AGENDA B-5(b)
DECEMBER 1987

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Deputy Director

DATE: December 2, 1987

SUBJECT: Secretary's Draft Uniform Standards

ACTION REQUIRED

Informational only.

BACKGROUND

The Regional Council Chairmen met on October 9-10, 1987 and reviewed the proposed 601 regulations and 602/603 guidelines that were drafted by two inter-Council workgroups and a NMFS scientific team. This is the same document that was sent to you on September 11 and reviewed at the September meeting.

The Chairmen revised and approved for Secretarial review sections 601 and 602 dealing with Council regulations, administration, and operations. However, they could not agree on the 603 guidelines, specifically the definition and application of terms such as threshold, acceptable biological catch, and overfishing. The Chairman decided to reserve comment on the 603 guidelines and send them to individual Council SSCs for further development by mid-January.

The Chairmen expected to meet again in March and with NOAA/NMFS representatives in April to review the revised 601-603 package. NMFS has since said they would prefer to split off the 601/602 sections and publish them by February 1, 1988, that the few remaining differences between NMFS and the Councils did not warrant further delay while the conservation sections were developed.

Section 603 will be on a separate track. The other SSCs are not expected to complete their reviews until about mid-January. Therefore, the next Chairmen's meeting could slip from the early March date now scheduled. It is NMFS' intention to concentrate their effort until January on readying the 601/602 sections for publication, and then to start work on the 603s which they hope to have in effect by mid-summer.

687/CV

NOR'EASTERN TRAWL SYSTEMS, INC.

December 1, 1987

Mr. Jim Campbell, Chairman
c/o Mr. Jim Branson, Executive Director
North Pacific Fisheries Management Council
411 W. 4th Avenue
P.O. Box 103136
Anchorage, Alaska

Dear Sirs:

As the leading supplier of trawl gear to the Bering Sea flounder and other drag fisheries, Nor'Eastern Trawl Systems (NETS) participated in the 1987 S-K Crab Bycatch Reduction Project by furnishing fishing gear and gear-related technical services. In this role, NETS identified the various types of trawl gear (nets, doors, and rigging) commonly used in the domestic Bering Sea flounder fisheries, analyzed their bottom-tending and other performance characteristics likely to influence their potential to affect crabs, investigated various measures to reduce the risk of injury to crabs encountering trawl gear, then built the gear (both experimental and control) to be assessed during the comparative fishing experiment. In addition, NETS personnel directed remotely-operated underwater vehicle (ROV) operations carried out in support of the experiment.

After identifying the three types of trawls most commonly used in the flounder fisheries, NETS built and tested scale models of them, together with scale rigging and doors, at the U. S. Navy's David Taylor Naval Ship Research and Development Center in Bethesda, Maryland. The tests demonstrated principles familiar to experienced fishermen: that different trawls have different performance characteristics in areas such as bottom tending, and that the nets responded to changes in the fishing situation such as different doors or changes in rigging or towing speed. Even in the carefully controlled environments of the circulating water channel and the model towing basin, it became clear that net performance can be difficult to predict since it is determined by a complex interaction of these and other factors. In the much less predictable and homogeneous real-world environment it was obvious that consistent, fleet-wide reductions in crab bycatch levels could not easily be achieved by such means as making minor rigging adjustments. Fishermen are already exploiting high-efficiency doors, higher towing speeds, and bobbin footropes to reduce bycatches so there is relatively little potential for further major bycatch reductions through these means. For these reasons attention was focussed on net modifications as a means for reducing crab bycatch.

One interesting finding from the model tests mirrored the underwater TV observations of trawl gear made during NMFS' 1986 Manta project: that much of the rigging (sweeps, bridles, etc.) of modern trawl gear is held some distance off bottom during the tow. Strategically placed scale weights of approximately 300 lbs per side were required to bring the models' rigging down into full bottom contact. This phenomenon was observed again on full-scale gear during this year's ROV operations over a wide range of towing speeds, rigging configurations, and vessel sizes.

NETS designed two different crab-sorting systems that could easily be installed in existing bottom trawls. Important design parameters were: 1) the sorters had to have the potential to allow significant numbers of crabs to escape the nets unharmed without releasing unacceptably large numbers of fish; and, 2) the sorters had to be compatible with current trawl designs and fishing and gear-handling practices.

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One of the sorting systems, the Crab Panel, consists of longitudinal ropes replacing a portion of the belly netting immediately behind the trawl's footrope. The intent was to exploit the tendency of flatfish observed during the Manta project to enter the trawl as much as several feet above the bottom. Crabs tumbling over the footrope and into the trawl's belly would fall between the ropes and out of the net. Similar panels, but with large mesh instead of lengthwise ropes, had been tested with some success by flounder fishermen in 1985 and 1986.

The other sorting system, the Crab Chute, also relied on differences between fish and crab behavior to achieve its sorting effect. Underwater TV observations made aboard a Scottish research vessel revealed that fish were reluctant to enter a conical fabric funnel installed within a bottom trawl, even though passing through the funnel would have permitted the fish to escape from the net. The Crab Chute features a similar funnel installed in the bottom of the net with its mouth facing the mouth of the net and outlet penetrating the netting so that anything passing through the funnel will escape the net. The funnel is installed in an area where it blocks roughly the lower quarter of the net's cross-section, so that anything passing above it will pass on down towards the codend. The intent was that crabs passing down the net on the bottom netting panels would be carried through the funnel and out of the net, while fish deterred by turbulent water in the funnel's mouth or other stimuli would rise to avoid entering it, and thus stay within the net.

Models of both the Crab Chute and Crab Panel were constructed and installed in model trawls and tested at the David Taylor facility. While obviously there was no way to model the reactions of crabs or fish, the model tests demonstrated that both systems performed well physically, without any adverse effects on the performance of the trawls.

After the model tests had been satisfactorily concluded full-size gear was constructed for the comparative fishing experiment. The basic trawl design chosen was the Bering Sea Combination (BSC) since roughly 75-80% of the flounder fleet rely on this type. Once the vessels participating in the experiment had been designated four identical BSC 101/130's were constructed. While this size trawl was not ideal for any one of the four boats, it was a workable compromise between the needs of the largest and smallest participating vessels, each of which would be required to fish each net in turn during the study.

Prior to shipment, a Crab Panel was installed in one of the nets and a Crab Chute in another, leaving the remaining two nets as control nets. In addition, a set of 15-fm bridles and a straight intermediate were furnished with each net. Each participating boat used its own doors, sweeps, and codends, rigged as that boat customarily does when fishing commercially. In this way any bycatch reductions resulting from the experimental nets would be demonstrated over a realistically wide range of the types of boats and the fishing conditions likely to be encountered in the fisheries.

Thank you for this opportunity to describe our efforts in support of this worthwhile research project.

Sincerely,

Gary Loverich
President/Engineer

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PRELIMINARY FINDINGS FROM THE BERING SEA CRAB BY-CATCH EXPERIMENT OF 1987

The attached tables and figures summarize the preliminary results of the crab-by-catch experiment that occurred during August and September of 1987.

The experiment was part of an overall project supported in part with S-K funds and involved both industry and the Federal government. Those involved were the Highliners Association, Natural Resources Consultants, Marine Resources Company International, Noreastern Trawl Systems Inc., Center for Fisheries Engineering Research (MIT), and the National Marine Fisheries Service. The objective of the experiment was to reduce and minimize king and Tanner crab by-catch in trawl fisheries directed at flounder and other groundfish in the Bering Sea. The preliminary results are from the analysis of data derived from a carefully designed experiment to evaluate the effectiveness of trawl nets modified to reduce the by-catch of crab during a fishery targeting on principally flounders in areas where crab densities are relatively high. All operations were conducted in the SE Bering Sea, Zone 1, within a 1° longitude block (Fig. 1).

Experimental Design

The experiment was designed to test the hypothesis that there are significant differences in the catch rate of crab and flatfish because of changes in trawl net construction. The design (factorial) took into consideration effects related to (1) differences between vessels (4 vessels were used), and (2) differences between nets (2 experimental and 2 control nets used), and (3) differences between day and night fishing. Each vessel fished each net according to a rotational schedule. For each vessel the control and experimental nets were fished alternately (15 tows/vessel/gear type). The control nets were Bering Sea combination trawls typically used in the flounder fishery.

The two experimental trawls were modified to reduce the take of crab - one trawl having a crab panel and the other a crab chute (Fig. 2-4)

Results

Although the experimental design called for 240 individual tows the actual number was 241. Each vessel made 15 tows with each type of net; 10 of these were made during daylight hours and 5 were made at night. One vessel made an extra tow[1/].

Total crab and fish caught during the experiment

Most of the final catch totals are in close agreement with those previously reported:

Species	NMFS target limits	Cruise Report tallies	Final report total	
Yellowfin sole	4,500 mt	3,841 mt	3,845 mt	
Other flounder	3,000 mt	751 mt	1,145 mt	
Pacific cod	1,000 mt	699 mt	704 mt	
Other fish	--	448 mt	--	
Red king crab	72,200 crab	24,545 crab	24,423	(50,912 lbs)
Bairdi Tanner crab	70,000 crab	67,845 crab	72,684	(24,905 lbs)
Halibut	N/A	12,011	12,109	(94,772 lbs)

Early during the start of the experiment an error was made by NMFS personnel in transcribing catch data. This resulted in the total number of Tanner crab caught exceeding the cap of 70,000 by 2,684. This overage is negligible in its effect on the total crab population.

1/ This tow was made by the vessel, Western Dawn, during the week of August 24.

Size Composition and Survival of trawl caught crab

During the course of the investigation 18,803 red king crab were measured for carapace length and 31,318 bairdi Tanner crab were measured for carapace width (Fig. 5 for summary size frequency distributions).

It was estimated that about 25% or less of the crab survived the ordeal of capture, sorting, measuring, and live tank experiments. Mortality increased as the time the crab were out of the water increased. Details as to the result of the mortality study will be forthcoming in a separate report.

Comparison between experimental and control nets in by-catch of crab relative to groundfish catch

The catch of king crab and Tanner crab relative to the tonnage of groundfish (flounders and cod) caught and the catch rate of groundfish during the experiment by the test and control nets are given in figure 6 for all trawlers combined and in figures 7-10 for each trawler. The results were consistant for all four trawlers. The panel nets caught less bairdi Tanner crab and king crab per mt of groundfish than the control nets. For all trawlers combined this may have amounted to a 70.5% reduction for Tanner crab and a 51.4% reduction for king crab per mt of groundfish (Table 1). The panel trawl also caught less of the target species than the control nets. For the combined trawlers this may have amounted to 39.5% reduction in catch rate - from 5.8 mt/hr for the control net to 3.5 mt/hr for the panel net.

The crab-chute net may have also substantially reduced king crab by-catch ratios (numbers per ton of groundfish) relative to the control nets, though such reductions were not statistically significant. The crab-chute net appeared to have no effect on Tanner crab by-catch ratios. There was no significant change in the catch rate of the target species between the chute

and control nets.

Daytime versus nighttime fishing

Prior to conducting the actual by-catch experiment, the trawlers completed 33 search tows to determine the specific grounds for conducting the experiment. These tows were conpleted over grounds which proved satisfactory for the gear experiment and occurred during daylight hours (with a 66 hours of effort) as well as during hours of darkness (with 42 hours of effort). The catch of bairdi Tanner crab per mt of groundfish appeared much higher during darkness (39 crab/mt) than during daylight (7 crab/mt) (Fig. 11).

Preliminary Conclusions From Crab By-Catch Experiment

The experiment demonstrated that the by-catch of bairdi Tanner crab could be reduced by the modification of currently used trawls in the Bering Sea flounder fisheries. The modification that proved successful involved the placing of a rope panel behind the footrope which allows the crab to escape after entering the mouth of the net.

Status of Reports Arising From Overall Study

Reports completed to date are as follows:

1. Cruise results
2. Summary of underwater operations
3. Fishing Log for a crab by-catch experiment in the Eastern Bering Sea flounder fishery

Cruise results were prepared by the Highliners Association and provide background on the by-catch experiment dealing with the trawlers and fishing gears involved, the area and time of the experiment, the methods employed,

personnel involved, and results of the field aspects of the experiment.

The Summary of Underwater Operations was prepared by Noreastern Trawl Systems, Inc. and details the results of underwater video observations using the "Ocean Surveyor", a remotely operated vehicle. These observations were made during early September of 1987 during the crab by-catch experiment and were intended to provide additional information on the dynamics of the modified trawl nets and the behavioral responses of crab and fish to the fishing nets.

The fishing log report was a joint effort by Natural Resources Consultants and the National Marine Fisheries Service. The report gives a complete listing of all tows made during the crab by-catch experiment and by vessel. The listing gives the location, depth of fishing, duration, date, and time of each tow, what trawl net was fished during that tow, and the amount of fish and crab caught by tow. Preliminary drafts of this report are now available.

A final report on the overall study (crab by-catch experiment and underwater observations) will be available by the end of January, 1988.

Analyses dealing with specific aspects of the crab by-catch experiment are continuing. These include a study of mortality of trawl-caught crab and analyses concerned with the statistical nature of the species catch data from the by-catch experiment.

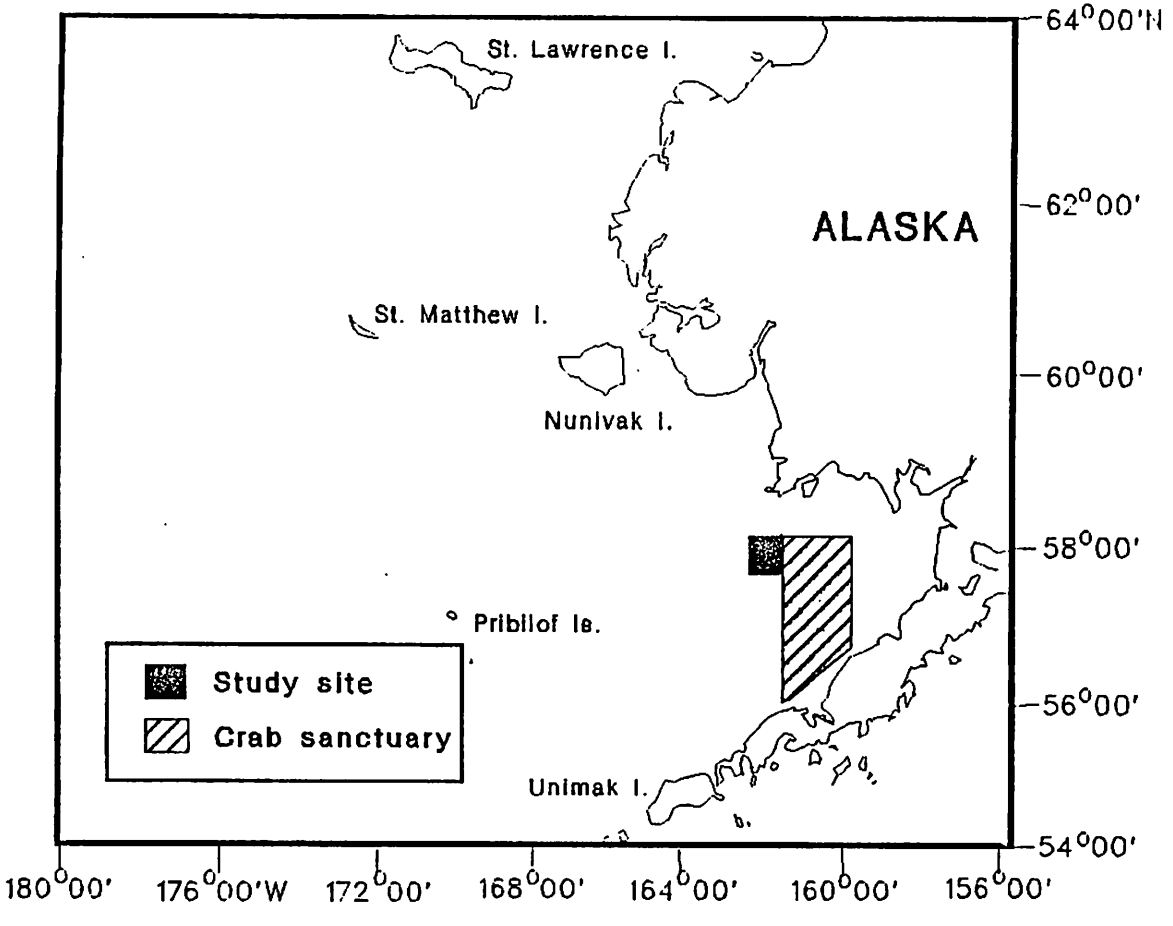
St. Lawrence I.
ALASKA
St. Matthew I.
Nunivak I.
Pribilof Is.
Study site
Crab sanctuary
Unimak I.
64°00'N
62°00'
60°00'
58°00'
56°00'
54°00'
180°00'
176°00'W
172°00'
168°00'
164°00'
160°00'
156°00'

Figure 1

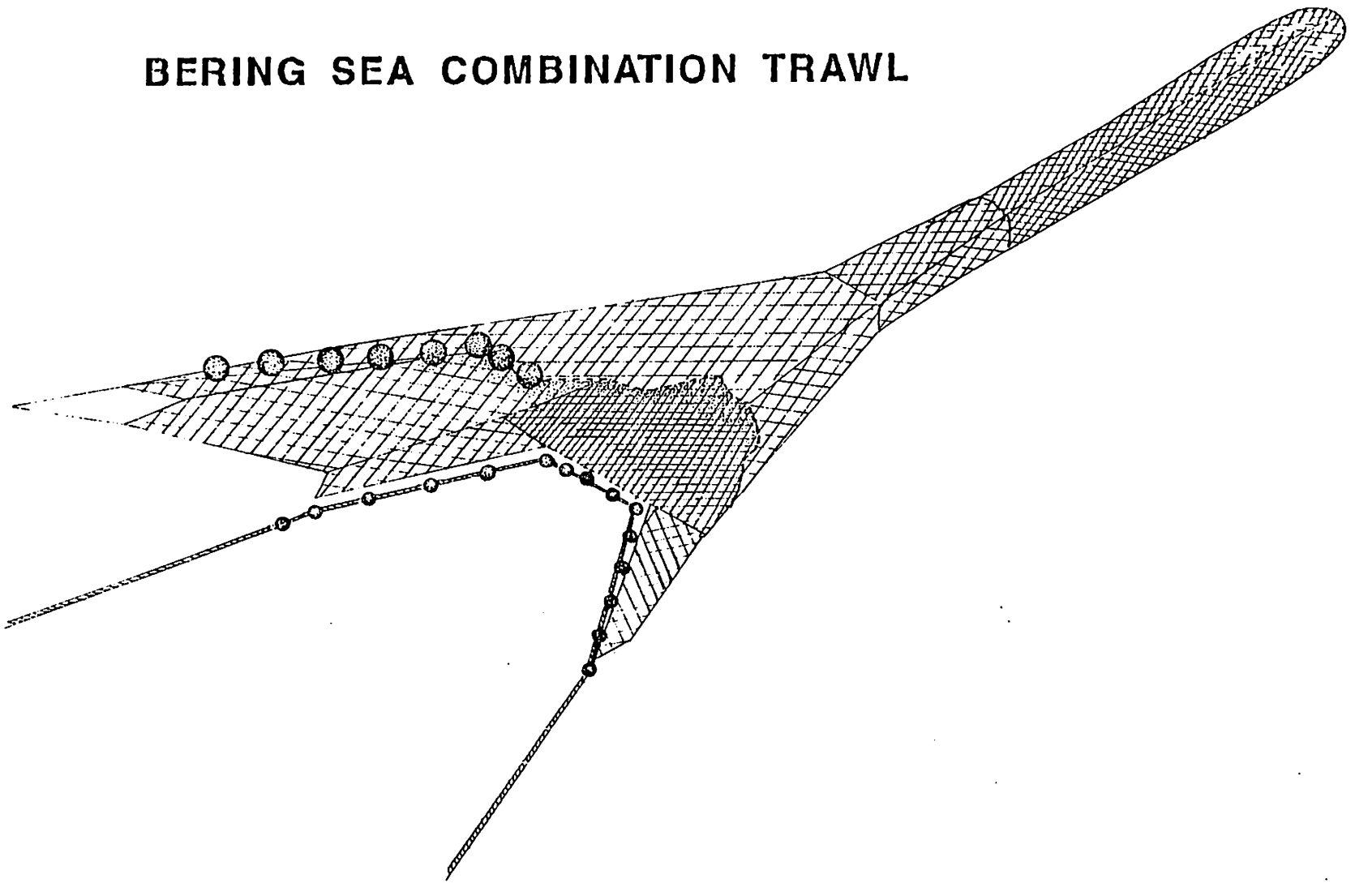

Figure 2

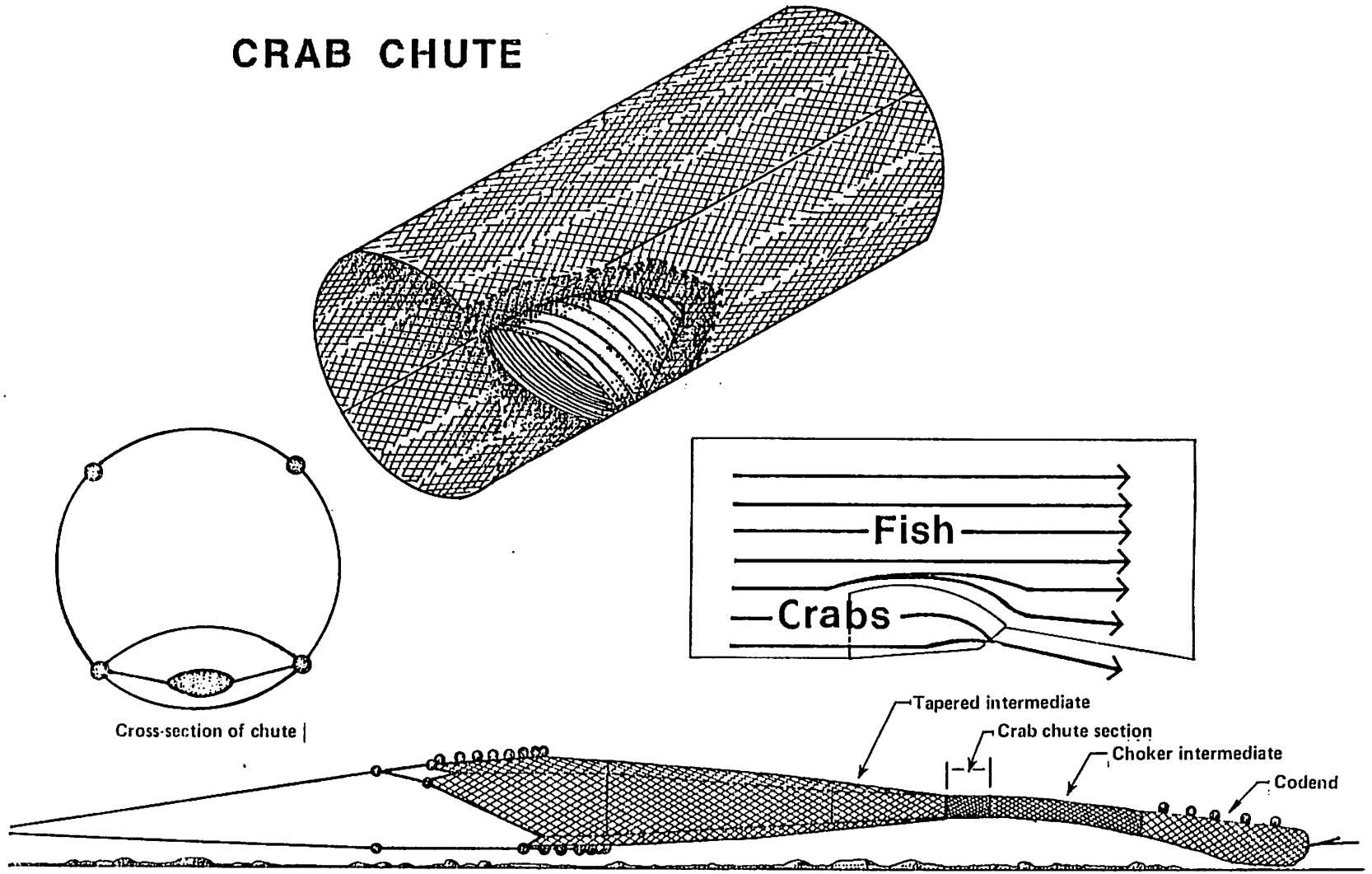
CRAB CHUTE
Fish
Crabs
Cross-section of chute
Tapered intermediate
Crab chute section
Choker intermediate
Codend

Figure 3

COMBINATION TRAWL WITH CRAB PANEL

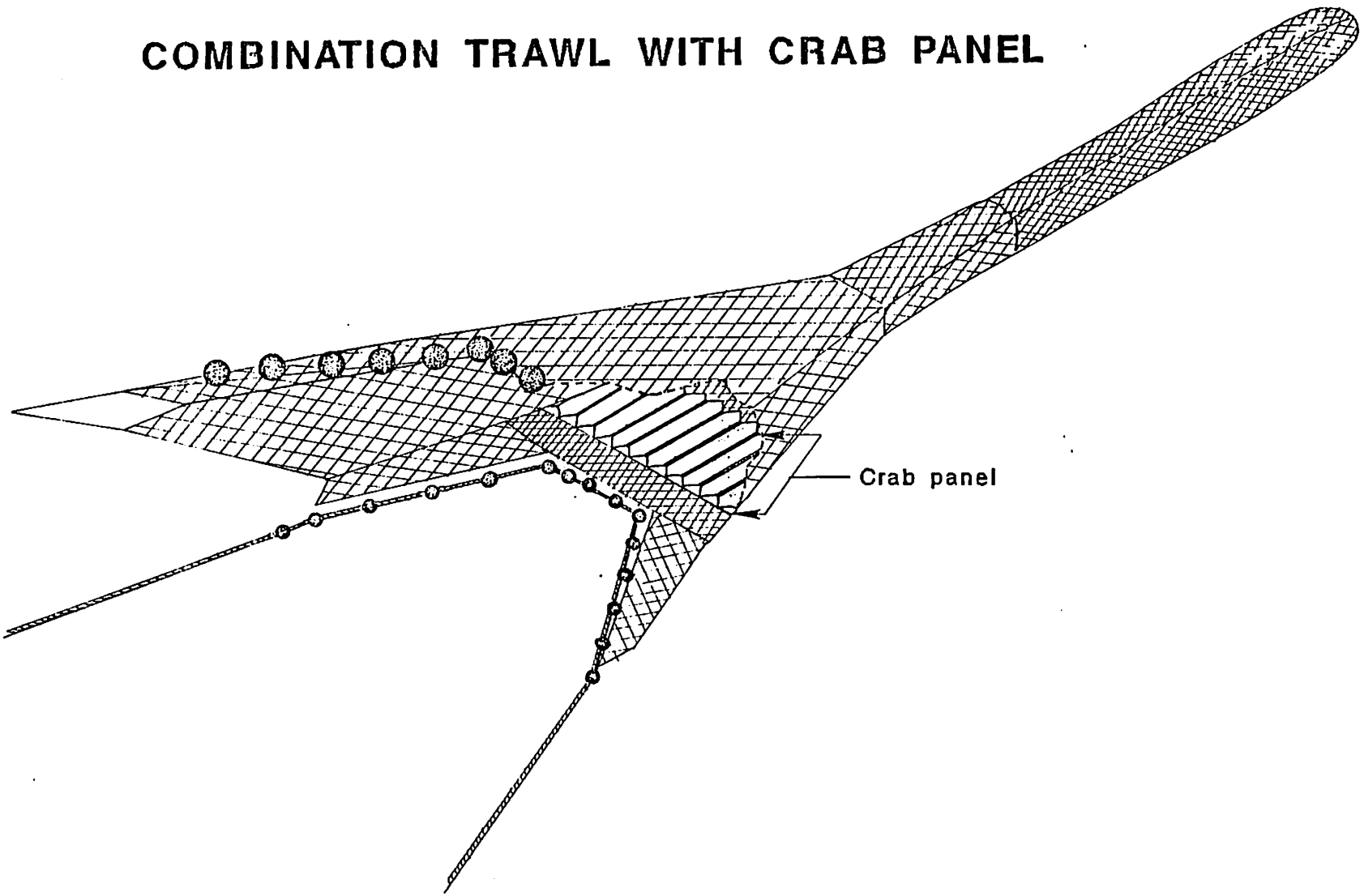

Figure 4

CRAB SIZE COMPOSITION

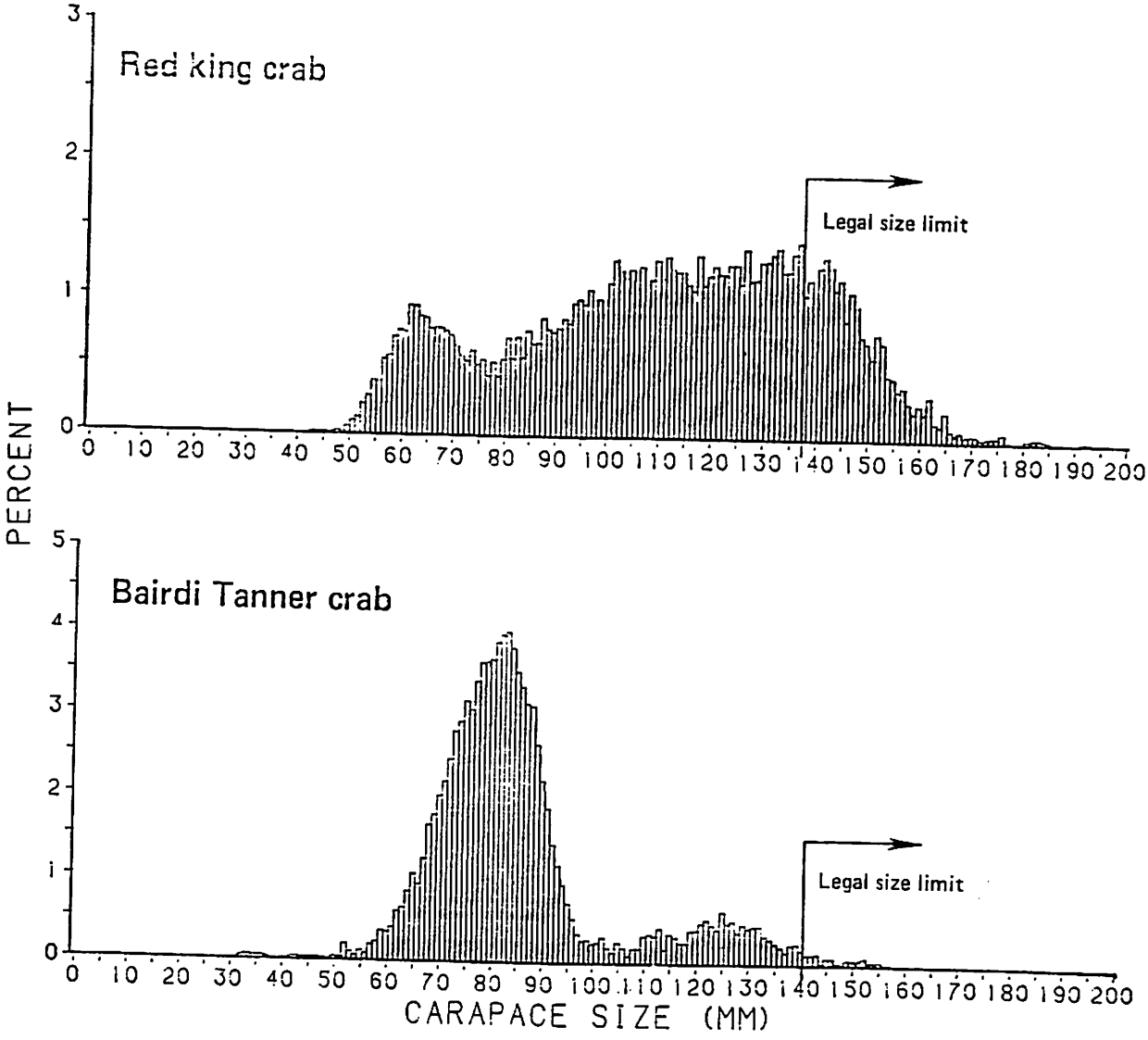

Figure 5

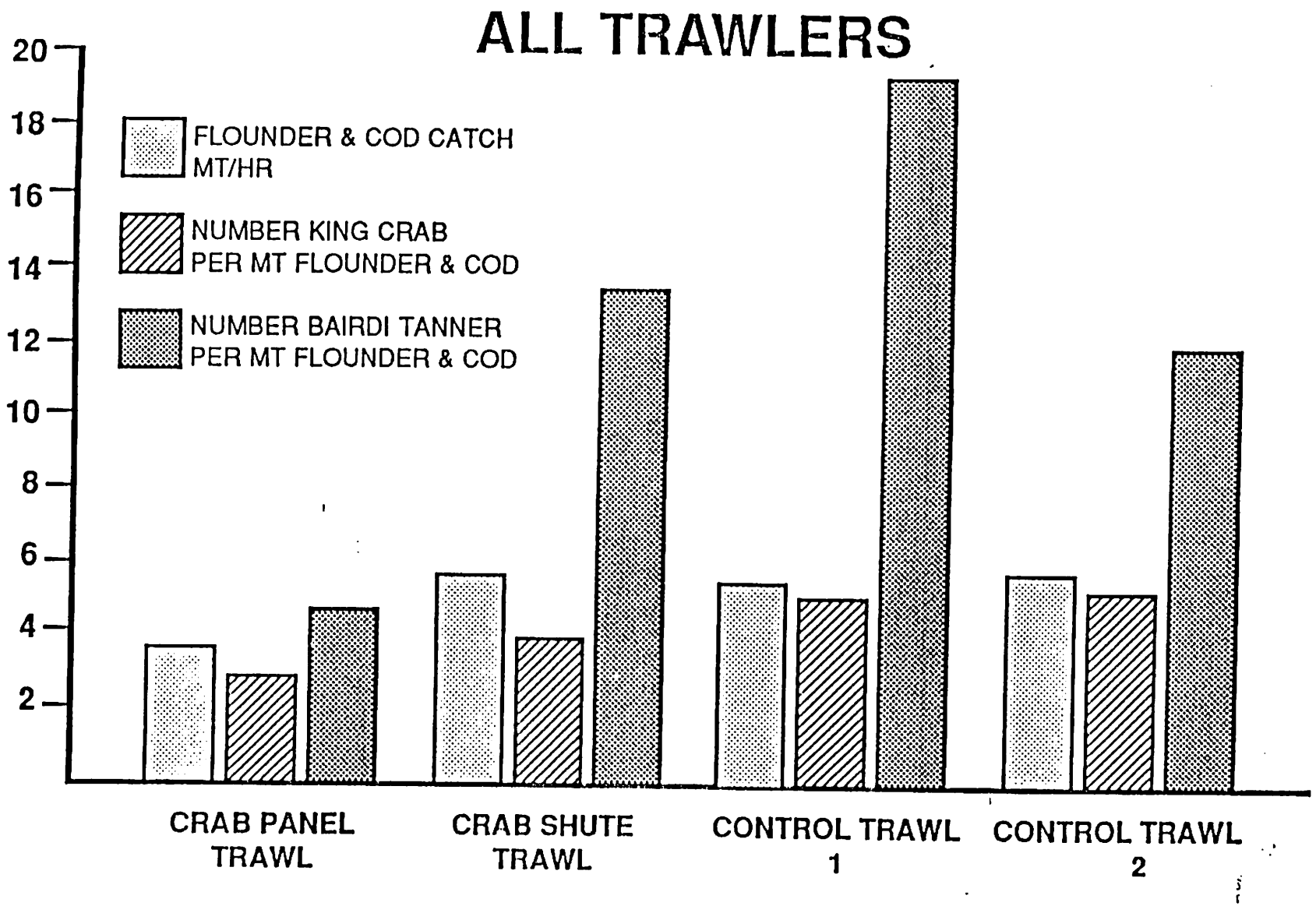
ALL TRAWLERS
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
CRAB PANEL TRAWL
CRAB SHUTE TRAWL
CONTROL TRAWL 1
CONTROL TRAWL 2

Figure 6

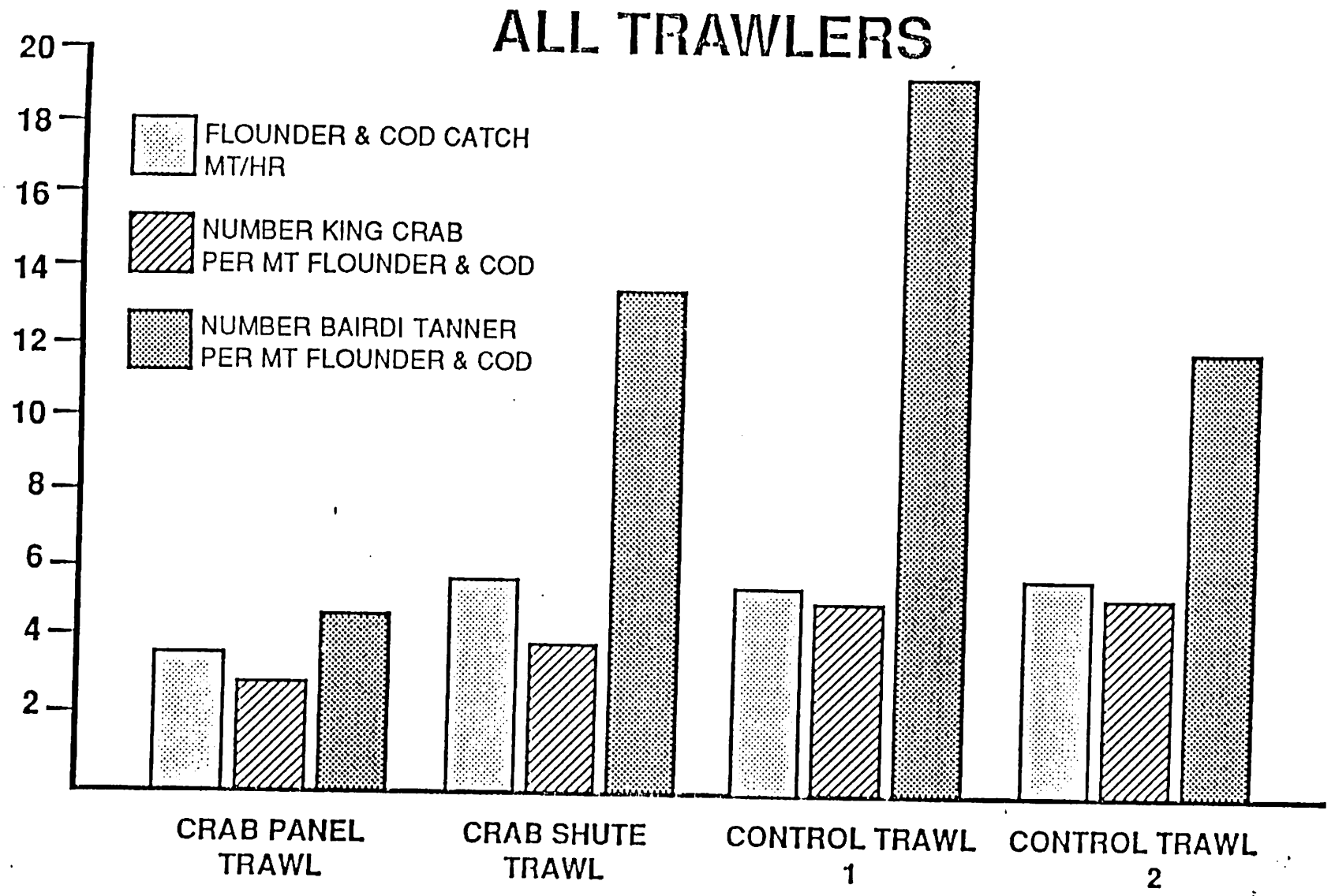
ALL TRAWLERS
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
CRAB PANEL TRAWL
CRAB SHUTE TRAWL
CONTROL TRAWL 1
CONTROL TRAWL 2

Figure 6

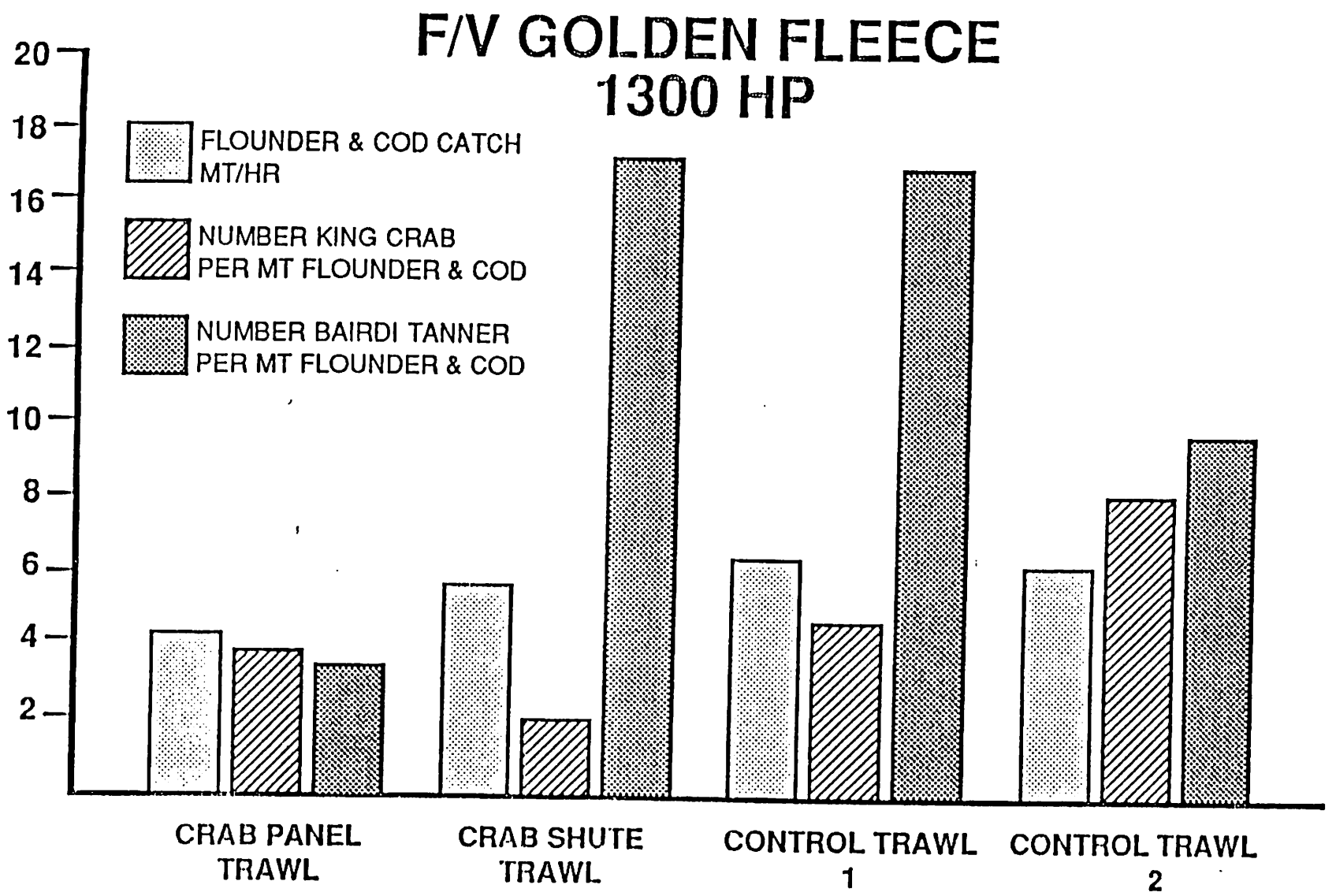
F/V GOLDEN FLEECE
1300 HP
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
CRAB PANEL TRAWL
CRAB SHUTE TRAWL
CONTROL TRAWL 1
CONTROL TRAWL 2

Figure 7

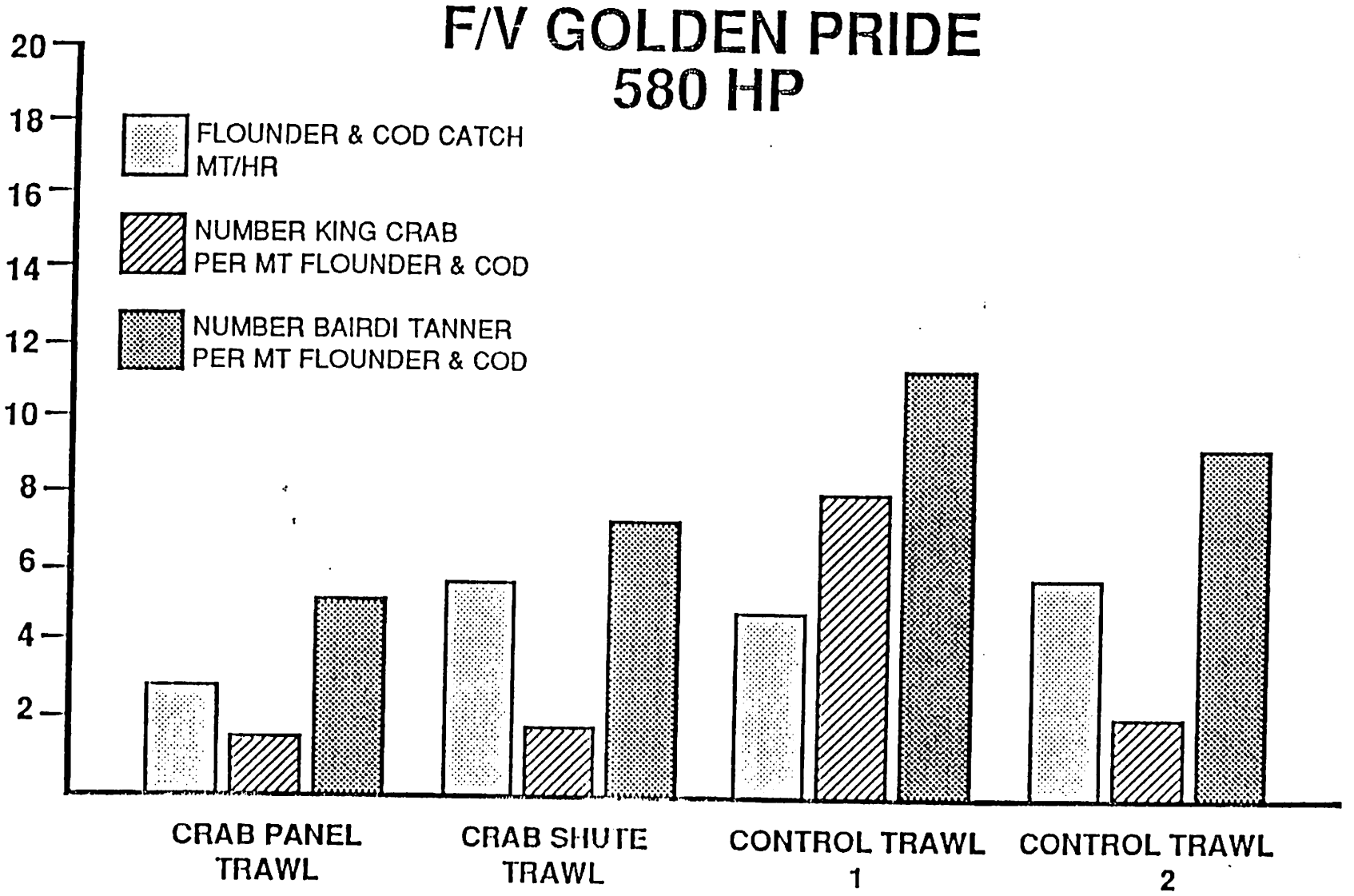
F/V GOLDEN PRIDE
580 HP
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
CRAB PANEL TRAWL
CRAB SHUTE TRAWL
CONTROL TRAWL 1
CONTROL TRAWL 2

Figure 8

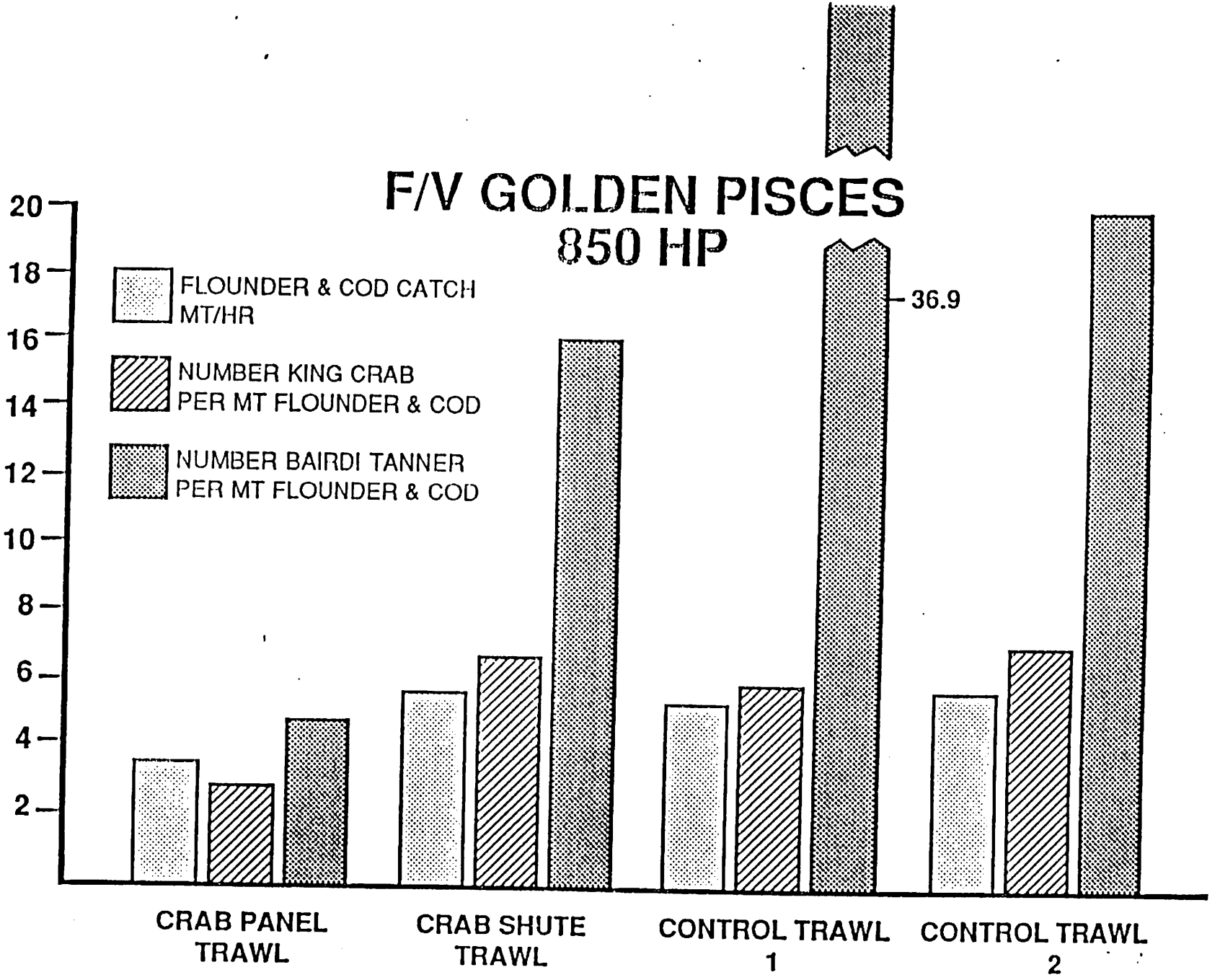
F/V GOLDEN PISCES
850 HP
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
36.9
CRAB PANEL TRAWL
CRAB SHUTE TRAWL
CONTROL TRAWL 1
CONTROL TRAWL 2

Figure 9

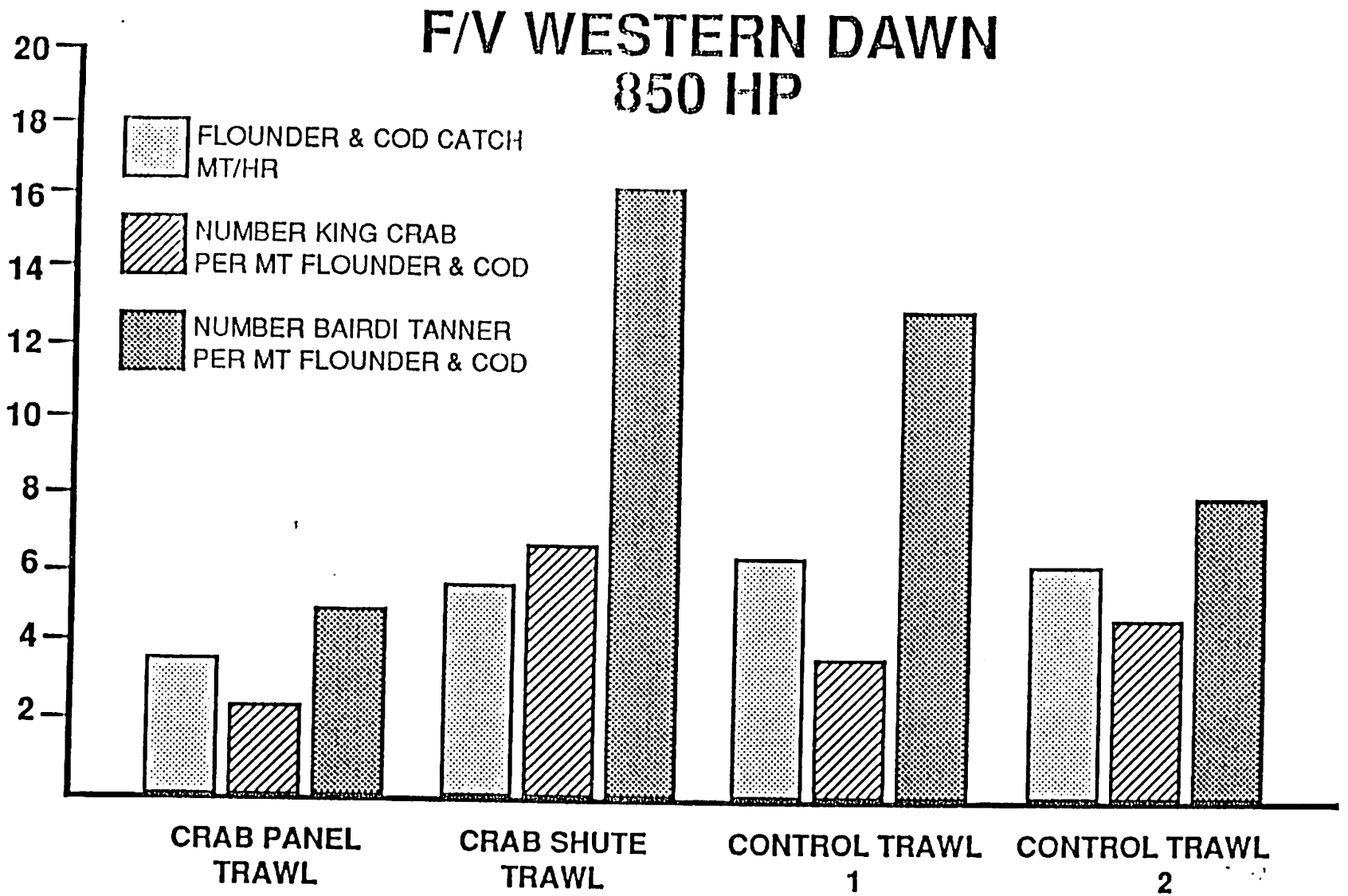
F/V WESTERN DAWN
850 HP
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
CRAB PANEL TRAWL
CRAB SHUTE TRAWL
CONTROL TRAWL 1
CONTROL TRAWL 2

Figure 10

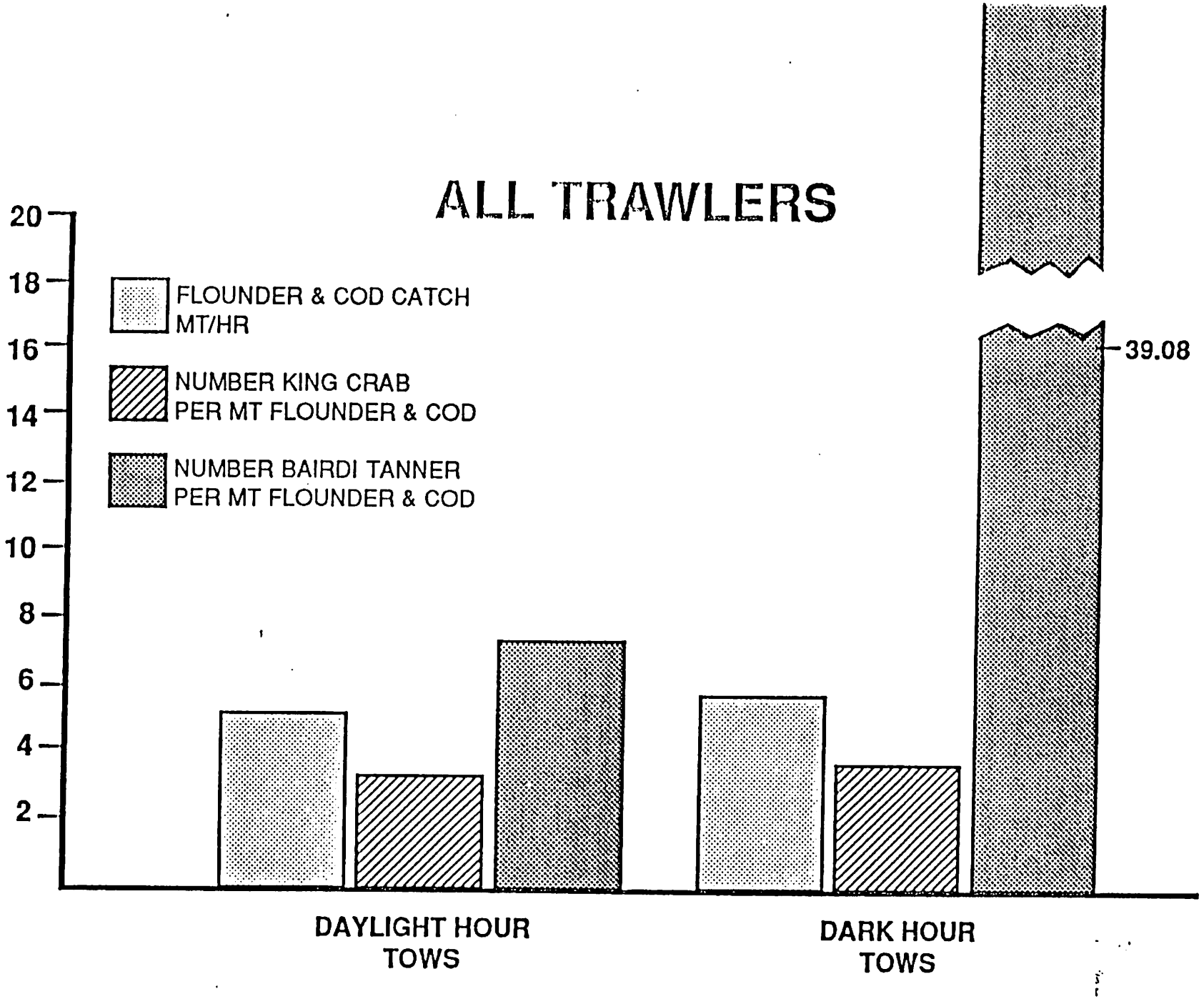
ALL TRAWLERS
20
18
16
14
12
10
8
6
4
2
FLOUNDER & COD CATCH MT/HR
NUMBER KING CRAB PER MT FLOUNDER & COD
NUMBER BAIRDI TANNER PER MT FLOUNDER & COD
39.08
DAYLIGHT HOUR TOWS
DARK HOUR TOWS

Figure 11

CRAB PANEL TRAWL

BAIRDI-BY-CATCH COMPARED TO CONTROL TRAWLS	3.38 FOLD INCREASE 70.5% DECREASE
KING CRAB-BY-CATCH COMPARED TO CONTROL TRAWLS	2.05 FOLD INCREASE 51.4% DECREASE
FLOUNDER & COD CATCH COMPARED TO CONTROL TRAWLS	1.46 FOLD INCREASE 39.5% DECREASE

POTENTIAL CHANGE
1987 FISHERY

ACTUAL	
FLOUNDER & COD	58,745 MT
BAIRDI-BY-CATCH	99,398 CRAB
BY-CATCH RATE	1.7 CRAB/MT
ASSUME CRAB PANEL TRAWL	
FLOUNDER & COD	160,000 MT
BAIRDI-BY-CATCH	80,000 CRAB
BY-CATCH RATE	0.5 CRAB/MT

Table 1. Flatfish and cod catch rates and crab by-catch rates resulting from the factorial design gear experiment conducted in the Bering Sea August-September 1987.

All Trawlers

Crab panel	(mt/hr = 3.49)	(KC/mt = 2.66)	(bairdi/mt = 4.63)
Crab chute	(mt/hr = 5.62)	(KC/mt = 3.70)	(bairdi/mt = 13.43)
Control 1	(mt/hr = 5.61)	(KC/mt = 5.39)	(bairdi/mt = 19.41)
Control 2	(mt/hr = 5.93)	(KC/mt = 5.56)	(bairdi/mt = 11.78)

F/V Golden Fleece 1300 hp

Crab panel	(mt/hr = 4.15)	(KC/mt = 3.89)	(bairdi/mt = 3.60)
Crab chute	(mt/hr = 5.77)	(KC/mt = 1.88)	(bairdi/mt = 17.09)
Control 1	(mt/hr = 6.40)	(KC/mt = 4.33)	(bairdi/mt = 16.97)
Control 2	(mt/hr = 6.39)	(KC/mt = 8.20)	(bairdi/mt = 9.37)

F/V Golden Pride 580 hp

Crab panel	(mt/hr = 2.84)	(KC/mt = 1.61)	(bairdi/mt = 5.26)
Crab chute	(mt/hr = 5.64)	(KC/mt = 1.48)	(bairdi/mt = 7.22)
Control 1	(mt/hr = 4.63)	(KC/mt = 8.09)	(bairdi/mt = 11.21)
Control 2	(mt/hr = 5.94)	(KC/mt = 1.95)	(bairdi/mt = 9.40)

F/V Golden Pisces 850 hp

Crab panel	(mt/hr = 3.37)	(KC/mt = 2.91)	(bairdi/mt = 4.72)
Crab chute	(mt/hr = 5.26)	(KC/mt = 6.42)	(bairdi/mt = 16.13)
Control 1	(mt/hr = 4.98)	(KC/mt = 6.01)	(bairdi/mt = 36.93)
Control 2	(mt/hr = 5.41)	(KC/mt = 7.20)	(bairdi/mt = 20.28)

F/V Western Dawn 850 hp

Crab panel	(mt/hr = 3.62)	(KC/mt = 2.24)	(bairdi/mt = 4.92)
Crab chute	(mt/hr = 5.79)	(KC/mt = 5.01)	(bairdi/mt = 13.29)
Control 1	(mt/hr = 6.36)	(KC/mt = 3.29)	(bairdi/mt = 12.96)
Control 2	(mt/hr = 6.01)	(KC/mt = 4.87)	(bairdi/mt = 8.09)

PMFC NEWSLETTER

No. 53 November, 1987

2000 S.W. FIRST AVENUE SUITE 170 PORTLAND, OREGON 97201

PACIFIC MARINE FISHERIES COMMISSION ANNUAL MEETING

California hosted the fortieth annual meeting of the Pacific Marine Fisheries Commission on October 27 and 28 in San Pedro. The meeting was well attended by its Commissioners, advisory committee chairman and staff from all five of the compact states, as well as numerous federal agencies, fishing organizations and environmental groups. Chairman Gerald Felando, California Assemblyman from San Pedro, presided over the meeting.

Outstanding Service Award

The Commission has begun a new and very notable tradition of presenting an annual award to an individual from the host state who has made a significant contribution toward promoting marine fisheries. The 1987 Annual Award was presented to Mr. Abel C. Galletti, owner of Galletti Brothers Foods, a highly successful seafood importing, wholesaling and distributing business in southern California. "California has many outstanding leaders in the fishing community. There's one man whose made an outstanding contribution to the support and promotion of the conservation, development and management of Pacific Marine Fisheries," said Chairman Felando.

Mr. Galletti is serving his 12th year on the California Fish and Game Commission and has also served on the Pacific Fishery Management Council and the California Wildlife Conservation Board.

Special Award

Oregon advisor Henry Pavelek passed away in July. In recognition of Henry's contribution, the Commisison prepared a special award which was presented to the Oregon delegation at the meeting. The award will be carried to Mrs. Pavelek in Albany, Oregon.

Guest Speaker

Mr. Richard Gutting, National Fisheries Institute, was the invited speaker at the Tuesday evening banquet. Mr. Gutting's comments on marine mammals were particularly inspiring to the Commission and his presentation was well received.

Panels

Two panel presentations were made on Tuesday.

Marine Mammals

Dr. John Harville moderated a panel review of the Commission's technical committee report on marine mammal/ fishery interactions and the need to amend the Marine Mammal Protection Act. Robin Brown, chairman of the technical committee reviewed the conclusions of the report.

Panel participants were Dr. Douglas Chapman (Marine Mammal Commission), Roger McManus (Center for Environmental Education), Henry Mitchell (Americans for Marine Ecobalance) and Jim Douglas (National Marine Fisheries Service).

Marine Debris

Mr. James Coe, manager of NOAA's marine entanglement and debris program, moderated a session on marine debris programs across the nation. Speakers included Judi Neilson (Oregon Department of Fish and Wildlife) on beach cleanup; Jeff June (National Resource Consultants) on West Coast educational programs; Kathy O'Hara (Center for Environmental Education) on East Coast programs; and Fran Recht (Port of Newport) on port disposal programs.

Proceedings of both panels will be available in December.

Business Meeting

Actions at the Wednesday business meeting of the Commission included:

Marine Mammals

Four actions were taken by the Commission:

1) The technical committee's "Report on Proposed Amendments to the Marine Mammal Protection Act" was accepted by the Commission. Once the committee makes a few clarifications in the report as a result of public comment, the document will be submitted to Congress.

2) The Commission agreed to sponsor workshops that will bring the fishing industry, resource agencies and environmental groups together to focus the reauthorization of MMPA toward more balanced marine mammal/fishery interactions.

3) Another technical committee will be formed to investigate the process used by the National Marine Fisheries Service to determine the status of marine mammal populations and, where appropriate, recommend changes to that process.

4) The Commission will form a Marine Mammal Committee (consisting of a Commissioner and Advisor from each member state) to work with the Executive Driector on issues relating to the 1988 reauthorization of MMPA.

Marine Debris

The Commission endorsed the October 16, 1987 "Resolution Resulting from the North Pacific Rim Fishermen's Conference on Marine Debris."

A new Commission Marine Debris Committee was formed to guide the Commission's 1988 efforts at marine debris (Members: Gerald Felando, Jack Lechner, Brad Owen and Harry Wagner). Examples of 1988 projects include a "code of ethics" for vessel operators, expanding the Newport disposal project to other ports, and investigating alternatives to plastic packaging.

nterjurisdictional Fisheries Act

The Commission agreed that it should become involved in the development of interjurisdicational fishery management plans for resources not being addressed by Regional Management Councils. Commission management plans will not be regulated by the Commission. Rather, they will rely on state implementation. The first two plans selected for development are Thresher shark (off of Washington, Oregon and California) and southeast Alaska rockfish.

Federal Fishery Fee

HR 3341, the "Fisheries Research Funding Act of 1987" was recently introduced by Congressman Young (AK). This bill places user fees on harvesting and processing fish in the EEZ and requires licensing of recreational fishermen in the EEZ. The Commission reaffirmed its position of oppostion to federal fishing fees.

Observers Insurance

The Commission will investigate the costs and problems associated with insuring an observer aboard a domestic fishing/processing vessel.

Economic Study

As another project for 1988, the Commission chose to study a) the relationship between the ability to manage a resource and the economic return from the fishery and b) the relationship between the use of a fishery resource (e.g. recreational or commercial) and the resultant economic returns.

Appreciation

Special thanks to Mr. Richard Gutting and Tony West for their presentations; to the panel members for their informative sessions; the Port of Los Angeles for its facilities; Abel Gallettii, Mario Alioto, Samuel J. DeLuca, Nello Castagnola, Tony West and Robert E. Ross for their contributions to the banquets, and the staffs of PMFC and Assemblyman Felando's office.

1988 Meeting

Idaho will host the 1988 meeting at the Coeur d'Alene Resort, October 25 & 26.

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