Dear Chairman Lone,

I'm a member of the Recreational Fishing Alliance (RFA) and I'm extremely concerned that the Pacific Fishery Management Council is considering a proposal to replace driftnets with drift longlines in the Pacific.

The science surrounding this gear is clear – marine mammal interaction is inevitable, as is by-catch of juvenile and unmarketable species, including endangered sea turtles, pilot whales, marlin and sea birds. To introduce this fishing practice to the waters of the West Coast would be reckless.

The U.S. Senate and the House of Representatives have both recognized longlines for the “dirty” gear they are – and are addressing the reduction of this gear through the legislative process. Drift longlines and drift gill nets have no place in sustainable and historical fisheries.

I urge you to remove driftnets from the water – but do not replace them with an unsustainable longline industry.

Sincerely,

[Signature]

Robert E. Kelly
Gooseneck Pt.
Oceanport NJ 07757

I FISH I VOTE

As of 8/28/00, a total of 1,624 identical cards were received from different individuals. This includes the 41 received as of 8/18/00. The original cards are on file at the PFMC office.
Recreational Fishing Alliance (RFA)
PO Box 98263
Washington, DC 20090
Toll-free 1-888-SAVE-FISH

James H. Lone, Chairman
Pacific Fishery Management Council
2130 S. W. Fifth Ave., Suite 224
Portland, OR 97201

Dear Chairman Lone,

I am a member of the Recreational Fishing Alliance (RFA) and I’m extremely concerned that the Pacific Fishery Management Council is considering a proposal to replace driftnets with drift longlines in the Pacific.

The science surrounding this gear is clear — marine mammal interaction is inevitable, as is by-catch of juvenile and unmarketable species, including endangered sea turtles, pilot whales, marlin and sea birds. To introduce this fishing practice to the waters of the West Coast would be reckless.

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I urge you to remove driftnets from the water — but do not replace them with an unsustainable longline industry.

Sincerely,

R. Charles Nichols
Vice President
Ocean City Fishing Center
P.O. Box 940
Ocean City, Maryland 21843
Subject: Fisheries
Date: Mon, 28 Aug 2000 07:26:00 EDT
From: Rnwhiteley@aol.com
To: pfmc.comments@noaa.gov

Dear Chairman Lone

I am a member of the Recreational Fishing Alliance (RFA) and I am extremely concerned that the Pacific Fishery Management Council is considering a proposal to replace driftnets with drift longlines in the Pacific.

The science surrounding this gear is clear - marine mammal interaction is inevitable, as is bycatch of juvenile and unmarketable species, including endangered sea turtles, pilot whales, white marlin and sea birds. To introduce this fishing practice to the waters of the West Coast would be reckless.

The U.S. Senate and the House of Representatives have both recognized longlines for the "dirty" gear they are - and are addressing the reduction of this gear through the legislative process. Drift longlines and drift gill nets have no place in sustainable and historical fisheries.

I urge you to remove driftnets from the water - but do not replace them with an unsustainable longline industry.

Sincerely

Ron Whiteley
1 West Drive
Gales Ferry, CT 06339
Dear Chairman Lone:

I was appalled to learn the Pacific F.M.C. is considering removing drift nets but replacing them with long lines.

For years, the local activists on the east coast, who are neither biologist nor commercial fishermen, had been urging that long lines be banned. The belief in responsible harvesting of the ocean's bounty, long lines are indiscriminate killers. They cannot be managed to target certain species, e.g., etc.

Please remember the oceans and their resources belong to the public - not to certain groups who feel it is their "right" to exploit them.

Removing drift nets is a fine conservation objective. Please do not make a mockery of it by permitting long lines.

Respectfully,

Robert D. Sweet
1401 Latemore Rd.
Ithaca, NY 14850
Dear Chairman Lone:

I hope that you will consider very carefully your actions in regards to protecting the Pacific Fishery, which is so valuable to your state and also to this country. I believe that every federal legislator has a stake in the future of the Pacific Fishery.

Please consider that the use of drift nets, long lines either or both are very capable of crashing not only the commercial fishery but also all the other fish populations which are simply thrown away by the trawlers and factory boats. You are fortunate that you still have a fishery to protect. Look at the northeast cod fishery, closed for years and still no cod because there are simply not enough left to meet and breed. Don’t let that happen to your fishery. Don’t let that be your legacy to the people of California.

I don’t vote in California, a fine state by the way, where I spent several years training to be in B-52s. I would hate to see it and its waters harmed. There is no species on this earth that can survive being a food species for man. Shortened seasons, smaller nets, fewer hooks on long lines, are only stop gap measures which will slowdown the rate of collapse of your (and mine) fisheries. There is only one solution. If we want to eat fish we must raise them and eat only the kinds of fish that we are able to raise in captivity. This means that the pelagic fish must be protected from us. They cannot save themselves.

I hope you will consider banning drift nets, long lines, and set a time table for the cessation of each and finally of commercial fishing. Fishing should be for sport, bag limits reduced, no one needs more than one fish per day of any kind, except put and take from streams.

I thank you for your consideration of these thought, developed over a lifetime in the fishing business and as a fisherman.

Sincerely,

Arthur C. Mills III
October 2, 1992 Ca. Fish & Game Commission Hearing – Pelagic Longline Hearing

The old issue of developing an experimental pelagic longline fishery off the California coast is once again being raised. It is surprising that the development of a “new” longline fishery would receive a serious hearing at this time in light of the many economic, environmental, and management problems this gear is known to have recently caused on the East Coast, Gulf Coast, and in Hawaii.

The last major effort to develop a longline fishery in California was almost 8 years ago. On behalf of UASC, our company AFTCO MFG Co Inc., organized and presented the arguments against longlines at that hearing. We became involved in this issue because allowing longlines would certainly jeopardize the jobs of our employees here at AFTCO. Most all those same arguments are not only valid today but are even stronger, because as time has passed the problems and conflicts caused by longlines have become even more evident. Much can be learned by the conclusions drawn at the Commission hearing 8 years ago.

On 10-2-92 the California Fish & Game Commission voted unanimously to reject the request presented by August Felando on behalf of the California commercial fishing industry for experimental gear permits to use longlines to harvest tuna, swordfish and shark for commercial purposes. The hearing contained an exhaustive amount of information regarding the pros and cons of longline fisheries throughout the world. At the center of that information was the Walls report produced by Greg Walls, biologist for the California Department of Fish & Game.

The California Fish & Game Commission after reviewing all the information unanimously voted to prevent the establishment of a tuna, swordfish and shark longline fishery off the California coast out to 200 miles. Reasons for denial are summarized in the enclosed copy of the “Findings of Fact” sent to us here at AFTCO by then Commissioner Al Taucher approximately two weeks after the hearing. Al was strongly opposed to allowing a long line fishery to develop off California and he lead the debate within the Commission that lead to denial at the 10-2-92 hearing. He sent me a copy of the “Findings of Fact” and told me he planned to have the Fish & Game Commission adopt it as the basis for their decision at the 10-2-92 hearing. The three page document summarizes the three main concerns that the Commission had with long lines. Those were 1) Marlin –by-catch, 2) Shark-by-catch, 3) The swordfish resource.

In addition to the above document developed by Commissioner Al Taucher, also enclosed is a document entitled “Reasons For Denial Of Experimental Longline Permits.” These arguments presented at the 10-2-92 hearing are still valid today and in the last 8 years the case against longlines has only grown stronger.

Sincerely,

Bill Shedd
President
Findings of Fact

A. Marlin-by-catch

The number of marlin present in Californian waters is small but of significant importance to the recreational angler. The industry which supports the recreational pursuit for marlin is of considerable importance to the California Economy. A decrease in the likelihood of a recreational angler to catch a marlin has been shown to result in an increasingly greater reduction in the number of anglers actually fishing. Despite evidence that new techniques may reduce by-catch, the evidence when taken as a whole shows that the techniques do not eliminate by-catch because, at best, the techniques if used properly can only be hoped to reduce by-catch - not eliminate it, and because the cost of labor, time and capital outlay is high an disincentive exists that curtails their use. Therefore, we conclude that the new techniques will probably not be an effective means of reducing marlin-by-catch.

The data about marlin migration routes conflict but marlin movements have been shown to be diffuse. Avoidance of migration routes infers a knowledge of the pattern of marlin movement. Because the movement has been shown to be diffuse no pattern therefore could exist. We conclude that longlines cannot avoid marlin migration routes.

The data demonstrates that methods exist which can reduce the mortality rate of marlin which are alive when brought to the boat. However, the data more clearly demonstrates that, at least, a significant portion of those marlin brought to the boat will be dead and that some portion of those released will die. We therefore, conclude that a significant portion of marlin-by-catch will die a result of being caught.

The recreational marlin fishery is well established fishery in California and has been exclusively allocated to the recreational angler since 1937. The industry which supports this activity is well developed and an integral part of the California economy. Longlines would significantly affect the recreational marlin fishery because marlin-by-catch would occur and by-catch results in the death of a significant portion of those caught. The effect of this on the small number of marlin actually in our waters would be to reduce the number of fish available to the traditional users, the recreational angler, of the fishery. A reduction of this type has been shown to negatively and significantly affect the recreational fisherman and the industry and economy he supports.

B. Shark-by-catch

A by-catch of shark cannot be avoided by longlining nor have the applicants suggested otherwise. The data suggests strongly that the reasonably expected by-catch of shark will significantly exceed the catch of targeted species and that the by-catch will exceed at least 60%.
The negative impact of the high by-catch of shark could be mitigated if the sharks could be released harmlessly, but the evidence strongly suggests otherwise. Studies vary greatly but all demonstrate a significant mortality rate of captured sharks. Mortality is measured by the shark being alive at release, but no measure has been developed to ascertain the number of sharks that actually die as a result of being caught by longlines because some percentage will die after release. However, it is safe to infer that a greater number of sharks actually die than is reported. Given that the possible percentage of reported mortality is 66%, we, therefore, conclude that the probability that live release will mitigate against a high by-catch is low.

Shark populations are not well understood but a consensus exists on the fact of their low reproductive rates. A low reproductive rate has been linked to a susceptibility to overfishing for sharks. These facts plus the possibility that the California Bight may be a nursery area for Mako sharks cause us great concern. Catches of makos have declined in recent years. The size in makos caught have decreased. The facts in this state strongly suggest that makos sharks have been overexploited in California. Indeed, longlining for all sharks have been disallowed by this Commission because the shark fishery in this state has been overexploited and the reasons given above support our concern and our decision. The use of drift gill nets and of existing recreational fisherman already utilize this resource to its fullest. We, therefore, conclude that a longline fishery would be additive and unnecessary.

The by-catch of shark would consist of a high percentage of blue shark. The low commercial value of blue shark and the above mentioned mortality rates would result in a great wastage of this fish.

C. The swordfish resource

The express intention of the California Legislature is to allow a limited entry into the swordfish fishery. The legislature further has stated that the current fishery is in a healthy condition. Despite declining landings in the recent years, evidence indicates that the fishery is, at best, at maximum sustainable yield. Current conditions indicate that the legislatures statement of 15 years ago is no longer true, but nevertheless, the question presented is whether longlining should be allowed to enter the resource when a traditional harpoon fishery and a gill net fishery already exists.

Longlining has been shown to be an efficient means of harvesting swordfish; it is the dominant form of taking swordfish throughout the world. However, longlining is not selective in the size of the fish which it takes. Nothing is known which keeps longlining from catching small and juvenile fish. The small and juvenile fish are usually released but most are already dead.

The swordfish industry on the U.S. east coast has experienced
considerable decline which has been attributed to longlining. The New England fishery for swordfish was solely a harpoon fishery from 1910 to 1962 and produced approximately 6 million pounds of fish in its last year. In 1991, 7 million pounds of fish were produced by longlining on the whole east coast and gulf. The relatively small difference between harpoon landings in 1962 for New England and the total landings in 1991 for the whole eastern seaboard speaks strongly of the effects of longlining by itself and forces us to ask why. Longlining produced landings of swordfish as high as 17 million pounds during the past 30 years but this level could not be sustained. The current catch of 7 million pounds requires that two-thirds more fish be landed than when the harpooner was the sole means of production because the size of the average fish landed is down from 69 kg to 39 kg. It is reasonable to infer that at least one cause of the lower size of the average fish landed (irrespective of those actually caught and released) is due to longlining’s lack of selectivity and the indiscriminate manner in which it takes its fish.

The correlation between longlining and the poor condition of the East Coast fishery is of particular value in California. We, too, have a traditional harpoon fleet. Furthermore, it is a fleet which shares the resource with gillnetters—a fact which would increase the affects a new entrant would have on the fishery. While it is uncertain, it appears that the East Coast fishery for swordfish was in a healthy condition and at a maximum sustainable yield in pre-1960 years when only harpooners were harvesters of the resource. The decline and negative impact on the east coast fishery seems to be the direct result of overfishing by the longline fleet. Currently, our resource is, at best, at maximum sustainable yield and quite possibly be in a state of over exploitation. Longlining has shown to negatively impact a swordfish resource. The harpoon fleet in New England is for practical purposes non-existent. It appears that the harpooners may have been an excellent method of harvesting that resource. The implications for our resource are clear. We, therefore, conclude that longlining for swordfish would negatively affect a resource which is, at best, utilized to the fullest and that the traditional users of the fishery—the harpoon fleet, would be negatively affected by longlines.
REASONS FOR DENIAL OF EXPERIMENTAL LONGLINE PERMITS

By United Anglers of Southern California (UASC)

United Anglers of Southern California (UASC) requests that you vote to deny the experimental longline permits for tuna, swordfish and sharks on October 2, 1992.

United Anglers is an association of recreational and commercial fishermen, the fishing tackle industry and concerned citizens. Our longline committee includes representatives of all aspects of recreational fishing including the media, fishing clubs, organizations and manufacturers. Our committee directly represents well over 200,000 people in the State and indirectly over 3,000,000 concerned California anglers. Everyone of which is vitally concerned about this issue.

The proponents of the permits argue that an accommodation is possible with traditional users of the resource, that new methods of longline use will solve the problems of by-catch, that an economic benefit will be conferred on the State of California and that no relevant information exists upon which to deny the applications. Every single one of the above assertions is WRONG. The Walls Report of the California Department of Fish and Game has arrived at the exact same conclusion. We urge you to do likewise.

The underlying theme of the points made by the permit applicants are based upon the proposition that analogous data cannot be applied to California and that in the absence of California data, the permits ought be issued. Nothing is further from the truth. The Walls Report is nothing but the application of analogous data to the issue before the Commission. The following represents incontrovertible facts from the Walls Report and the material from which the Report was written.

MARLIN BY-CATCH

The relatively small amount of marlin which reach Southern California support a vibrant recreational economy. Present expenditures in recreational pursuit of marlin and swordfish exceed $100,000,000 in Southern California. Atlantic studies show that a fall in the number of billfish caught by recreational anglers translates into a much greater proportionate drop in expenditures by the fishermen. Given that the Atlantic study states that the greatest economic benefit to the nation results in the reservation of billfish exclusively for recreational fishing; a drop in the number of fish available would significantly and negatively affect a marlin fishery such as ours. The applicants have argued that new methods would alleviate the marlin by-catch problem and therefore leave recreational fishermen unaffected. This is false. The new methods, line shooters, depth regulators, etc. are not new, nor have they been shown to be effective. Even if the proposed methods work, they must be used. The record shows us that longliners do not comply with these methods in the absence of observation. The Department of Fish and Game cannot afford adequate coverage,
and the minimally acceptable amount of coverage proposed by the Department of Fish and Game to the longliners was rejected by the applicants as too expensive. Given the size of our marlin resource, any incidental by-catch of marlin is economically unacceptable. When combined with the fact that no alleviation of the by-catch is the probable result, it is foolish.

**SHARK BY-CATCH**

The by-catch of sharks is huge in every longline fishery which has been studied - averaging over 2/3's or higher almost everywhere. The Berkely Report (a comprehensive study done on longlines), clearly demonstrates that 2/3's of the shark catch dies. These facts taken in the context of the low reproductive rate of sharks, that Southern California is a nursery area for makos and of the California studies which show a by-catch of 67%-95%, clearly shows that the negative impact on California's shark fishery would be substantial. Furthermore, the relatively low value of the sharks would translate directly into high wastage. A drift gill net fishery already exists that has high incidental catches of shark. To extend this effect onto the shark fishery would be additive and a further burden on our already declining resource. Evidence of the current decline is documented in the recreational fishery by the decreasing average size of makos and declining CPUE.

**SWORDFISH**

The effect of longlining on swordfish resources is dramatic. The example of the East Coast is particularly demonstrative where the swordfish population is now in a crisis state. Since 1908 there existed in the northeast a viable swordfish harpoon fishery. In 1962 harpoon gear took 6.2 million pounds. The introduction of longlines in 1963 proved to be a short term bonanza for longline fishermen. It also proved to be a long term disaster for the harpoon fishermen and the swordfish resource itself. Last year the harpoon catch was virtually non-existent and the total swordfish catch by all gear types in the entire Atlantic and Gulf was approximately the same size as the 1963 harpoon catch. The average size of swordfish landed is 50% of what it was thirty years ago. The adult swordfish population is now one third the total of pre-longline times. The gill nets have already produced a decline in the swordfish resource in California mirroring the East Coast pattern of a declining swordfish resource. We cannot afford to repeat the East Coast experience. The gill net in Southern California has already pushed the swordfishing into decline. It should not be shoved further towards dangerous over exploitation.

**ECONOMIC IMPACT**

No overall economic benefit to the State of California would occur as the result of longlining. The small scale proposed by the applicants would not of itself relieve any of the economic misery of the wetfish fleet and its ancillary businesses. However, the probable negative consequences of longlining on billfishing alone would be enough to negatively
impact the State's economy. Longlines reduce the marlin recreational catch. The Atlantic Billfish Plan boldly states that reservation of billfish for recreational fishing produces the greatest economic benefit. NMFS recognizes the economic importance of the recreational striped marlin fishery of the West Coast. The Walls Report recognizes that longlining will not solve the woes of the California wetfish fleet. Simple, direct expenditures by recreational fishermen exceed $7,000 per marlin killed. To reduce this type of economic value in exchange for a method of fishing which has proven itself to be economically suicidal would be an economic absurdity. The Southern California recreational marlin community alone contributes well over $100,000,000 to our Southern California economy.

**USER GROUP CONFLICT**

Longlining is not an established user group in California waters. Its entry will affect recreational marlin fishermen who have been allocated sole use of the resource. Present conflict exists with harpooners for swordfish, and the drift gill netter. To allow a longline entrant would only add to the problems of conflict within this resource. This is not conjecture, the moratorium on longlining in Hawaii is the direct result of user group conflict. The potential for user group conflict is greater here because of the relatively smaller size of the resource and the allocation of marlin exclusively to recreational fishermen in California, which is not the case in Hawaii. This conflict is evidenced by the multitude of requests received by you to deny the application.

**SUMMARY**

Analogous data from other fisheries supports the negative impact longlining would have on California fisheries. The resource would be harmed. Traditional users of the resource would be in conflict with the new entrant, and the overall economic benefit of California fisheries to the State of California would be lessened considerably if longlining were allowed. Any one of the reasons given above is sufficient for you to deny the applications. Taken together they are compelling. We urge you to deny the application for experimental longline permits. Common sense and sound evidence demonstrate no benefit will accrue to the people of California by their issuance.
REPORT ON
THE PROPOSED USE OF LONGLINE GEAR
TO TAKE SWORDFISH AND TUNA IN CALIFORNIA

Greg Walls
California Department of Fish and Game

September 1992
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SECTION 1.0

EXECUTIVE SUMMARY

A group of commercial fishermen has requested experimental gear permits for the use of drift longlines to take tuna and swordfish. This paper is designed to provide the California Fish and Game Commission with the information necessary to evaluate this request.

The longline has proven to be an efficient gear for the harvest of swordfish and tuna throughout the world. Recent improvements in the gear, setting strategies, and the increasing demand for high quality swordfish and tuna make the use of this type of gear attractive.

However, the shark by-catch associated with the use of longline gear is likely to be as great or greater than the swordfish catch. This has proven to be the case in longline fisheries throughout the world. Many scientists feel that sharks cannot withstand high fishing pressures because sharks are slow to mature and do not have many young.

In addition, swordfish landings in California have been in decline for the past five years. Population estimates for Pacific swordfish stocks are not conclusive, but there are indications that the stocks may be fully utilized at present (Skillman 1989). Other studies suggest that the swordfish stocks are fine (Sakagawa 1989) and could withstand additional fishing.

Finally, the recreational fishery for striped marlin is lucrative and has a long history. In California, striped marlin have been reserved for exclusive sport angler utilization since 1937. The 1988 Atlantic Billfish Fishery Management Plan concluded that the greatest benefit to the nation results from reserving marlin for recreational anglers only. Longlining for swordfish and tuna is not likely to reduce striped marlin stocks given their broad distribution and limited involvement in waters off California. However, any commercial catch of striped marlin may reduce the access of sport anglers to this resource.
SECTION 2.0

INTRODUCTION

This report begins with the histories of longline use in California, Hawaii, the Gulf of Mexico, Mexico, and the U.S. east coast. Also discussed in the report are various issues regarding longline use, along with arguments in favor of (labeled "pro longline") and counter to (labeled "con longline") the proposed experimental longline fishery for swordfish and tuna.

Longline gear consists of a monofilament main line, with multiple leaders attached. Swordfish longlines are typically 25 to 50 miles long, with 25 hooks per mile. The hooks are attached to the mainline by droppers or leaders (also known as branch lines) made of monofilament and baited with squid and a light stick. The droppers are attached when the gear is set and removed when the gear is retrieved. Floats provide buoyancy and regulate fishing depth. The gear is set close to the surface and at night.

Tuna longlines are set during daylight hours and are allowed to fish deep below the thermocline (that portion of the water column where the temperature of the water changes more rapidly with depth than the portions of the water column above and below that area; the thermocline separates the upper, warmer zone from the lower, colder zone). Mackerel is the primary bait and light sticks are not used.

A radio beacon marks one end of the mainline while the other is attached to the boat via the line setter and main spool. The depth at which the hooks are fished is controlled by the length of the dropper and the distance between floats. The greater the space between floats, the more the mainline will sag, and the deeper the hooks will sink.
Longline Regional Histories

SECTION 3.1

LONGLINE HISTORY IN CALIFORNIA

1955: California Department of Fish and Game (CDFG) research cruise to Central America to fish longline gear for tuna. The catch was 67.2% shark and billfish. Tuna comprised 17% of the catch.

1956: CDFG cruise to Central America. The catch was 62% shark and billfish, and 20% was tuna.

1968: NMFS used longline gear in southern California and Baja California, Mexico. Gear was used at night and baited with squid.

In California, 11 sets (3,856 hooks) yielded: 2 swordfish, 0 marlin, 1,530 blue sharks, and 2 mako sharks.

In Baja California, Mexico, 44 sets (29,171 hooks) yielded: 193 swordfish, 1 marlin, 8,642 blue sharks, 16 thresher sharks, 472 hammer head sharks, 19 mako sharks, 3 white tip sharks, 3 black tip sharks, 1,557 assorted sharks, 112 dolphinfish, 2 rays, 2 yellowtail, 2 opah, 2 turtles, and 2 seals.

Blue shark was the most common species taken. Night longlining did not generally take striped marlin.

1975: Japanese tuna longliners fished within 200 miles of the west coast. All 49,000 hooks were set in August and December. The recorded catch, based on logs, was 470 albacore, 30 big eye tuna, and 7 swordfish. (No incidental catches were listed.) (Pacific Billfish Fishery Management Plan (FMP) 1981.)

1979: Experimental longlining for blue sharks.
F/V JJ caught blue sharks from 1979 to 1982. Sharks were processed at sea to prevent urea in blood from turning to ammonia and spoiling the meat. Anomalous warm water in 1982 and 1983 displaced blue sharks. F/V JJ did not renew its efforts even when the blue sharks returned after 1983. The market demand for blue sharks is not well established.
1981: NMFS longlined for albacore 700-900 miles west of San Diego. Laurs et al. (1981) describe part of the bycatch (14 sets with 350 hooks per set): 240 albacore, 1 mako shark, 1 lancetfish, 1 pomfret, 4 stingrays, and 1 opah. Longlines were set at 300-450 feet, and the thermocline was found to be at 300 feet and deeper.

1987: Experimental longlining for swordfish north of Pt. Arguello (Santa Barbara County). F/V TIFFANY VANCE longlined for 19 days in two locations: 40 miles offshore just north of Pt. Arguello and 100 miles west of Monterey.

The 400 to 600 hooks per set on 20 to 38 miles of gear yielded: 2,360 blue sharks (95.4% of catch), 78 pelagic stingrays (3.2%), 32 swordfish (1.3%), and 4 big eye thresher sharks (0.1%).

1988-91: Experimental longline shark fishery.

April to November 1988: 10 boats participated. Catch was 62% blue shark, 29% bonito shark, 8% pelagic ray, 0.1% sea lions, and the rest included sea turtles, giant seabass and hammerhead sharks.

Blue sharks were often killed for their fins. (51% returned alive, 30% dead, 19% questionable).

April to November 1989: 9 boats participated. Catch was 62.1% blue shark, 28.9% mako shark, 8.7% pelagic ray, 0.1% sea lions, the rest included hammer head sharks and other species.

May to September 1990: 6 boats participated. No observer data.

May to January 1991: 9 boats participated. No observer data.

1992: The experimental longline shark fishery was not reauthorized.
SECTION 3.2

LONGLINING IN HAWAII

Longlining has a long history in Hawaii. The first longline set was made in 1917. Unwritten rules existed between longliners and fishermen using other gear types, such as handline and troll gear. Longliners knew local customs and stayed away from everybody else and conflicts were minimal.

The longline fishery expanded rapidly from 1989-90, with 23 longliners from the U.S. east coast, 60 from the Gulf of Mexico, 18 from the U.S. west coast, and 62 local boats longlining for tuna and swordfish in Hawaii in 1991. In this regard, the newcomers did not know the local customs and proceeded to fish close to shore and in areas utilized by traditional or artisan fishermen. This led to misunderstandings so the Western Pacific Fishery Management Council stepped in and instituted a moratorium on new boat entries to keep more boats from entering the fishery until the full impacts are understood. The moratorium is to remain in effect until 1994.

Swordfish is a very lucrative fishery in Hawaii, but did not gain prominence until 1988. Previously, swordfish landings were a by-catch of the tuna fishery. Restrictions and area closures for tuna and swordfish along the East coast and Gulf of Mexico prompted boats to move from those areas and target swordfish in Hawaii. Longlining for swordfish began in 1988 in Hawaii with 50,000 pounds landed. In 1989, 650,000 pounds were landed; in 1990, 3.5 million pounds were landed; and in 1991, 8.7 million pounds were landed.

In 1991, 140 vessels were active. They made 1,666 trips and set 12.2 million hooks. A total of 66,000 swordfish was caught in addition to 39,500 bigeye tuna, 38,000 dolphinfish, 36,611 marlin (50% striped marlin, 25% blue marlin and 25% other marlin) and 71,000 sharks (only 2,289 sharks were kept) (Dollar 1992). Marlin can be sold commercially in Hawaii; thus, fishermen have an incentive to catch marlin.

Landings in 1992 are down approximately 30% because longlining is no longer permitted within 50 miles of the islands. This action was taken because monk seals, an endangered species, were found with hook injuries. In addition, the action reduces gear conflicts. The closure has forced smaller boats, which lack sophisticated navigation equipment and the ability to fish for up to a month at a time, to leave the fishery (R. Dollar, pers. comm.).
Whole, large (300-400 grams) squid is used for bait. Gear is 20-50 miles long and contains 400-1,800 hooks per set. The soak time is 8 to 16 hours. Light sticks are fixed to each leader. Cost per boat per day to set gear ranged from $1,000 to $1,700. Boats travel 500-1,000 miles from ports in Hawaii to the swordfish fishing grounds (Dollar 1992).

Ten boats were observed during the 1990-91 season. One orca interaction (a killer whale ate all of catch, but left heads on hooks) was observed. One humpback whale was released alive. Two turtles were released alive, one was released dead. Sixteen albatross were drowned, 6 were released alive. Most of the catch (34%) was made up of sharks (64% blues, 3% threshers, and 2% mako), 26% of the catch was swordfish and 17% was tuna.
SECTION 3.3

LONGLINING IN MEXICO

The Japanese have used longlines for tuna and billfish off and on in Mexican waters since 1956. Shark longlining began with six boats in 1987. A chronology of longlining events off Mexico follows:

1956: Japanese drift longline fishery begins off Mexico.

1976: 200-mile Exclusive Economic Zone (EEZ) declared by Mexico.

1977: Mexico attempted to enforce its EEZ (commercial longlining stopped).


1984: Permits withheld.

1985: Permits reissued.


1987: 14 swordfish and marlin longliners plus six shark longliners were permitted to fish, but they were told to stay offshore.

Jim Squire of NMFS has worked extensively with the Japanese longline logs and has demonstrated that commercial longlines and recreational marlin anglers fish the same stocks of marlin. When the commercial longliners are kept from fishing marlin (in a directed fishery) the recreational catch per effort increases (Squire and Au 1988).
SECTION 3.4

LONGLINING IN THE GULF OF MEXICO

Longlining for swordfish is an established fishery in the Gulf of Mexico. The Japanese longlined for tuna and billfish from the 1960s to 1982 in the Gulf of Mexico. Swordfish is usually fished at night and the marlin catch is relatively low, but most boats fish for tuna as well since swordfish are scarce at times. Longlining for yellowfin tuna is a daylight fishery and the marlin by-catch is substantial. In the summer, when the weather is warm, 60% of the marlin captured by longline gear die (E. Swingle, pers. comm.).

The yellowfin tuna longline fishery began in the 1980s. The marlin by-catch increased dramatically as the fishery expanded. In 1986 and 1988, 250 longliners were targeting yellowfin tuna. In 1987, 625 swordfish longline permits were issued. From 1987 to 1989, the swordfish catch increased while the yellowfin tuna catch decreased.

Longline marlin by-catch is calculated based on an estimate of 0.98 billfish per set. Assuming 250 longliners each making 100 sets per year (a conservative estimate), the annual incidental billfish (marlin and sailfish) take is estimated to be 24,500 billfish per year. (1988 Atlantic Billfish FMP)

Observer data from the 1979 Japanese longline fishery in the Gulf of Mexico for swordfish reported 12 turtles and no marine mammals in 199 sets (451,902 hooks) [1988 Atlantic Billfish (FMP)].
SECTION 3.5

LONGLINING ON THE EAST COAST

Longlining is an established fishery on the east coast. Swordfish have been harvested by longline in New England and eastern Canada since the 1960s. The Japanese longlined in the Atlantic from 1956 to 1976.

Harpoon gear took 6.2 million pounds of swordfish in 1962. When longline gear was introduced in 1963, the total catch rose to 17.6 million pounds. The catch stabilized at 9.9 to 11 million pounds until 1970. From 1974 to 1983 harpooners averaged 9% of the catch and longliners landed most of the remainder (drift gill nets landed a portion beginning in 1980). In 1986 the catch on the east coast was 8.5 million pounds, rose to 10.6 million pounds in 1989, and fell to 7.5 million pounds in 1991.


While it is difficult to generalize given the wide distribution of swordfish and the different fishing practices, several trends are apparent in the swordfish longline fishery. If the gear is set at night and is not very long in length (less than 10 miles), billfish are not captured at all (S. Berkeley pers. comm.). Most gear is longer than this (greater than 10 miles but less 40 miles) and marlin is a by-catch species. Tuna longline fishing, which occurs during the day, tends to have higher marlin by-catch rates. The shark by-catch is large and more sharks are caught than swordfish. Mako and thresher sharks are kept while other species are discarded (Berkeley 1988).

Total billfish by-catch for the Atlantic is not known; however, using an estimate of 0.86 billfish per longline set and assuming 500 active longliners each utilizing 100 sets per year, yields an estimate of 43,000 billfish captured each year by the Atlantic longline swordfish fleet (1988 Atlantic Billfish FMP).

Observation data: (Atlantic Billfish FMP)

1974-78: One domestic swordfish longline boat reported 13 sailfish, 42 white marlin, 3 blue marlin and 3,837 swordfish landed.
1979: A total of 295 observed Japanese longline swordfish sets (663,551 hooks) yielded 17 turtles and 5 marine mammals.

During the 1978-79 season, observers saw 7.5 million hooks set by the Japanese longline fleet and 5,300 billfish were caught (40% were released alive).

1985: Japanese longliners caught 6 turtles and no marine mammals.

1986: Japanese longliners captured 5 turtles and 2 marine mammals.

A total of 21 trips were observed aboard domestic swordfish longliners from 1985-1987; 137 billfish, 1,074 swordfish, 1,396 tuna, and 472 sharks were landed in 160 sets (78,654 hooks, 3,894 miles of gear).

The 1985 Environmental Impact Report (EIR) for swordfish attributed the increasing catch rate of small swordfish during 1980-1985 to longline gear, which tends to extend the fishing season and targets fish in warm waters where younger fish live. Competition between longliners and drift gill netters for space resulted in gear entanglement and gear loss.
Issues

SECTION 4.1

ISSUE: MARLIN BY-CATCH

1) SOUTHERN CALIFORNIA IS NOT A PRODUCTIVE AREA FOR STRIPED MARLIN:

PRO LONGLINE - a) Incidental take of striped marlin by longline gear will not affect stocks since the species ranges throughout the Pacific (Squire and Au 1989).

CON LONGLINE - a) Striped marlin have been designated as being harvestable only by sport anglers since 1937.

b) Since relatively few striped marlin are in California waters, any take of striped marlin by commercial fishers will reduce the likelihood of capture by sport anglers. Squire and Au (1989) demonstrated that directed Japanese longlining for billfish in Mexico reduced the catch rate of striped marlin by sport anglers in Mexico.

c) Since 1969 recreational anglers have averaged 3,201 reported angler days and a catch of 750-800 striped marlin per year (NMFS Billfish Newsletter 1992).

d) Recreational anglers in Hawaii are concerned about sustaining sport catch rates with the recent increase in longline activity (NMFS Billfish Newsletter 1992).

2) LONGLINE GEAR CAN BE MANIPULATED SO THAT MARLIN BY-CATCH CAN BE REDUCED:

PRO LONGLINE - a) Dr. Chris Boggs has demonstrated that longline gear in Hawaii can be manipulated to target certain species. The take of striped marlin can be avoided or minimized by:

1) Fishing at night on the surface for swordfish.
2) Fishing deep beneath the thermocline for tuna. Deep fishing can be accomplished by line shooters, long float lines, or zig-zag sets which put long droops in the set.

3) Setting and retrieving gear quickly, to minimize time gear is in shallow waters and likely to be taken by marlin. (pers. comm.)

4) Using larger baits (squid) and light sticks, since squid is less preferable to marlin than mackerel (pers. comm.)

5) Putting hooks in during daylight and pulling at night to reduce trolling for marlin. Few long sets as opposed to many short sets also reduces the amount of time the gear is on the surface and available to marlin. (pers. comm.)

b) Striped marlin catch by Japanese longliners declined because marlin are less vulnerable to deep longlines than shallow gear (Nakamo and Bayliff 1991; Suzuki 1977).

CON LONGLINE - a) Striped marlin may prefer warm waters, but Bedford and Holts (1989) demonstrated that striped marlin spend time in and below the thermocline (where the temperature is cooler).

b) Marlin will chase the gear when it is being set and when it is being retrieved. Marlin swim at an average speed of 0.75 to 1.54 knots and are capable of swimming faster (some have been clocked at above 3 knots for over an hour). They can grab the bait given the typical haul back and set speeds (generally less than 1 knot).

c) Striped marlin feed on squid in other parts of the world. Squid may not be a foolproof deterrent to a marlin biting a longline hook.
It is difficult to set gear at a specific depth. The current is one problem, and Boggs indicates that predicted depth does not always correlate with actual depth. Boggs (1992) used time depth recorders to ascertain depth.

Boggs' theories have not been tested in California.

Longline fisheries on the east coast of the U.S., in the Gulf of Mexico, the Caribbean, Hawaii, and in areas exploited by Japan have all recorded marlin by-catches.

Line shooters cost $6,000.00. Also, other methods for deploying longlines at greater depths are time consuming and laborious (pers. comm.); therefore, they may not be employed.

3) LONGLINERS CAN AVOID MARLIN MIGRATION ROUTES:

PRO LONGLINE - a) From 1965-75 Japanese longline logs (Squire and Susuki 1989) demonstrated that the areas with greatest catch per unit of effort occurred off Baja California, Mexico. No spawning took place off California; southern California waters are not a major migration route and longline gear will not interfere with migration.

CON LONGLINE - a) Tagging studies (Squires and Suzuki 1989) demonstrate that striped marlin travel southeast to Baja California and westward to Hawaii; major spawning areas are in the western Pacific. They move poleward during the summer season. Since marlin movements are characterized as diffuse, longline gear may intercept marlin no matter where it is set.

4) STRIPED MARLIN CAN BE RELEASED ALIVE:

PRO LONGLINE - a) Boggs (1992) used sonic tags on marlin that had been captured by longlines and released. Marlin survived if the line was cut near the hook. Marlin can survive 5-9 hours after being hooked. Two bigeye tuna and 1 marlin were recaptured 3-10 months after being hooked by a longline indicating survival.
CON LONGLINE - a) In the Gulf of Mexico longline fishery for yellowfin tuna, up to 60% of the marlin species captured were released dead (E. Swingle, pers. comm.).

b) In observations on 21 domestic longline trips for swordfish and tuna in the Gulf of Mexico, 41% of marlin were released dead and 59% released alive. In 1982-86, foreign longliners released 65% of marlin dead and 35% alive.

5) LONGLINERS WILL MOVE OUT OF AN AREA IF LONGLINE GEAR CATCHES A STRIPED MARLIN:

PRO LONGLINE - a) July to October (September being peak) is the recreational marlin season in California. Longliners can work around these months.

b) Marlin anglers concentrate their efforts from Santa Cruz Island to the U.S.-Mexican border, and between San Clemente and San Nicholas Islands. Longliners can fish outside this area and not interfere with sport fishing.

c) Longliners promise to move out of an area if a striped marlin is captured and not return for a fixed period of time.

CON LONGLINE - a) To ensure compliance, 100% observer coverage would be required.
SECTION 4.2

ISSUE: SHARK BY-CATCH

1) LONGLINERS ARE NOT TARGETING SHARKS:

PRO LONGLINE - a) Sharks do not pay enough to keep (recent price per pound of mako was 80 cents), and would take up space that could be occupied by more valuable species. Bringing sharks on board would waste time and increase the possibility that valuable tuna and swordfish would become damaged while on the line.

b) Gear can be set away from heavy concentrations of sharks. In areas where sharks are common, fewer hooks can be set (to decrease overall catch).

c) Shark by-catch is only 1 or 2% (L. Mascola, pers. comm.).

CON LONGLINE - a) Medium sized blue shark fins can be sold dry for $14.00 a pound. Such prices for fins and mako/thresher flesh, which can average over two dollars a pound, will be incentives for fishermen to retain longlined sharks.

b) Even though sharks are not targeted, the shark by-catch is very high in every recorded tuna and swordfish longline fishery. The following examples list ranges of 60-96% shark by-catch.

1) The CDFG longline experiment in 1955 caught 67% sharks and billfish and only 17% tuna. In 1956 longlining caught 62% sharks and billfish and 20% tuna. In 1968 off California, NMFS caught two swordfish on longlines and 1,532 sharks. In Mexico that same year, NMFS caught 193 swordfish, two tuna, and 10,712 sharks.

2) In 1987 F/V TIFFANY VANCE fished swordfish by experimental longline permit in California and caught 1.3% swordfish and 95.6% shark.
3) Anderson (1985) states that longlining for swordfish on the east coast resulted in shark by-catches that are 2 to 3 times the swordfish catch for the years 1962-1986.

c) Longline fisheries off Florida, New England, Hawaii, the Gulf of Mexico, and Mexico all report more shark being caught on longline gear than the targeted swordfish or tuna species.

d) Some fishermen report that shark by-catch can be as high as 80-90% of the total catch during longlining.

e) Monofilament longline gear catches more sharks than steel cable longline gear (Berkeley 1998).

2) SHARKS CAN BE RELEASED ALIVE:

PRO LONGLINE - a) Blue sharks can be released alive by cutting the leader near the hook or using the hook extraction methods developed by Tim Athens for the experimental shark longline fishery.

b) In the Hawaiian longline fishery, 90% of the blue sharks are released alive (Dollar 1991).

c) Sharks caught in trawl gear have higher mortality rates than sharks caught on longline gear (Anderson and Teshima 1990).

CON LONGLINE - a) Anderson and Teshima (1990) report mortality of discarded blue sharks in the east coast longline fishery was 25%. Other shark species had mortalities as high as 45%. The 1991 Atlantic Shark FMP states that over 50% of mako sharks hooked on longline gear die.

b) In Florida 66% of sharks captured by swordfish longline gear died (Berkeley 1988).

3) STATUS OF SHARK RESOURCES:

PRO LONGLINE - a) Shark populations are not well understood. While sharks may have slow reproductive rates, adults and newborns have low natural mortality.
b) Blue sharks are distributed Pacific-wide and worldwide (Bigelow 1948); longline by-catch will not affect the status of this resource.

CON LONGLINE -  

a) Sharks have slow reproductive rates, and are susceptible to overfishing; they cannot withstand high fishery pressures and even incidental take may harm their population structure and abundance levels (Stevens 1992; Holden 1977).

b) Drift gill net and recreational fisheries already take sharks; a longline fishery would be additive.

c) Southern California may be a nursery area for mako sharks (Bedford 1989).

d) A high by-catch of blue sharks would result in wastage.
SECTION 4.3

ISSUE: SWORDFISH RESOURCE

1) SWORDFISH STOCKS ARE NOT WELL UNDERSTOOD:

PRO LONGLINE - a) The Legislature finds and declares as follows (Fish and Game Code Section 8585):

1) The swordfish resource in both California waters and Pacific-wide is in a healthy condition.

2) A limited entry swordfish fishery should be established to allow increased access to the swordfish resource (effective until 1995; originates with drift gill net law).

b) Longline fisheries have considerable potential for increased catches of swordfish. Worldwide demand for swordfish will increase at least 5% in the future, yet because of restrictive policies in California, U.S. fishers are unlikely to take advantage of the demand (Sakagawa 1989).

c) The estimated sustainable catch of swordfish Pacific-wide is 40 million pounds (Sakagawa 1989). Current catch is 20-50 million pounds.

d) The decline of swordfish landings in California over the past five years is due to changes in the fishery. U.S. fishers are catching fish in Mexican waters and landing those fish in Mexico. Previously, they caught fish in Mexico and landed them in California (L. Mascola, pers. comm.).

CON LONGLINE - a) The swordfish fishery in the Pacific seems to be at maximum sustainable yield (18,000 tons), but more data are needed. Swordfish may be approaching that condition (overharvested) in the Pacific (Skillman 1989).
b) Skillman, Bartoo, Coan and others consider the swordfish in the Pacific to be one stock, based on Japanese longline data. Nishizaki and Shimizu (1991), using the same data, conclude that as many as 4 stocks may exist in the Pacific. If multiple stocks exist and the stock structure is complex, the risk of overexploitation increases dramatically.

c) Swordfish stocks on the east coast are currently considered overexploited.

1) Dollar (1991) found that the majority of swordfish taken on 5 of 10 observed longline trips were "rats" (fish weighing less than 23 kg). These fish were usually released regardless of whether they were dead or alive; most were dead.

d) Swordfish landings have declined over the past five years in California from over 5.2 million pounds in 1985 to below 1.6 million pounds in 1991.

2) THE EFFECTS OF LONGLINE GEAR ON SWORDFISH:

**PRO LONGLINE** - a) Longline gear is used throughout the U.S. and the world and is the dominant gear for taking swordfish in all areas except off California. Longline gear may be more efficient than harpooning for swordfish; it has replaced other gears because it is more effective at producing a steady supply of swordfish.

**CON LONGLINE** - a) Longline gear is not size specific (Hooker 1976, Berkeley 1981). Little can be done to prevent juvenile fish from being hooked; larger hooks make no difference (Berkeley 1981). Harpoons target big fish, while longlines catch more smaller fish (Atlantic Billfish EIR 1985).

b) The mean weight of swordfish in the Spanish longline fishery in the Atlantic declined from 88 kg in 1975 to 58 kg in 1985. Mean weight of swordfish in the U.S. longline fishery fell from 69 kg in 1978 to 39 kg in 1987 (Berkeley 1989).
c) Shark predation occurs on longline gear. In the eastern Pacific, 14.5% of all tuna and billfish captured by the Japanese longline fishery were shark damaged (based on scientific longline cruises in 1967-68; Taniuchi 1990).

d) Longline gear has a relatively low catch per unit of effort (Hooker 1976).
SECTION 4.4

ISSUE: BY-CATCH OF OTHER SPECIES

PRO LONGLINE - a) The experimental longline fishery for shark in California captured few species aside from shark (CDFG observer data indicates that 91-92% of the catch was shark for the 1988 and 1989 longline shark fishery respectively). The five sea lions and two turtles that were observed were released alive. An experimental longline fishery for swordfish and tuna may have a similar low by-catch of marine mammals and birds.

b) Birds are taken far less frequently by longline gear than by other types of fishing gear.

CON LONGLINE - a) Longline gear impacts marine mammals.

1) Five California sea lions and two turtles were captured by the shark longline fishery in two years of limited observer coverage (10% of trips were observed).

2) Northern Hawaiian Islands are closed to longline gear because monk seals, which are considered endangered, were hooked by longline gear.

b) Logs from the 1991 Hawaiian longline fishery recorded: 60 turtles were released alive, injured or dead; seven whales/porpoise were released alive, injured or dead; 121 birds were released alive, injured or dead. These data are from 199 sets with 65 vessels reporting interactions.
SECTION 4.5

ISSUE: ECONOMIC IMPACT OF THE EXPERIMENTAL LONGLINE FISHERY

1) A LONGLINE FISHERY WILL MEET DEMAND FOR A QUALITY PRODUCT AND IS ECONOMICALLY BENEFICIAL TO THE STATE:

PRO LONGLINE - a) The demand for fresh tuna has climbed dramatically since 1984. Longline gear and blast freezing (-70°C) can meet this demand.

1) Longline gear catches fish of better quality; fish are less bruised than with seine or other net gear. Longlined fish tend to be bigger than purse seined fish (Suzuki 1988, Lokkeborg and Bjordal 1992). Longlining is more fuel efficient than trawl gear (Nygaard 1988).

2) From 1987 to 1991, longline products in Hawaii quadrupled in value. Fish taken by seiners for canning are typically sold at lower prices per pound than longlined fish, which are frozen and sold as "fresh fish" in Japan.

b) Longlining allows for higher quality, lower quantity product, which is better for the resource.

d) There is less chance of ghost fishing if gear is lost than with lost gill nets or traps.

CON LONGLINE - a) While economic benefits are likely to accrue to the commercial fishing industry, there is likely to be no net benefit to the state.

1) Longline use (directed fishery) in Mexico reduced marlin recreational catch in Mexico (Squire and Au 1988).

2) Marlin sport angler interest is directly related to the quality of the experience. Fewer fish reduces the quality and the likelihood of fishing. Each marlin angler spends $334 per day, excluding vessel costs (Herrick 1984). This value and number of anglers may be underestimated since this report is outdated (B. Shedd, pers. comm.).
3) Billfish are commercially worth $1.00 per pound on the Atlantic seaboard. Recreationally-caught marlin are worth $22.00 per pound (Atlantic Billfish FMP 1988). The value of a dead striped marlin to sport anglers in southern California could exceed $7,000 if you consider that most striped marlin are released alive (B. Shedd, pers. comm.).

4) A decrease in the swordfish stock will discourage recreational anglers from spending money to participate in the recreational fishery (B. Shedd, pers. comm.).

b) The recreational fishery for striped marlin off the U.S. west coast is "very important" (Status of Living Marine Resources, NMFS 1991).

c) The CDFG does not have the economic resources to monitor the experimental fishery effectively.

d) From economic and social considerations, it is concluded that the greatest overall benefit to the nation will result from reserving billfishes for the recreational fishery (Atlantic Billfish FMP 1988).

2) THE LONGLINE FISHERY WILL PROVIDE OPPORTUNITIES FOR THE ECONOMICALLY DEPRESSED LOCAL FISHING INDUSTRY:

PRO LONGLINE - a) The traditional San Pedro wetfish fleet is in financial trouble. Only two canneries are operable; United Food Processors (UFP) recently filed bankruptcy papers. Many fishers are experiencing financial hardship, and feel the longline fishery would:

1) Keep the UFP cannery afloat by attracting capital and converting the cannery into a freezer/distribution center for tuna/swordfish (L. Mascola, pers comm).

2) Such action would create many jobs (drivers, packers, handlers, etc.).
b) An experimental gear permit to use longline gear north of Pt. Arguello was issued in 1987 to Dr. Mascola (F/V Southern Queen), but he was unable to obtain financing. Now he has financing, but he cannot get the permit. Such action is not conducive to a business' need to plan for the future.

c) The Pacific-wide catch of swordfish is dominated by the Japanese. California fishermen are currently taking only 3% to 10% of the catch.

d) The world market for swordfish is strong so prices should remain high. If market grows at 5% over 3 years, it will require approximately 1,000 mt additional swordfish per year to what was landed in 1986 (Sakagawa 1989). Pacific ocean stocks are in sufficiently good condition (Bartoo and Coan 1989) to contribute to such an increase.

CON LONGLINE - a) A longline fishery is unlikely to solve the financial problems of a large number of fishermen since access to the fishery would be limited. The current poor financial condition of the wetfish fleet and the displaced gill net fleet can not be addressed by this fishery.
SECTION 4.6

ISSUE: CONFLICT WITH OTHER COMMERCIAL FISHERIES

1) CONFLICTS WITH OTHER GEAR WILL BE MINIMAL AND CAN BE RESOLVED:

PRO LONGLINE - a) Those fishermen applying for the permit are well established, knowledgeable fishermen aware of the written and unwritten codes of the various fisheries. No conflict with other fisheries is likely to occur.

1) The Mascola family has been in the business since 1870. F/V GALLANT is a seiner of long stature as is F/V MAURITANIA, F/V ST. GEORGE II, F/V GOLDEN SABLE, and the F/V SOUTHERN QUEEN.

b) Fish and Game Code Section 8606 states: "The Commission shall encourage the development of new types of commercial gear".

c) Preliminary data in Hawaii finds no correlation between longline fishery and declining catch of other gears, although more study is needed and results are preliminary (Boggs 1991).

d) Japan and Taiwan have harpoon, drift net, and longline fleets that seem to exploit the resource simultaneously without overt detriment to each other.

e) Purse seine effect on longline fishery for yellowfin tuna is greater than the effect of the longline fishery on the purse seiners. (Nakano and Bayliff 1992). Purse seiners take smaller fish than longline gear.

CON LONGLINE - a) Longliners have come into direct conflict with artisan fishermen in Hawaii. This has led to a moratorium on the entry of new vessels until 1994.

b) The swordfish fishery in California has had conflicts between harpoon and drift gill net fishermen in the past. Longliners could add to this conflict because they will be one more user of a resource (swordfish) that has experienced declining landings in recent years.
c) Fish and Game Code Section 8606 also states that the Commission shall "minimize user group and resource allocation conflicts" and ensure the "proper utilization and protection of marine resources". Recreational marlin anglers have been allocated the striped marlin resource. Longlines will likely result in user group conflicts with recreational marlin fishers.
SECTION 4.7

ISSUE: POTENTIAL OUTCOMES IF THE PERMIT IS NOT GRANTED

PRO LONGLINE - a) If the permit is not granted, boats not licensed in California could fish outside of State waters and fish for what they like in any manner they please. Without an FMP, CDFG or any other organization is powerless to manage these resources. Marlin could be caught in federal waters (3-200 miles) off California and landed in Mexico, Oregon, or Washington. Granting permits to these five boats will cause fewer problems than denying them and watching helplessly as non-California licensed fishers harvest outside state waters. Examples include:

1) Poaching occurs in the Carribean swordfish fishery and small nations have difficulty enforcing restrictions (Caribbean Fisheries Inst. 1986).

2) Hawaii and Gulf states could not regulate shark and billfish fisheries without a regional plan.

b) Without a regional plan it will be difficult to manage these far ranging species. Boats can do what they like outside state territorial waters (to some extent) (M. Justine, NMFS-NER, pers. comm.).

c) It is unfair to regulate California fishers when non-California fishers are unregulated.

d) California swordfish catch is small (3% to 10% of Pacific-wide take). The state will lose an opportunity to participate in federal or international management of this resource if the fishery is minor or nonexistent.
CON LONGLINE -

a) An FMP for the management of billfish and pelagic sharks was drafted by the Pacific Fishery Management Council in 1981. It was not implemented because the harvest of these species was minimal compared to the overall harvest of many nations and a plan as such would not address the needs of resource management unless all nations cooperated. It was also realized that most of the billfish and shark harvest on the U.S. Pacific coast occurred in California and should thus be left up to California management. The decision not to fully implement an FMP in 1981 is relatively valid today in terms of swordfish, other billfish, and sharks.

b) No boats have expressed interest in coming from Oregon or Washington or Mexico to fish for tuna or swordfish.

c) Such boats would have to travel long distances without refueling or landing their catch in California (or using California based spotter planes) to avoid CDFG jurisdiction.

d) An experimental longline fishery will not prevent any vessel registered outside California from longlining outside State waters. Only a Fishery Management Plan can control fishing along the U.S. west coast and even then only out to 200 miles offshore.
SECTION 4.8

ISSUE: THE USE OF OBSERVERS

PRO LONGLINE -  a) With CDFG observers in place, it should be relatively easy to monitor the fishery. Fishermen are willing to pay for the program. If the fishermen cannot avoid acceptable levels of marlin and/or shark take, the experimental permits can be revoked.

b) Other fisheries are managed with observers with positive results (Squire and Boggs both stress this point).

c) If you do not know the answer or if you do not have the data, experimenting is an approved method of discovering answers.

d) Safeguards can be written into the permit rules.

CON LONGLINE -  a) The CDFG is relatively poor in economic resources, and does not have the funds to monitor the fishery thoroughly.

b) While fishermen are opting to pay for observer costs, problems exist:

1) Fishermen promised to pay for the experimental shark longline program in 1988. They paid all observer expenses for the first year and then split the cost with CDFG for the second year. No observer coverage was provided for the third or fourth years of the experimental shark longline fishery because the fishermen felt the program was too expensive and the data were not changing drastically from year to year.

2) Salary and employment benefits were $1,991.37 per month per observer in 1988 or $35,844.61 per two observers for 9 months. Observer coverage was only 10% of the trips.

3) Supervisory expenses have not been covered in the past. Observers need to be trained and data needs to be analyzed.
c) The estimated cost of an observer program for this experimental fishery (at 100% coverage) is $47,790 per boat per year.

d) Dollar and Yomoshita (1991) found that in a sample of 96 longline boats in January 1991, 50% of log data in an observer program was accurate, and the rest was of poor or questionable quality.

e) Dollar and Yomoshita (1991) found that the boat logs from 78 (8%) of 991 trips reported marine mammal interactions, while 6 out of 10 observers (60%) reported marine mammal interactions.
SECTION 5.0

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