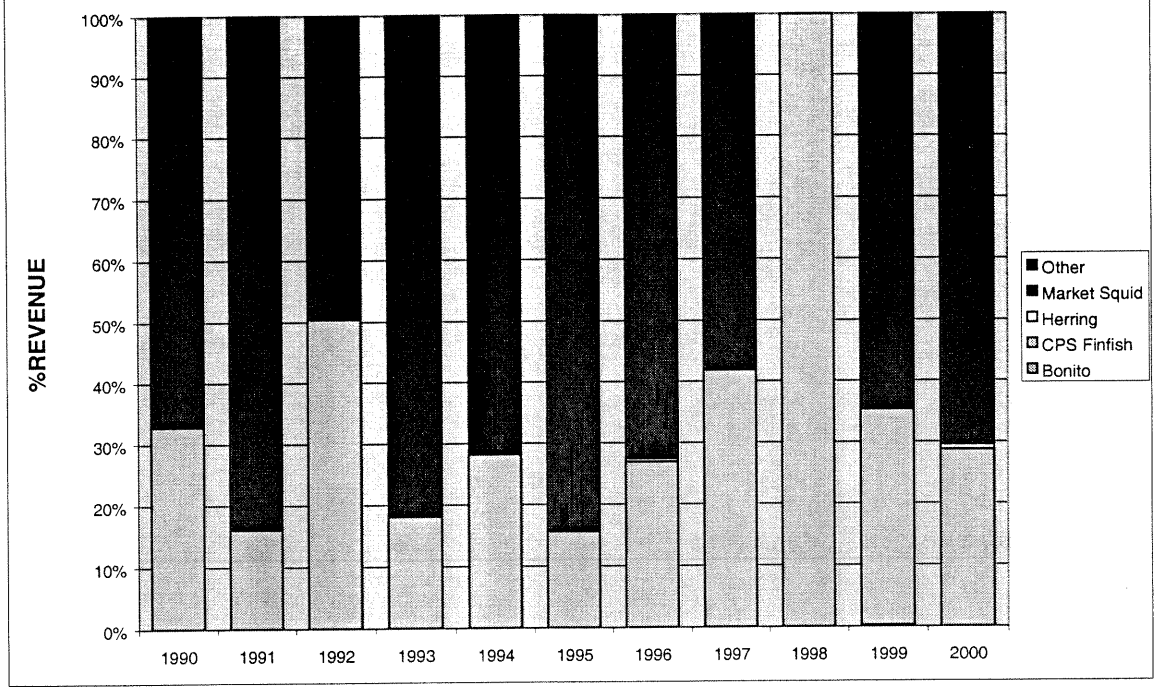


Figure 12. Vessel "BB" - Squid specialist

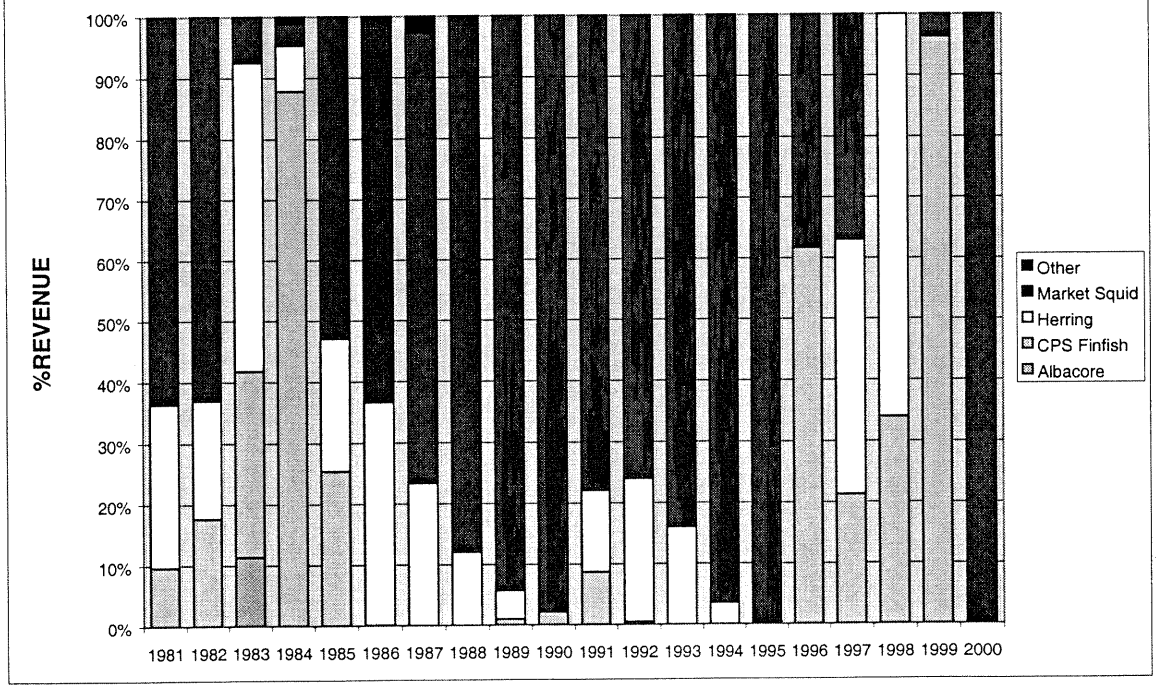


Figure 13. Vessel "AG" - Generalist

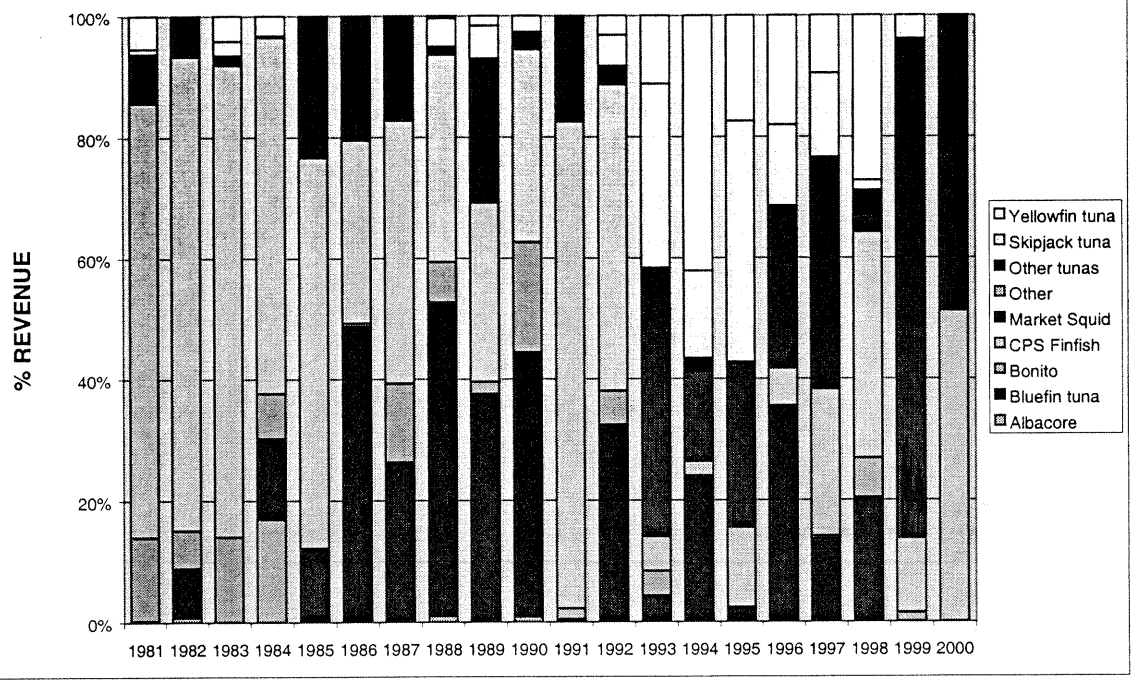


Figure 14. Vessel "J" - Generalist

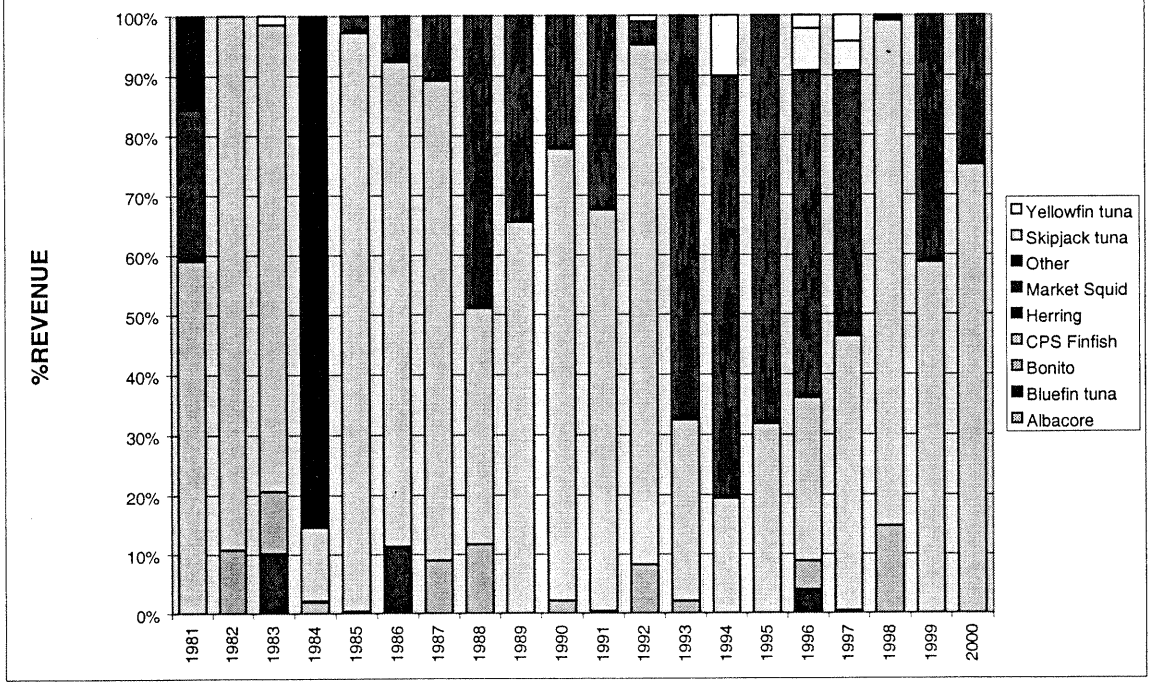


Figure 15. CPS Biomass Estimates

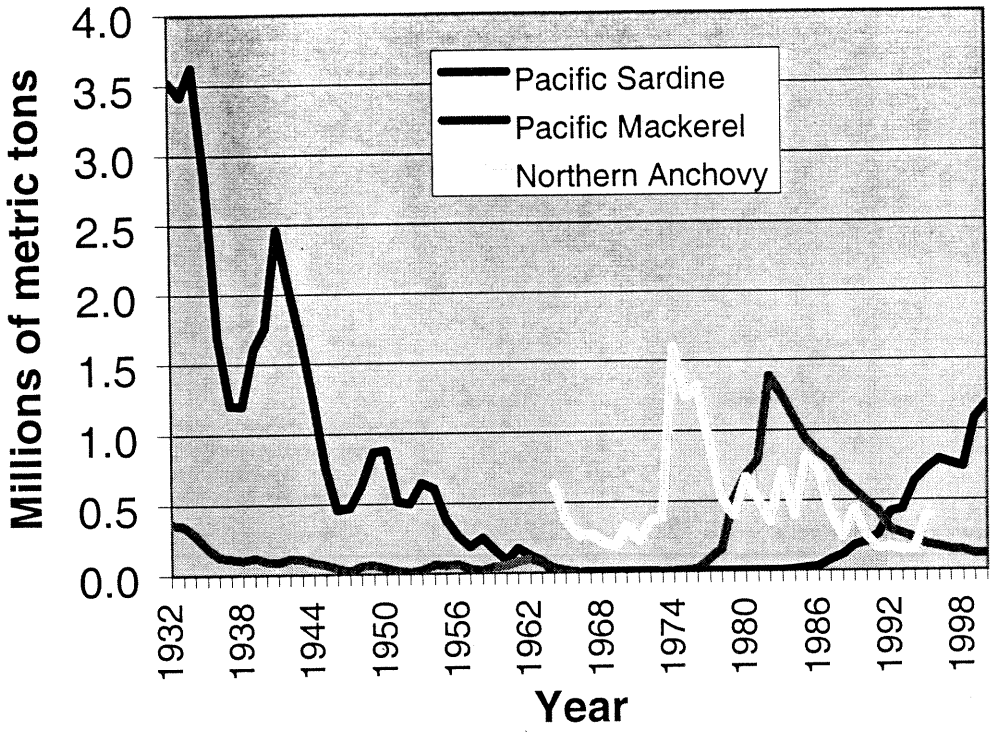


Figure 16. CPS Target Harvest Levels

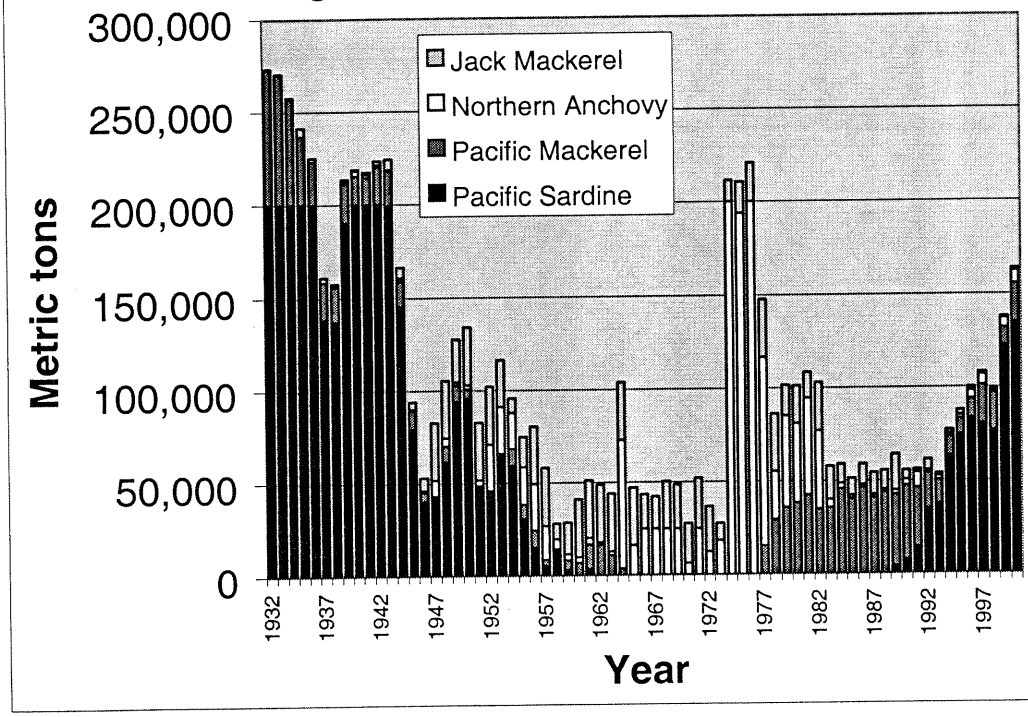


Figure 17. Data Envelopment Analysis - a piecewise linear programming procedure that optimizes on each individual observation to calculate a best-practice frontier.

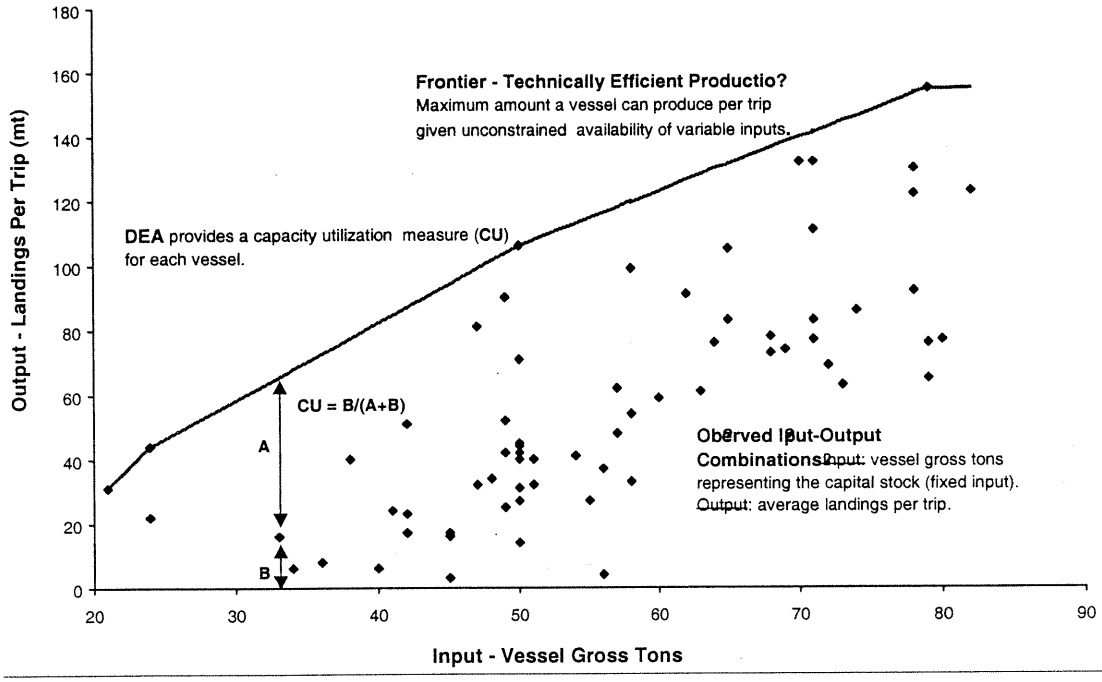
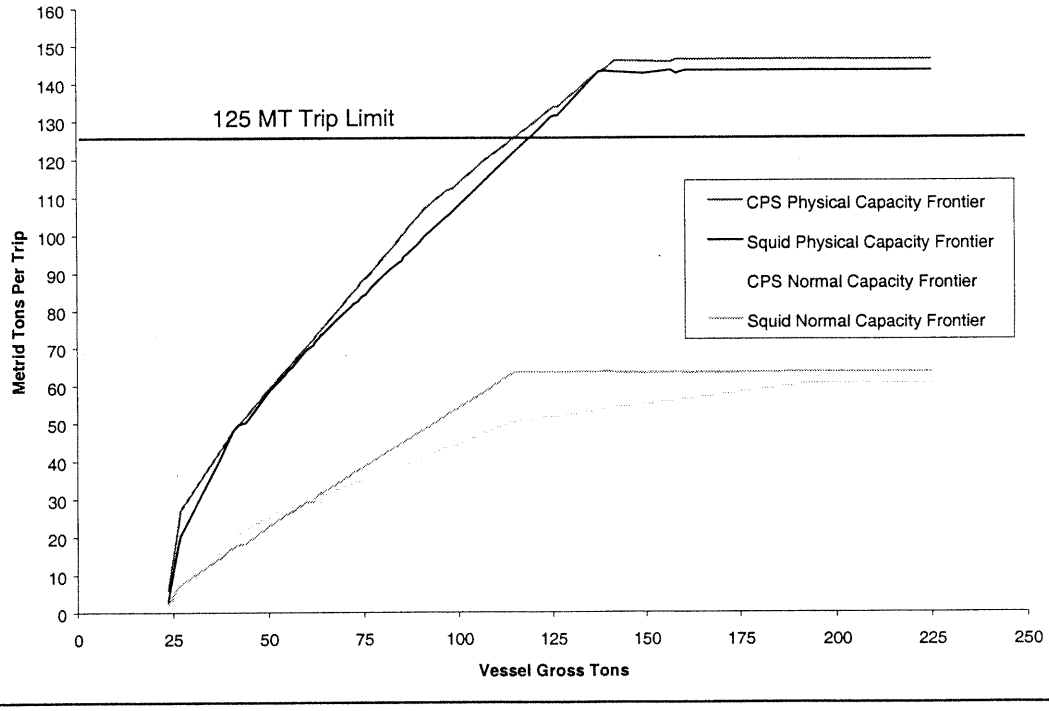


Figure 18. Estimated harvesting capacity per trip for CPS limited entry permittees



Appendix Table 1. CPS Limited Entry Fleet supplemental information.

Total CPS Permit Holders:	**65**	
Original Qualifiers Remaining:	45	
New Vessels from Transfers:	20	
Vessels with Squid Permits:	55	
Vessels by Category		**Comments:**
CPS "Specialists"	12	5 are transfers; 5 hold squid permits; 3 are CPS 'purists'
Generalists	23	3 are CPS permit transfers; 22 hold squid permits
Squid "Specialists"	26	8 are CPS permit transfers; all hold squid permits
Tuna "Specialists"	3	3 are CPS permit transfers; 2 hold squid permits
Undetermined	1	

Appendix Table 2. Number of vessels taking 95% and 99% of the CPS finfish landings, 1981-2000.

		Number of Vessels	
YEAR	CPS Landings (mt)	95% of harvest	99% of harvest
1981	105,507	37	52
1982	97,833	39	52
1983	55,727	45	61
1984	56,119	45	59
1985	46,279	37	51
1986	54,790	36	50
1987	56,572	36	48
1988	58,596	32	45
1989	61,759	35	49
1990	48,210	38	51
1991	45,311	34	52
1992	38,859	27	41
1993	30,795	26	39
1994	26,145	26	42
1995	52,566	27	40
1996	48,750	32	51
1997	68,522	36	52
1998	65,750	30	42
1999	74,083	38	52
2000	61,343	38	52
Average:	57,676	35	49

Appendix Table 3. Number of vessels and corresponding capacity parameters based on observed maximum and average landings, and observed maximum and average trips per year, 1981-2000.

Option	# Vessels	Physical Capacity[1]	Normal Capacity[2]
1[3]	65	360,520	60,416
2-A[4]	41	328,127	58,067
3-A[5]	7	120,127	16,735

[1]Physical capacity based on each vessel's observed maximum finfish trips per year and observed maximum finfish landing per year, 1981-2000.

[2]Normal capacity based on vessel's average of observed finfish trips per year and average of observed finfish landing per year, 1981-2000.

[3]Capacity estimates for all 65 permitted vessels.

[4]Normal capacity equal to average total finfish landings over the 1981-2000 period, 58,000 mt per year. Vessels ranked by descending normal harvest capacity per year.

[5]Physical capacity equal to long-term expected target harvest level,110,000 mt per year. Vessels ranked by descending physical harvesting capacity per year.

COASTAL PELAGIC SPECIES ADVISORY SUBPANEL COMMENTS ON CAPACITY GOAL AND RELATED ISSUES

The Coastal Pelagic Species Advisory Subpanel (CPSAS) held a joint meeting with the Coastal Pelagic Species Management Team (CPSMT) on March 9th to continue the discussion on determining a capacity goal for the coastal pelagics finfish limited entry fleet. Defining a capacity goal and related management options continues to be a complex issue with the CPSAS. Other unsettled issues such as squid management in California and developing fisheries in northern states make defining an exact capacity goal for finfish difficult. However, the Pacific Fishery Management Council (Council) has asked the CPSMT and CPSAS to recommend a capacity goal for the fishery as well as mechanisms needed to reach that goal.

A majority of the CPSAS recommends the following:

Capacity Goal

1. The CPSAS recommends supporting Option 1 as identified in the CPSMT Report. (Motion passed 6 to 3)

The CPSAS continues to support a larger, more diverse fleet. While pinpointing an exact capacity goal is difficult, the CPSAS did agree that the current make-up of the fleet (65 boats) should be sufficient to harvest the resource currently available.

The CPSAS wants to ensure the Council thoroughly understands the dynamics of the coastal pelagic industry. There are relatively few finfish specialists. The report provided by the CPSMT identifies 3 vessels which are CPS 'purists', they make up less than 5% of the current fleet. This is important to note, because it reflects the realities of the coastal pelagic fleet: the majority of fishers must rely on other fisheries such as tuna and squid to survive, not just cps finfish.

The CPSAS would like the Council to recognize that defining normal operating conditions in the CPS fishery is near impossible. Harvesters typically switch between species based on availability, domestic and international markets, and sometimes even weather. Other issues that further compound the problem of defining an exact capacity option include perceived "latent" capacity. It is important to note that just because a boat can carry 100 tons of product does not mean that it will consistently deliver that amount of fish. In fact, it is likely that the vessel will deliver half of what it could pack, utilizing the extra hold space to carry additional chilled seawater. By doing this the harvester can bring in a higher quality product that can potentially bring a higher price to the fishermen.

One concern voiced by some CPSAS members was the fact that by endorsing an exact capacity goal (as in Option 1) there may be some preclusion from upgrading vessels.

The CPSAS is opposed to decreasing the current fleet size as Options 2 and 3 would most likely require.

Transferability

2. The CPSAS recommends supporting Option 3 as outlined in the CPSMT report. (Motion passed unanimously)

During the process of defining and implementing the limited entry program for the finfish fleet the CPSAS has always advocated transferable permits. While some members of the CPSAS continue to support unrestricted transfer of permits the realities of the process indicate that some restrictions must be implemented to prevent significant increases in capacity especially when a capacity goal has been designated. However, many on the panel continue to agree that precluding boats from transferring their permits and upgrading their boats will foster obsolescence in the fleet and prevent the industry from remaining competitive in world markets.

The CPSAS believes that Option 3 as outlined in the CPSMT report is suitable to meet the current and future needs of the fleet.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON REVIEW CAPACITY GOAL AND RELATED ISSUES

Drs. Kevin Hill and Sam Herrick of the Coastal Pelagic Species Management Team (CPSMT) briefed the Scientific and Statistical Committee (SSC) on fleet profile, capacity goal and permit transferability options for the coastal pelagic species (CPS) finfish limited entry fishery. The window period for CPS permit transferability closed December 31, 2000. The current fleet consists of 65 vessels.

The CPSMT considered a number of alternative capacity goals (1) long-term, expected average allowable harvest of 108,306 mt, with physical capacity to harvest peak period landings of 273,507 mt, (2) average total finfish landings during 1981-2000 of 57,676 mt, (3) long-term expected average allowable harvest of 108,306 mt, and (4) fixed fleet of 65 vessels with no capacity goal.

In order to determine the number of vessels needed to achieve capacity goal options 1-3, it was necessary to estimate capacity per vessel. The CPSMT considered two alternative approaches to such estimation (1) an approach based on Data Envelopment Analysis (DEA) and (2) an approach based on observed historical behavior of the fleet. Using both these approaches, the CPSMT provided estimates of "physical" and "normal" capacity, with physical capacity being a measure of hold capacity and normal capacity being the amount of capacity used under average stock abundance and market conditions.

The DEA approach (Table 3, p. 11) involves estimation of a technically efficient production frontier and the assumption that all vessels in the fleet are capable of performing at the frontier. This approach assumes a homogeneous fleet; for instance, it does not consider variations in performance among vessels due to differences in skill among skippers and crews. Moreover, for most of the fleet, the frontier exceeds even their maximum historical harvest. For these reasons, the SSC considers this approach to greatly overestimate fleet capacity.

The second approach (Appendix Table 3, p. 22) is based on the assumption that each vessel is capable of consistently replicating its own peak performance in terms of the maximum landings per trip and the maximum number of trips per year during 1981-2000. Although this approach provides a more realistic estimate of each vessel's capacity than DEA, it likely overestimates the extent to which such capacity is likely to be utilized in the pursuit of CPS finfish.

The CPS finfish fishery possesses a number of unique characteristics that make it difficult to estimate capacity in a realistic way. CPS finfish landings typically fall well below allowable harvest levels, for reasons that are largely market driven. The fleet is highly diversified and typically targets low-priced CPS finfish only when higher-priced alternatives such as squid or tuna are not available. The few vessels that are CPS finfish specialists tend to make very modest landings. Moreover, it is customary for vessels to avoid filling their hold on CPS finfish trips, due not only to processor limits but also the desire to avoid compromising the marketability of their catch. Thus, while the fleet is certainly capable of CPS finfish landings that exceed its normal capacity, it is unlikely to harvest its physical capacity.

According to Appendix Table 3 (p. 22), the normal capacity estimates associated with option 1 (65 boats) and option 2-A (41 boats) are very similar to each other, as are the physical capacity estimates. These results are not surprising, given the lack of incentive for the fleet to maximize its CPS finfish harvests. Although the physical capacity estimates likely exceed the amount of capacity likely to be utilized even under optimal stock abundance and market conditions, they are sufficiently high to suggest that the number of vessels allowed under both options 1 and 2-A would be capable of harvesting the long term expected allowable harvest (capacity goal option 3 - 108,306 mt) and perhaps even peak amounts of CPS finfish that might be available on an occasional basis (capacity goal option 1 - 273,507 mt).

While fleet size options 1 and 2-A are not distinguishable on the basis of capacity, it is possible to distinguish between these options by considering how they interact with the vessel profile options. Of the 65 CPS finfish limited entry boats, 55 also hold squid permits. Vessel profile option 1, which is to maintain a diverse CPS finfish fleet that also relies on other fishing opportunities, reflects the manner in which this fleet has historically operated. Fleet size option 1 (65 boats) is consistent with vessel profile option 1. Fleet size option 2-A (41 boats) is also consistent with fleet profile option 1, at least for the 41 CPS finfish permit holders who maintain their diversity of opportunities by holding onto their CPS finfish permits. However, option 2-A may significantly reduce the diversity of opportunities for vessels that give up their CPS finfish permit and makes them economically vulnerable in years of low squid and tuna availability. Option 2-A is also potentially disruptive of a long-standing pattern of behavior by fishery participants.

The SSC agrees with the CPSMT's recommendation that permit transfers be allowed in the CPS finfish limited entry fishery so long as fleet capacity does not exceed recommended levels. The SSC also supports the CPSMT's recommendation that transferability provisions be re-evaluated should the fleet's gross registered tonnage change by 5%.

PFMC
04/04/01

Exhibit E.2
Situation Summary
April 2001

REVIEW CAPACITY GOAL AND RELATED ISSUES

Situation: Under the coastal pelagic species (CPS) fishery management plan (FMP), limited entry permits may not be transferred to a different owner. The Coastal Pelagic Species Advisory Subpanel (CPSAS) and the public have expressed concern about these restrictions and whether the number of permits initially issued reflects optimal capacity in the fishery. To address these concerns, the Council directed the Coastal Pelagic Species Management Team (CPSMT) to analyze several issues related to capacity and permit transferability:

1. Establish a goal for the CPS finfish fishery (i.e., what should the fishery "look like" in terms of the number of vessels and the amount of capacity).

2. Establish a procedure (with criteria) for issuing new permits after the goal is attained.

3. Evaluate the pros and cons of extending the current permit transfer window to allow consideration of the non-transferability of California's market squid permits under two scenarios, (1) basic extension of the transferability deadline, or (2) extension of transferability contingent on holding a California squid permit.

4. Develop mechanisms for achieving the goal.

5. Transferability of permits after the goal is achieved under two scenarios – on achieving goal, (1) all permits (including new permits) are freely transferable, or (2) new permits (i.e., those issued after goal is achieved) would have restricted transferability.

In November 2000, the CPSMT provided a range of scenarios under which a capacity goal could be established:

a. Maintain a diverse CPS finfish fleet (similar to current number of vessels), which also relies on other fishing opportunities such as squid and tuna.

b. Determine the size of a smaller fleet - vessels with certain characteristics (e.g., small number of larger, "efficient" vessels or smaller number composed of CPS finfish "specialists").

c. Base the fleet size on expert expectations of long-term expected yields from the combined CPS finfish species and the number of vessels physically capable of harvesting that yield.

The Council directed the CPSMT to continue work on establishing a capacity goal and addressing other capacity related issues such as permit transferability. Alternative capacity goals should be constructed following the three options outlined by the CPSMT. The analysis should include advice on the most preferred option, why it is most preferred, and how permit transferability would help achieve the goal.

The CPSMT and CPSAS discussed these issues at their February 2001 and March 2001 meetings. The CPSMT will report to the Council the results of their capacity analysis and recommend several alternatives for setting a capacity goal and addressing permit transferability. The CPSAS will provide reports to the Council addressing these issues as well.

Council Action: Consider Capacity Goal and Related Issues.

Reference Materials:

1. Exhibit E.2.b, CPSMT Report.
2. Exhibit E.2.b, Supplemental CPSAS Report.

PFMC
03/20/01

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON UPDATE ON SQUID MAXIMUM SUSTAINABLE YIELD METHODOLOGIES WORKSHOP

The Department of Commerce rejected portions of Amendment 8 to the Coastal Pelagic Species Fishery Management Plan (CPS FMP) on the grounds that the amendment did not include an estimate of maximum sustainable yield (MSY) for squid. In September 2000, the Scientific and Statistical Committee (SSC) reviewed newly derived estimates of squid MSY. Because of the uncertainties surrounding these estimates and more generally, ongoing concern regarding the appropriateness of defining MSY for this species, the SSC did not recommend an MSY value. Fortunately, recent research conducted on squid life history (including growth, maturity, and fecundity) along with augmented fishery-dependent data (port sampling and logbooks) have provided significant new information and data. The SSC recommended (and the Council concurred) that the SSC work with the National Marine Fisheries Service (NMFS) and California Department of Fish and Game (CDFG) to organize a stock assessment review (STAR) panel during 2001 to integrate the ongoing squid research in California into the Council's CPS FMP. Terms of reference for the STAR panel were meant to address the MSY issue as well as candidate control rules for practical squid management.

The STAR Panel will convene during May 14-17, 2001 (3.5 days) at the Southwest Fisheries Science Center, La Jolla, California. The Panel will include representatives of the SSC, CDFG, NMFS, CPSMT, CPSAS, and two outside reviewers. Tentative panel members are:

SSC: Tom Jagielo (Co-Chair)
SSC: Ray Conser (Co-Chair)
SSC: Cindy Thomson
CDFG: Tom Barnes
CPSMT: Paul Smith
CPSAS: Heather Munro
Outside Reviewer: Johann Augustyn (Marine and Coastal Management Institute - South Africa)
Outside Reviewer: Larry Jacobson (NMFS - Woods Hole)

Approximately ten working papers are in preparation for the review, and will be distributed to the STAR Panel by May 1, 2001. All working paper authors will present their paper(s) to the STAR Panel and will be available throughout the week to consult with the panel, provide additional information & data, and to carry out additional analyses, if needed. A draft STAR Panel report will be available for distribution with the briefing book prior to the June Council meeting.

Terms of reference for the Squid STAR Panel are:

1. Review recent findings on the biology and life history of market squid, including the assessment-related aspects of age and growth, maturity, fecundity, spawning behavior, longevity, habitat, and environment.

2. Review newly developed fisheries-related data, including catch history, effort data, and port sampling protocols as they relate to estimation of key biological, population parameters.

3. Review all aspects of MSY estimation, as required by the Magnuson-Stevens Fishery Conservation and Management Act for all FMPs, and address the concept of MSY as it relates to a species that is short-lived and whose abundance/availability is largely environmentally determined.

4. Consider management measures for market squid, including operationally-practical control rules, long-term monitoring programs, and in-season adjustment mechanisms.

5. Prepare a report for the Council SSC detailing the findings of the review, practical management recommendations, and the key research and data needs.

PFMC
04/03/01

UPDATE ON SQUID MAXIMUM SUSTAINABLE YIELD METHODOLOGIES WORKSHOP

Situation: Last September, as the Council was finalizing Amendment 9 to the coastal pelagic species (CPS) fishery management plan (FMP), the Council supported the Scientific and Statistical Committee's (SSC) recommendation for a workshop to review market squid life history and fishery management information. The goal of the workshop is to obtain information to help the Council develop a maximum sustainable yield (MSY) or MSY proxy value for market squid, which would be incorporated into the CPS FMP. Preparation for the workshop is proceeding under the guidance of the SSC, the Coastal Pelagic Species Management Team (CPSMT), California Department of Fish and Game (CDFG), and National Marine Fisheries Service (NMFS).

The CPSMT will report on workshop preparations. The SSC has developed terms of reference for the workshop and will review these for the Council. The workshop will be May 13-17, 2001 at the NMFS-Southwest Fisheries Science Center in La Jolla, California. The workshop panel will be comprised of SSC, CPSMT, Coastal Pelagic Species Advisory Subpanel, CDFG representatives and several outside reviewers. A preliminary report will be provided to the Council at the June 2001 meeting.

Council Action: Discussion.

Reference Materials:

1. Exhibit E.3.a, Supplemental CPSMT Report.
2. Exhibit E.3.b, Supplemental SSC Report.

PFMC
03/19/01