

MARINE DEBRIS - A GROWING PROBLEM

(Information for the Commercial Fishing Industry)

Until recently, marine debris was considered to be of little importance compared to other pollutants. Information that is now becoming available suggests, however, that problems caused by marine debris may rival or exceed those resulting from some better known pollutants, such as oil.

What is Marine Debris and Where Does it Come From?

By definition, marine debris is any man-made object of wood, metal, glass, rubber, cloth, paper, plastic, etc. that is present in the marine environment. Depending upon the kind of debris, it may float at the surface, be suspended at mid-depths or sink to the sea floor. Ocean currents eventually carry much of the floating debris ashore.

Almost all of man's activities contribute in some way to the marine debris problem. Some of the litter generated on land eventually finds its way to the ocean via rivers and municipal drainage systems and from the dumping of solid wastes at sea. Commercial fisheries are a source of both fishery-generated and crew-generated debris. Fishery-generated debris refers to gear such as nets, pots, traps, setlines, etc. which is accidentally lost while fishing. Crew-generated debris includes worn or damaged fishing gear, such as pieces of net webbing, that is deliberately discarded at sea along with a variety of convenience items and packaging materials, such as bottles, jugs, cans, bags, boxes, etc. Other contributors of debris include the maritime

industry, the plastics industry, the petroleum industry, recreational boaters, military vessels, beachgoers and the general public.

A shift from the use of natural fibers to synthetic fibers for the construction of nets and other fishing gear has resulted in commercial fisheries becoming a large contributor to plastic pollution. The conversion from degradable natural fibers to virtually non-degradable synthetic fibers began in the 1940's and by 1970 was complete for most of the major fishing nations. Some investigators estimate that more than 100,000 tons of fishing gear is lost or discarded each year by the world fishing fleets.¹

The largest potential for lost and discarded fishing gear tends to occur in regions like the North Pacific where vessels of many nations operate under adverse climatic conditions and the amount of fishing effort has grown substantially. Since 1978, new gill net fisheries for squid have been developed by Japan, Republic of Korea and Taiwan in the Central-North Pacific. Approximately 1,000,000 miles (1,650,000 kilometers) of gill net is now set annually by these squid fisheries which constitute a large potential source of derelict gear.²

Fisheries of the U.S., Canada, Soviet Union and several other nations are also contributors of derelict fishing gear in the North Pacific. The trawl effort expended by the vessels of all nations in the Bering Sea, Gulf of Alaska, and off the west coast of the U.S. and Canada more than tripled from an annual average of 234,000 hours trawled in 1953-60 to 782,000 hours

trawled by the mid-1970's. Off Alaska, foreign trawl fisheries for groundfish have dominated other fisheries as regards volume of catch, geographical extent, and seasonal duration of operations. However, Americans are rapidly replacing fishermen of other nations as the harvesters of Alaska groundfish which could result in their soon becoming the largest potential source of lost and discarded trawl-web in the eastern Bering Sea and Gulf of Alaska.

One of the few places in the North Pacific where systematic records are available for lost fishing gear and other litter is on remote Amchitka Island in the western Aleutians where ten beaches each 1 km. in length were surveyed in 1972, 1973, 1974, 1982 and 1985. In 1982, six of the seven litter items that made up 86 percent of the total weight of Amchitka litter were items of commercial fishing gear, with trawl-web fragments comprising two-thirds of the total.⁴ Net fragments have also become a major component of flotsam washed ashore in some other regions, such as on the east coast of Scotland where a sample count revealed 48 pieces of netting in an area along 250 meters of beach.

One investigator recently estimated the world fleet of vessels dumps at least 4,800,000 metal, 300,000 glass, and 450,000 plastic containers into the sea every day.⁶ These figures were given as being conservative and did not include the containers being dumped from commercial fishing vessels. Nor do they include an unknown but obviously very large amount of some of the other kinds of plastics described below which are also

being discharged from fishing vessels, cargo vessels, passenger vessels, military vessels, etc.

Plastics--A Special Case

Plastics are recognized as perhaps constituting as great an environmental threat as all the other kinds of debris combined. Although plastics may break up into smaller pieces, they degrade much slower than most other kinds of debris. Many plastics float which has resulted in their widespread distribution even to some of the remotest parts of the oceans far removed from ship traffic and humans.

Durability, low cost and ever increasing production is resulting in large accumulations in the oceans and on beaches of "use and throw away" plastics. Concentrations tend to be highest in the northern hemisphere where ship traffic is the heaviest, most plastics manufacturers and fabricators are located, and where intensive use is made of beaches by picnickers and other kinds of visitors.

Plastic objects are most frequently seen within a coastal band extending from offshore shipping lanes into the beaches. Sightings outside shipping lanes are common enough to indicate, however, that considerable quantities of plastics occur in oceanic waters, especially in places like the Sargasso Sea where currents concentrate them. Plastics have become the most common man-made objects sighted at sea; they typically comprise from over one-half to two-thirds or more of all surface objects sighted.

Well known products made from plastics include jugs, bottles, buckets, bags, sheeting, eating utensils, yokes that hold six-packs of beer and soft drink containers together, disposable cigarette lighters, life preservers, buoys, fish nets, fish net floats, fishing line, rope, styrofoam cups, styrofoam pellets used as packaging material, foamboard, etc. etc. And the list of products continues to expand dramatically as new plastics are developed and new uses are found for them. For example, Coca-Cola USA is currently test marketing its popular soft drink in "plastic cans." Similarly, the Campbell Soup Company has begun marketing some of its soup in microwave-ready plastic bowls and is considering replacing its entire production of TV-dinner aluminum trays with plastic trays. It seems that almost everything that's in other packaging now is a candidate for eventual packaging in plastic.

Even the most casual observer is sometimes overwhelmed by the startling array of plastic litter encountered on what was expected to be found as a rather pristine beach. A recent three hour collection effort by 2,100 volunteers on some Oregon beaches yielded over 26 tons of plastic debris.⁷ Most of the debris was believed to have been washed ashore and not to have been left behind by beachgoers. Included in the litter were 48,898 chunks of styrofoam larger than a baseball, 2,055 bands used for strapping boxes and other kinds of cargo, 6,117 pieces of rope, 1,442 six-pack yokes, 4,787 plastic bottles and other containers,

1,097 pieces of synthetic fishing gear, 4,090 plastic bags or plastic sheets and 5,339 plastic food utensils.

Surprisingly large quantities of plastics have also been observed on some of Canada's remote Arctic beaches of the southern Beaufort Sea.⁸ Some of the objects were bottles, sheeting, styrofoam cups and other contaminants one would only expect to find near populated areas. Even more prevalent, however, were explosive cartridges, drill hole plugs and blasting cap protectors associated with seismic explorations by the petroleum industry. Some of the Beaufort Sea beaches from which litter was removed were found to have been re-inundated with plastics a year later.

"Suspension beads," the raw material used by fabricators of plastic products, have become an ubiquitous component of debris. These tiny beads, usually no larger than a match head, are also known as pellets, spherules, nibs, cylinders, etc. They can now be found in surface waters, in sediments and on beaches in a great number of places around the world. The entry of plastic beads into the ocean can be via rivers and outfalls of plants that manufacture them or from trucks, trains and vessels during loading, transport or unloading. Their unintended use aboard vessels and ashore as packing material, insulation or as "plastic ball bearings" to facilitate moving cargo boxes and other heavy objects serves to increase the chance of their entering the marine environment.

Concentrations averaging 3,500 beads per km² of ocean surface have been noted in the Sargasso Sea.⁹ Beads were present in 21 of 33 surface tows made along 35°N. latitude of the Pacific Ocean between California and Japan.¹⁰ Near industrial centers where plastics manufacturers are located in New Zealand, concentrations of up to 10,000 or more beads per meter of beach were not uncommon and significant numbers were seen on even very remote beaches.¹¹

What's the Harm Of It?

Some of the problems resulting from marine debris are well known to fishermen and other seafarers. Ropes, cables and fish nets can foul propellers of ships; by blocking water intakes, plastic sheeting can cause overheating of engines; vessels may collide with drums, pallet boards or other large objects, and; nets used by fishermen are fouled and sometimes damaged by various kinds of debris. Such instances can result in economic losses as well as endanger humans.

The kinds of plastic debris most dangerous to marine life are those most likely to be lost or discarded after use. High on the list are fragments of synthetic fish net, line and rope and light-weight plastics such as cargo strapping bands, six-pack yokes, bags, plastic beads, styrofoam cups, packaging pellets and foamboard which breaks up into smaller and smaller pieces. Even disposable cigarette lighters can have a fatal attraction to some seabirds which on occasion are known to swallow them.

While further studies would be required to understand all of the biological impacts of plastics on marine organisms, their physical effects are often very apparent. Birds can become entangled or trapped in fish line, net fragments, bags and six-pack yokes (photo). Some species of birds have been seen to become trapped after inserting their beaks into or through various kinds of plastic articles.

Of the 280 worldwide species of seabirds, 50 species are now known to ingest plastics. A great variety of plastics are swallowed, including plastic beads and pieces of styrofoam which are probably mistaken as food. The observed kinds of harm to birds from ingesting plastics include blockage of the intestine and ulceration of the stomach which can lead to reduced feeding, lowered breeding activity and sometimes death (photo).

The finding of plastics in seabirds is a recent phenomenon which has coincided with man's increased use of plastics. Plastics represent an evolutionary novelty to which seabirds and other kinds of animals have not adapted.

The greatest threat to marine mammals appears to be from becoming entangled or trapped in lost or discarded fragments of fish net and in uncut strapping bands. Collars of fish net, strapping band, line and rope have become an all too familiar sight on Pribilof Island fur seals in the Bering Sea (photo). Growth of an entangled seal can result in a "choke collar" that bruises or cuts into the flesh and sometimes kills the animal.¹² Young seals are endangered more than adults because of their

inquisitive nature which leads them to investigate and play with debris.

There are also reports of a few species of marine mammals swallowing plastics. Plastic sheeting has been found in the stomachs of pigmy whales, round-tooth dolphins and a Cuvier beaked whale.¹³ There are also unpublished reports of plastics being found in the stomachs of Baird's beaked whales, Dall's porpoises, sperm whales and fin whales. Curiously, plastics were not found in thousands of seal stomachs examined from Alaska.

The stomachs of some fishes, including those of juvenile flounders from waters off the U.S. Atlantic coast, have been noted to contain plastic beads, and there are even reports of fish swallowing plastic cups. Underwater observations have revealed that derelict ("ghost") gillnets have continued to catch fishes, crabs and diving seabirds for several years after they were lost (photo).

Ingestion of plastics and entanglement in ropes, lines and fishing debris are also potential problems for sea turtles. Turtles have been found to eat a variety of synthetic drift items, including plastic bags, pieces of styrofoam and monofilament fishing line. Floating plastic bags appear to be frequently mistaken for jellyfish, one of the favorite foods of the Loggerhead and Leatherback turtles (photo). All of the known species of sea turtles are classified as either "threatened" or "endangered" under the U.S. Endangered Species Act.

Why Tell Me About It?

Providing this information is part of an educational effort by the U.S. National Oceanic and Atmospheric Administration (NOAA) to inform people about the nature and potentially harmful effects of marine debris. Similar efforts are being directed towards other contributors of marine debris, including the maritime industry.

It is NOAA's belief that when people become aware of the growing problem of marine debris they will seek ways to combat it. This should be especially true for commercial fishermen who derive their livelihood from the sea and have a special affinity for it, preferably in as uncontaminated a state as possible.

How Can I Help?

Because marine debris is a global problem, it will ultimately require the efforts of all countries to solve it, including perhaps international regulations. But international regulations governing the dumping of plastics are not yet in place, and even if they were there remains the question of how effectively they could be enforced at sea. In the meantime, it behooves all of us to do what we can to alleviate the problem.

In our view, the persistent nature of synthetic fishing gear and plastic convenience articles and the threat they pose to marine organisms requires that special attention be given to their use and handling by commercial fishermen.

Following are some suggested ways to help in combating the

marine debris problem. Other ways will undoubtedly occur to the reader.

- o Retain net fragments and all other potentially harmful debris for disposal ashore, preferably at recycling stations. For ports without such facilities, encourage authorities to provide them.

- o Take on board the minimum amount of nondegradable products for the crews.

- o Supply vessels with bulk containers for drinks and other products to better control and manage their disposal.

- o Make maximum use of available technology to relocate and retrieve your gill nets, setlines, crab pots and other fishing gear in order to minimize their loss. If possible, bring ashore for disposal any derelict fishing gear you retrieve at sea, such as crab pots encountered when trawling. If derelict gear must be returned to the sea, dispose of it in a responsible manner by rendering it incapable of catching or entrapping fish and other marine organisms.

In the end, it will be the actions of individual fishermen that will determine the success or failure of any program aimed at reducing marine debris. Every time someone throws overboard a piece of torn or worn out webbing, fish line, six-pack yoke, styrofoam cup, or almost any other man-made object it adds to the problem. Even the simple act of cutting a strapping band before discarding it will prevent it from ever becoming a "choke collar" around the neck of a seal or some other unfortunate animal.

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SELECTED MARINE MAMMAL ISSUES OF INTEREST TO THE NPMC

Prepared by the
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Northwest and Alaska Fisheries Center

For the
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INTRODUCTION

The Northwest and Alaska Fisheries Center is engaged in multidisciplinary research on the interaction of fishes, marine mammals and fisheries. This work involves all elements of the Center whether it be for studies of prey availability and movements of humpback whales in SE Alaska; the incidental take of sea lions in Shelikof Strait; or the predation of fish by fish and fish by marine mammals in the southern Bering Sea. Such research (as well as many others) results from U.S. participation in international agreements, such as the International North Pacific Fisheries Commission (INPFC), International Whaling Commission (IWC) and Interim Convention on Conservation of North Pacific Fur Seals (currently lapsed), and national commitments under the Fisheries Conservation and Management Act of 1976, Marine Mammal Protection Act (MMPA) of 1972 and Endangered Species Act (ESA) of 1973.

Most of our research is devoted to the eastern North Pacific and Bering Sea, one of the most productive "ecosystems" in the world. There are over 30 species of whales, dolphins, seals and sea lions inhabiting this region, with a total abundance approaching 10 million animals. Most are found there seasonally. A major focus of the Center's activities is investigation of relationships between fish, fisheries and marine mammals. For example, it is estimated that marine mammals take about equal or just greater amounts of pollock (by weight) than commercial fisheries. Center scientists in the Resource Ecology and Fisheries Management Division (REFM) hypothesize that predation of pollock by adult groundfish is greater than that taken by commercial fisheries and marine mammals. Verification of this kind of ecological relationship and its magnitude is critical to management, and points out the importance of integrated cooperative research.

The role of the National Marine Mammal Laboratory (NMML) for the Northwest and Alaska Fisheries Center is to investigate how marine mammals fit into the oceanic complex. This is done in two broad ways. First, an understanding and monitoring of current abundance, distribution and population trends are required for basic stock assessments. Second, ecological studies on reproduction, feeding,

behavior and interrelationships of habitat use form the basis of understanding what role marine mammals play in the ecosystem. For many years now, principally because of legislative and management mandates, research has focused on monitoring populations and determining status of stocks.

For the past few years, the most important research issues have been the status of the northern fur seal and determination of the cause(s) of its decline; determination of the extent and cause(s) of the decline of the northern sea lion in Alaskan waters; the recruitment rate of bowhead whales relative to the Alaskan Eskimo subsistence hunt; population recovery and trend analysis of the California gray whale; the impacts of the incidental take on Dall's porpoise in the Japanese high seas salmon driftnet fishery; and the incidence and rate of entanglement and incidental take of other marine mammals in foreign and domestic fisheries in the North Pacific.

This paper provides a summary of recent research activities and results concerning a few issues of interest to the NPMC.

DECLINE OF FUR SEALS AND SEA LIONS IN ALASKA

Population Information

Fur Seals. Between 1970 and 1975, the production of northern fur seals on St. Paul Island, one of the Pribilof Islands, increased about 20% after cessation of the harvest of adult females. From 1976 to 1981, the population declined by 40% at a rate of 4-8% per year. Since 1981, the number of pups produced on St. Paul Island has remained approximately the same and thus the population on that island may be stabilizing. Pup production on St. George Island however has continued to decline at 5-6% per year since 1980. The entire Pribilof Island population is apparently still declining but at a lower annual rate than during the period 1976-81. Data from both islands are being carefully evaluated to provide a more precise estimate of the current trend in abundance.

Sea Lions. Analysis of 1984-85 survey data on northern (Steller) sea lions from the Gulf of Alaska to the western Aleutian Islands collected by scientists from NMML and Alaska Department of Fish and Game (ADF&G) confirms that the sea lion population has declined 52% since the late 1960's from 140,000 to 68,000 animals. These surveys have shown that the decline is occurring throughout most of Alaska. The greatest decline has been in the eastern Aleutian Islands (79% decline) and the least in the central Aleutian Islands (8%). Research in 1986 showed a 20% decline in numbers in just one year between 1985 and 1986 at Ugamak Island, a major breeding location in the eastern Aleutian Islands (Unimak Pass). And, since 1985, pup counts decreased by 25-50% at several major breeding locations in the Gulf of Alaska.

Implications to Fisheries Management

The cause(s) of the population decline of northern fur seals and northern sea lions in recent years is not readily apparent. The trends in these two species' populations are slightly different, and the declines have occurred during overlapping periods. Current population estimates for both species suggest that they have declined by 40-60% from their peak levels of abundance. This makes them possible candidates for designation as "depleted" under the MMPA. Under existing U.S. law no species listed as depleted may be taken except for research purposes.

KILLER WHALES TAKING SABLEFISH FROM LONGLINE FISHERIES

In August 1985, the NMML was alerted to a problem involving the predation of sablefish (black cod) by killer whales on longline catches in the southeastern Bering Sea and Prince William Sound, Alaska. In the 1985 Prince William Sound fishery reports documented blackcod losses of up to 25% of the total fishery; and three fishermen reported their losses were 70-80%. Problems with killer whales taking black cod from longlines apparently goes back to at least the 1960's, when to avoid the conflict, Japanese fishermen in the southeastern Bering Sea often had to either move away from the whales, up to 100 miles, or switch areas and fish for Pacific cod.

From preliminary investigations by NMML scientists, sighting data and interviews with fishermen support the view that killer whale predation on black cod longlines is a regional issue. The only reported interactions have come from southwestern Prince William Sound, and the southeastern Bering Sea between the eastern Aleutian Islands and Pribilof Islands. No problems have been reported for the Gulf of Alaska, SE Alaska or British Columbia. The geographic areas of interaction coincide with the areas of presumed high density of killer whales. Work is in progress to determine the extent of the interaction. Tentative plans are to conduct studies with the fishery in Prince William Sound and perhaps the SE Bering Sea in 1987 to better understand and help in mitigating the problem.

ENTANGLEMENT STUDIES

There are three issues dealing with the entanglement of marine mammals (as well as the bycatch of fish and birds, although not addressed here) that the NMML is studying. These are: 1) the entanglement of fur seals and sea lions in debris consisting of pieces of trawl and gillnet netting, plastic packing bands, rope, and other derelict materials floating in the ocean or found on land; 2) the

incidental take of Dall's porpoise in the Japanese North Pacific high seas salmon driftnet fishery; and 3) the incidental take of marine mammals in the high seas squid driftnet fishery. Only results of recent studies are reported here.

Fur Seal and Sea Lion Entanglement

In 1985, the NMML received supplemental funds to study the nature and extent of debris entanglement in northern fur seals on the Pribilof Islands and northern sea lions in the Aleutian Islands. Studies of the rate of entanglement, netting mesh size, and experimental effects on females and pups were investigated on fur seals on St. Paul Island in 1985 and 86. The rate of entanglement of juvenile male fur seals in those two years was 0.43% which is the same as reported in the harvest of juvenile males from 1967-84. Trawl netting with mesh sizes greater than 20 cm were the dominant material around the necks of juvenile seals. Pups were shown to freely entangle themselves in mesh 16-20 cm, and numerous pre-weaned entangled pups were observed, suggesting that high mortality of post-weaning seals may take place after they leave the island for the first time. Also, post-parturient experimentally entangled females stayed out to sea between feeding trips twice as long as non-entangled (control) seals. Significantly, 11 pups of entangled females died, whereas only one pup from a control mother died. Between 1985 and 86 significantly fewer experimentally entangled females returned than controls, suggesting (preliminarily) a much higher mortality rate of entangled than non-entangled adult female fur seals. The precise degree to which net entanglement is contributing to the fur seal decline remains unclear, and may be in doubt, but debris entanglement has clearly added to the total mortality of the population. Studies of northern sea lions suggest that debris entanglement (about 0.08%) does not contribute significantly to their population decline.

Incidental take of Dall's porpoise.

Scientists from the Center's Auke Bay Laboratory (ABL) and the NMML are working together with the U.S. Fish and Wildlife Service (FWS) and Japan Fisheries Agency, through the INPFC, on a joint program to assess the impact of the Japanese salmon fisheries on marine mammals, salmon and the bycatch of other fishes, and birds. U.S. and Japanese observers monitor 6% of the gillnet operations in the salmon mothership fishery, but none in the landbased fishery. Based on observers' data, the estimated annual incidental take of Dall's porpoise from 1981 to 1985 in the Japanese mothership fishery has been 2,862 to 5,903. The take in 1986 was under 2,000. Dall's porpoise are widely distributed in the North Pacific, and based on collaborative studies between NMML and the Center's Utilization Research Division, at least two stocks exist, one in the Bering Sea and the other in the western North Pacific. The Bering Sea stock is

estimated at 148,000 to 270,000, and the western North Pacific stock (west of 172°W) at 483,000 to 955,000, for a total population estimate of 620,000 to 1.3 million. Preliminary population models indicate that at low take rates, the current population size is above the minimum target level (60% of the presumed maximum population size prior to the fishery), but that if the highest incidental take rates are used along with lowest current population estimates, the western North Pacific stock could be below the minimum acceptable level. These results are based upon the Japanese salmon driftnet fisheries only and do not include the take by the three squid driftnet fisheries operating in the North Pacific.

Incidental Take in Squid Driftnet Fisheries

Marine mammals including Dall's porpoise and fur seals, as well as seabirds, turtles, salmon, and various other species of fish, are incidentally taken in the high seas squid driftnet fisheries of Japan, Taiwan and the Republic of Korea. There is concern that incidental take of marine mammals, and salmon of U.S. origin, may be high. Unfortunately, very little is known about these fisheries, and only recently has limited data been collected.

Japan, Korea and Taiwan began squid driftnet fisheries on the high seas in the late 1970's-early 1980's. These fisheries expanded rapidly and in 1984 involved about 700 vessels, each fishing 20 to 40 km of gillnet per operation during a fishing season extending from May to January. These fisheries occur in the North Pacific from Japan to 145°W, between about 34°N to 46°N latitude. A limited number of observations on a Japanese commercial vessel were made by University of Washington observers in 1982; and, some observations of this fishery were made by NWAFC observers while aboard a U.S. Coast Guard vessel in 1985. To address questions concerning incidental take of salmon, marine mammals and seabirds, three fishing trips, one each on Japanese, Korean and Taiwanese vessels, were conducted in 1986. This was a cooperative effort between the Center's Auke Bay Laboratory (ABL), NMML, NPMC and University of Alaska. Fishing conducted by Korea and Taiwan was from research vessels which did not use gear comparable to commercial vessels. The results therefore will be of limited value for assessing impacts. The Japanese cruise was aboard a commercial squid vessel and provided limited, but important information. For example, during 30 operations using 30-40 km of gillnet each, only 1 salmon was taken. Six Dall's porpoise were taken, as well as 14 northern fur seals, 43 northern right whale dolphins, 8 Pacific white-sided dolphins, 1 striped dolphin and 1 leatherback turtle. During the Korean fishery, the U.S. observer reported one fur seal (alive), and in the Taiwanese catch one common dolphin was taken (dead). Data are limited, in number, area covered and time period, and should therefore not be extrapolated over the entire fishery.

RESEARCH PRIORITIES

In FY87, as in FY86, the highest priority studies will address the cause(s) of the decline in the population of northern sea lions and the status of northern fur seals. Research will focus on understanding trends in these populations and to evaluate what contributions fisheries and environmental resources have made. The NMFS is also deeply concerned about highly endangered species as well as the balance between culture, human needs and conservation. Major research is therefore focused on determining the rate of recruitment of bowhead whales. An accurate estimate of recruitment is needed to determine what level of subsistence take by Alaskan Eskimos will still allow the bowhead population to grow. In addition, continual assessment of the stocks of Dall's porpoise will take place depending upon whether a permit is granted for Japan to fish in U.S. waters.

Other important although much less costly research that may be carried out in FY87 are: 1) population census and trend assessment of gray whales for final determination of delisting or down listing under the ESA; 2) implementing a standardized photoidentification system for N. Pacific humpback whales to help determine population size and stock identity; 3) assess harbor seal and California sea lion fisheries interactions in preparation for return of management to the States of Oregon and Washington; 4) pinniped/fish community ecology in the Channel Islands Marine Sanctuary; 5) killer whale/black cod longline fisheries interaction; and 6) reproduction and feeding behavior of Antarctic seals, part of NMFS' Antarctic Marine Living Resources Program.

North Pacific
Fishing Vessel
Owners' Association

VESSEL SAFETY PROGRAM



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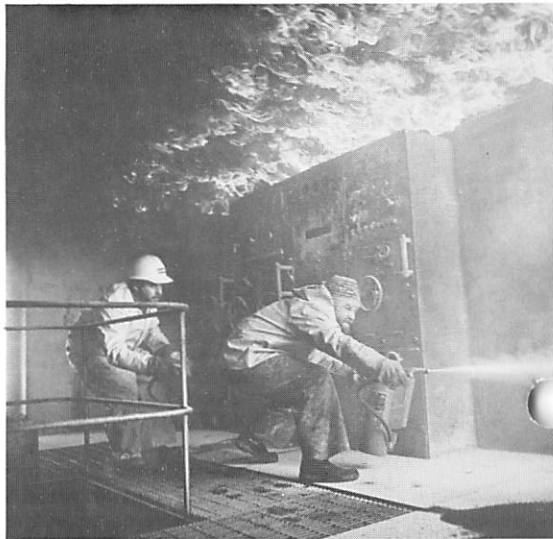


THE VESSEL SAFETY PROGRAM

Commercial fishing is dangerous. There are no technological means of removing the hazards of the sea, nor can human error be entirely eliminated. While the dangers inherent in commercial fishing cannot be avoided, they are magnified or minimized by the actions of each vessel's skipper and crew. The best constructed and equipped fishing vessel is as good a risk as the people who own and operate it.

Knowledge and preparation are vital, and the Vessel Safety Program is an effort to boost the level of emergency preparedness within the commercial fishing fleet. The objectives are twofold: to save lives and property, and to impact the availability and cost of fishing vessel insurance. The Vessel Safety Program is an industry effort to institute loss control aboard fishing vessels on a voluntary basis.

The Vessel Safety Program has been conceived and developed by the North Pacific Fishing Vessel Owners' Association, with grants from the U.S. Coast Guard and the National Marine Fisheries Service. It consists of three elements: the Vessel Safety Manual, the Crew Training Program and the Safety & Survival at Sea Video Tapes.



CREW TRAINING PROGRAM

1) Fire Fighting & Control

Hands-on practice at fighting fires under very realistic circumstances using a 147-foot vessel simulator and a variety of other "props" at the Washington Fire Training Center. Participants learn fire control theory and gain experience at using portable fire extinguishers, fixed fire suppression systems and water hoses.

\$100

8 Hours

2) Safety Equipment & Survival Procedures

Survival theory followed by in-the-water simulations using exposure suits, inflatable liferafts, signalling devices, and other survival gear. Instruction covers man-overboard and abandon ship emergencies, including survival at sea and ashore, hypothermia and cold-water near-drowning. Participants will be invited to U.S. Coast Guard helicopter evacuation demonstrations.

\$65

8 Hours



3) Medical Emergencies At Sea

This specialized class focuses on the unique problems encountered in performing first-aid at sea, where there is no emergency room nearby. At sea, a medical emergency victim has only his crewmates to depend on, and each commercial fisherman has a responsibility for learning as much first-aid as possible. The class offers hands-on practice at patient assessment, wound management, CPR, and other emergency medical techniques. Instructors include medical professionals, Coast Guard flight surgeons and search and rescue experts.

\$40

8 Hours

4) Navigation & Stability

An overview of navigation, piloting, rules of the road, collision avoidance, wheelhouse electronics and stability. The class is designed as an introduction for the green hand or as a refresher for the licensed or experienced man. Sessions include classroom lecture and video tapes.

\$60

16 Hours

5) Vessel Safety Orientation

This portable component of the training program takes place aboard participating vessels during layovers in Seattle. Under the guidance of the vessel skipper and safety program instructor, the crew develops contingency plans for dealing with various emergencies, considering the vessel's operating mode and equipment. Sessions include fire, man-overboard and abandonment drills.

\$300 per vessel

8 Hours

Individuals who complete classes 1-4 will be issued Safety Certificates by NPFVOA. Vessels participating in the Vessel Safety Orientation will receive window stickers.

SAFETY & SURVIVAL AT SEA VIDEO TAPES

Slated for production in 1987, the NPFVOA Safety & Survival at Sea Video tapes will represent another portable component of the Vessel Safety Program. They are intended to parallel the Crew Training Program curriculum, and to give the vessel skipper a means of promoting safety awareness in-season.

CREW TRAINING PROGRAM REQUEST FOR INFORMATION

Please print

Name _____

Company/Vessel _____

Address _____

City _____ State _____

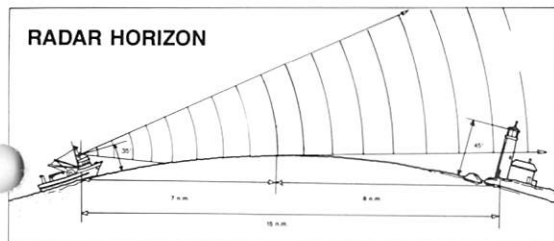
Zip _____ Telephone () _____

I am interested in attending the following classes:

- Firefighting & Control
- Safety Equipment & Survival Procedures
- Medical Emergencies At Sea
- Navigation & Stability
- Vessel Safety Orientation

Mail this form to: **NPFVOA Vessel Safety Office**
Room 207, C-3 Building
Fishermen's Terminal
Seattle, WA 98119
(206) 283-0861

VESSEL SAFETY MANUAL



The NPFVOA Vessel Safety Manual offers recommendations for the safe operation of fishing vessels. Produced in cooperation with the U.S. Coast Guard, the manual incorporates material from existing sources and draws upon the experiences of fishing vessel operators and the Coast Guard. The manual includes the following topics:

- Vessel Familiarity
- Medical Emergencies At Sea
- Rules of the Road
- Watchkeeping
- Safety Equipment & Survival Procedures
- Vessel Systems
- Stability
- Coast Guard Procedures
- Working Conditions
- Fire Prevention & Control
- Common Vessel Safety Concerns
- Seamanship & Nomenclature

VESSEL SAFETY MANUAL ORDER FORM

Please print

Name _____

Company/Vessel _____

Address _____

City _____ State _____

Zip _____ Telephone () _____

Please send me _____ copies of the
Vessel Safety Manual @ \$30 each
(includes shipping and handling) _____

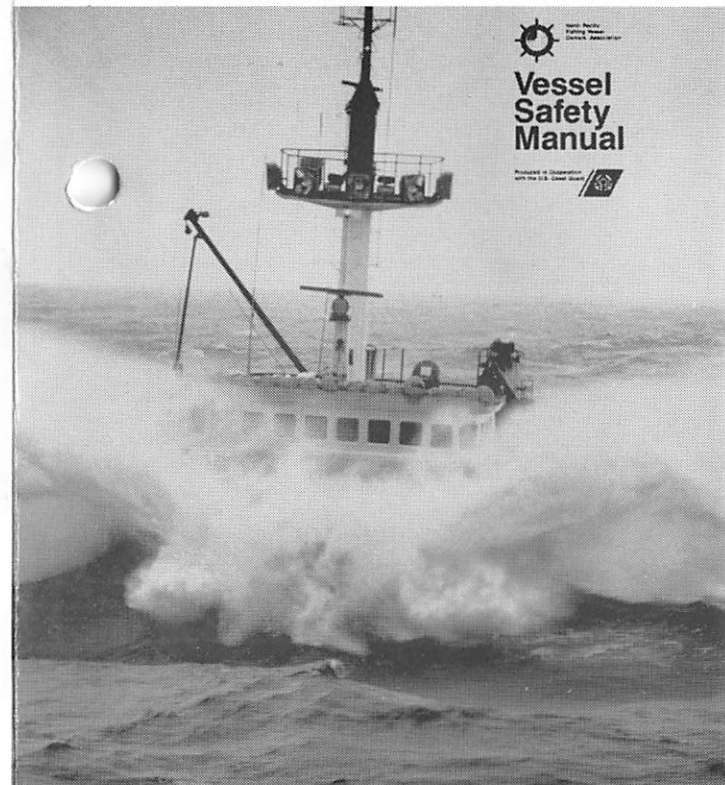
Washington residents add \$2.37 for
each copy (.079% sales tax) _____

Total Order _____

Please return order with
full payment by check to:

Vessel Safety Program
Room 207, C-3 Building
Fishermen's Terminal
Seattle, WA 98119
(206) 283-0861

NPFVOA VESSEL SAFETY PROGRAM
C-3 Building, Room 207
Fishermen's Terminal
Seattle, Washington 98119



Vessel Safety Program

- SAFETY MANUAL
- CREW TRAINING PROGRAM
- SAFETY & SURVIVAL
AT SEA VIDEO TAPES

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SEATTLE, WA

NPFVOA VESSEL SAFETY PROGRAM
Building C-3, Room 207
Fishermen's Terminal
Seattle, Washington 98119
(206) 283-0861

U.S. Department
of Transportation

United States
Coast Guard



Commandant
United States Coast Guard

Washington, DC 20593
Staff Symbol:
Phone: G-MTH-F/V
(202) 267-2967

16700 8388T
SEP 9 1986

The U.S. Coast Guard Fishing Vessel Safety Task Force has completed its work in developing a voluntary vessel standards program and safety awareness and education program. The vessel standards program, which originally consisted of a series of five navigation and vessel inspection circulars (NVICs) covering several safety areas, has been consolidated and published in NVIC 5-86 after allowing time for persons in the fishing industry to review, evaluate, and comment on our initial recommended standards. NVIC 5-86 includes recommended voluntary standards intended to be used as guidelines for increased safety on board U.S. uninspected commercial fishing, fish processing, and fish tender vessels. It will be available to the public in October 1986 through the Government Printing Office. I will send you a copy when it becomes available.

NVIC 5-86 is one component of an overall safety program aimed at improving the safety record of commercial fishing vessels. The other components are the North Pacific Fishing Vessel Owners' Association (NPFVOA)/USCG "Vessel Safety Manual" and industry sponsored training courses. The "Manual", which was developed in a joint effort between the Coast Guard and the NPFVOA, is targeted for use on board fishing vessels by fishermen and will serve as the basis for safety courses to be developed and given locally by fishing industry organizations, Universities, community colleges, or similar training institutions. This will provide the framework for the fishing industry to reduce their vessel and human losses without federal regulation.

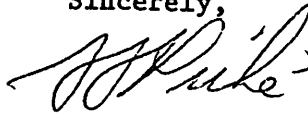
We have distributed copies of the "Vessel Safety Manual" to all Coast Guard Marine Inspection and Marine Safety Offices, and District Marine Safety Officers. Task Force members also plan to personally present copies to several fishing industry association leaders throughout the country over the next few months in an effort to encourage the purchase and use of the manual and the development of safety courses based upon the contents of the "Vessel Safety Manual", enclosure (1).

Our overall safety program was developed at the national level but, to be effective, implementation must take place at the local level. One way to accomplish this is to tap into your extensive educational and communication network. I know from my conversations with Bob Shephard, Associate Director of the National Sea Grant Program, that you and members of your staff are committed to supporting work in this vital area of fishing vessel safety; therefore, I ask that you actively promote our vessel safety standards set out in NVIC 5-86 and the guidelines in the "Vessel Safety Manual." An excellent forum for this is by establishing formal training courses, workshops, and presentations at public exhibits and industry seminars. I believe that together, through this type of coordinated effort we can reach a large percentage of the fishermen, especially those in some of the remote areas you frequent.

Congress has held many hearings and introduced several bills looking to require additional safety equipment on board these vessels. The most recent bill introduced was H.R. 5013, "Commercial Fishing Industry Vessel Liability and Safety Act of 1986". H.R. 5013 was a compromise measure which included features of three earlier bills that addressed fishing vessel safety. Although it would not in and of itself been the solution it would have expressed the concern of the government. On August 13, 1986 the House voted 181-241 against H.R. 5013. Because of this defeat it appears unlikely that Congress will pass any fishing vessel safety legislation in the near future. This is even more of a reason why we need to continue to encourage persons in the fishing industry to adopt our voluntary program.

Please call me at the above number or Lieutenant Commander Bill Morani at 267-1063 if you need more information.

Sincerely,



G. G. Piché
Captain, U.S. Coast Guard
Manager, Fishing Vessel Safety Task Force
By Direction of the Commandant

Encl: (1) USCG/NPFVOA "Vessel Safety Manual"

AIMU

AMERICAN INSTITUTE OF MARINE UNDERWRITERS

August 13, 1986

Mr. John Sabella
North Pacific Fishing Vessel
Owner's Association
Building C-3, Room 207
Fisherman's Terminal
Seattle, WA 98117

Dear John:

Thank you so much for sending the Vessel Safety Manual. We had already decided to buy it so here is the check which came up for signature today - I am sure you can use it.

Let me congratulate you for the superb job you and your Associates did in preparing and publishing the Manual. I have read a good deal of it and find it well written, beautifully laid out and excellent in concept. It will be to fishing as Knight is to naval seamanship and Chapman to yachting.

If you will provide me with 50 copies of your small brochure I will include it with our Daily Bulletin which goes to heads of Marine Departments of all of our members.

By the way, could you get in touch with Bart Eaton to see if we could have a picture of the "Oceanic" (Introduction Section) on the "Bering Sea" (Seamanship Section). Either would make excellent shots for our Annual Report and I would love to hang an 8X10 here in my office.

Cordially,



Ward L. Mauck
President

/ad
Att.

Volunteer for safety

A lot has been said and written over the past several months about the fishing vessel safety and insurance crisis—and for good reasons. Between 1981 and 1984, for example, we lost an average of 84 lives and 250 U.S. commercial fishing vessels each year. Additionally, insurance rates have skyrocketed and many vessel owners are finding it difficult to get insurance; many have even had their policies canceled. I could list more casualty statistics, but I don't think it's necessary—I'm sure you agree that commercial fishing is a hazardous occupation.

When you take a look at fishing vessel casualties, you realize that many could have been prevented or their severity reduced if a few precautions had been taken. Many of these precautions require only a little bit of time—crewmen becoming familiar with the layout of the vessel, the location of firefight-

By Admiral James S. Gracey



Admiral Gracey retired as a Commandant of the U.S. Coast Guard May 31, shortly after writing this article for THE FISH BOAT.

ing and lifesaving equipment before the vessel gets under way or taking part in emergency drills. In some cases a minimal investment

of money can reap many benefits—installing fire alarms in the engine spaces, for instance, can alert the crew to a fire in its early stages. Similarly, an engine room high-level bilge alarm can warn crewmen early that the vessel is taking on water.

All the safety equipment in the world, however, is not going to make any difference unless you know how to use it. That's where the human factor comes into play, a lack of knowledge in areas unrelated to the business of catching fish—poor watchkeeping practices and procedures, navigational errors, rules of the road violations and a lack of understanding of the various forces acting upon the vessel, especially vessel stability, are prime examples. Human error plays a major role in fishing vessel casualties.

A major cause of accidents is material failure which results in

Fishing vessel safety manual available

As part of the fishing industry's effort to improve vessel safety and control the cost and availability of insurance, the North Pacific Fishing Vessel Owners' Association (NPFVOA) has just published the *Vessel Safety Manual*. Intended as a set of operating recommendations for fishing vessel skippers and crews, it forms a package with the Coast Guard's Navigation and Vessel Inspection Circular 5-86, which covers technical recommendations for designing, building and outfitting fishing vessels.

The *Vessel Safety Manual*, prepared in conjunction with the Coast Guard, draws on the experience of that agency, veteran skippers and experts on various aspects of safety and seamanship. The material is aimed at everyone from new hands to seasoned skippers and vessel owners.

The looseleaf manual, comprising more than 300 pages of text and some 300 illustrations, is divided into 15 chapters. Each chapter is tabbed and index-

ed and features a crew signature page for the vessel operator to record that crew members have read the material and understand how it applies to their vessel.

The *Vessel Safety Manual* costs \$30 (Washington residents add 7.9 percent sales tax). Proceeds will be used to sustain the NPFVOA Crew Training Program. The program, which began last December, includes classes in fire fighting and control, medical emergencies at sea, safety equipment and survival procedures, navigation and stability and an onboard vessel safety orientation. The NPFVOA also intends to create a set of safety and survival at sea videotapes for fishing vessels in 1987.

To order the *Vessel Safety Manual* or find out more about the Crew Training Program or safety and survival videotapes, write the Vessel Safety Program, Building C-3, Room 207, Fisherman's Terminal, Seattle, Washington 98119, or call (206) 283-0861.

the NPFVOA, and John Sabella, who's working for Thorn in developing the safety manual. They are also putting together training courses for the Pacific Northwest. As a matter of fact, they recently conducted several hands-on firefighting training courses for local fishermen in cooperation with local authorities in Seattle, Washington.

The Virginia Institute of Marine Science, in Gloucester, Virginia, has put together training courses. They held a fishing vessel safety and insurance workshop which covered a number of topics, such as emergency first aid and cold water survival. They also spent a day at our Reserve Training Center in Yorktown, Virginia, covering firefighting and Coast Guard search and rescue techniques.

The Southeastern Fisheries Association is developing, among other things, an industry vessel safety code and regional safety manual, while a group in New Jersey is looking at developing a state-underwritten mutual insurance association. Our task force has offered assistance to each of these groups and is working with the National Council of Fishing Vessel Safety and Insurance in Washington, D.C., to distribute information to them.

I believe our voluntary approach will work. The present insurance and safety crisis has caused persons in the fishing industry to take a hard look at the whole safety issue. They realize that any response they make to this issue must include a tightening up of safety standards and more safety awareness on the part of masters and crewmen. The industry's willingness to contribute to developing a program to reduce casualty losses and to follow established guidelines are also key points.

Many persons in the fishing industry are demonstrating that they can make improvements without government intervention and regulation. There are a lot of safety-conscious fishermen out there who will follow the recommendations in our NVICs and safety manual. I believe that by doing so they will start to see positive results, the kinds that count—fewer injured people, fewer vessels lost, and, most importantly, many lives saved.

Safety tied to liability reform

Three recently introduced congressional bills dealing with the problem of insurance costs and liability coverage in the marine industry include safety provisions. Subcommittees of the House Merchant Marine and Fisheries Committee held hearings on all three bills April 17, but no further action had been scheduled at press time. Here are the main points of each bill.

H.R. 4407 (introduced by Rep. Walter B. Jones, D-N.C.):

- Limits liability of fishing vessel owners who comply with improved safety requirements.
- No maritime law or Jones Act case if disability less than one year.

• Mandates safety requirements for fishing vessels built after 1987.

• Authorizes courts to review and reduce attorneys' fees.

• Requires vessel and crew safety to be considered in fishery management plans.

• Reduces statute of limitations from three years to two.

• Caps non-pecuniary awards at \$350,000.

• Provides cure and maintenance at \$15,000 a year or 80 percent of average wages, whichever is greater, until the injured crew member recovers.

• Authorizes the secretary of transportation to develop regulations on navigation, lifesaving, fire protection and firefighting equipment, installation of insulation materials, fuel ventilation and vessel stability. These regulations would be mandatory for vessels built after 1987 and voluntary for existing vessels.

• Requires managing operators of a fishing vessel to hold a special operations training certificate.

• Requires fishing vessel owners and operators to inform crew members on safety and emergency procedures.

• Requires insurance companies to supply periodic fishing vessel casualty information to the secretary of transportation.

H.R. 4415 (introduced by Rep. Gerry Studds, D-Mass.):

• Owner may limit liability if he covers cure and maintenance at \$40 a day.

• Owner may not limit liability if he was grossly negligent or displayed willful misconduct.

• Applies to any civil action brought under general maritime law or the Jones Act.

• Authorizes the secretary of transportation to require safety equipment, including emergency positioning indicator radio beacons, lifeboats, or life rafts, visual distress signals, communications equipment, and exposure suits in northern waters.

H.R. 4465 (introduced by Rep. Mike Lowry, D-Wash.):

• Mandates safety standards for fishing vessels, including retrofitting after three years from time of bill's passage.

• Requires secretary of transportation to prescribe regulations for emergency positioning indicator radio beacons, life rafts, or lifeboats and survival suits.

• Requires a stability certificate for new construction.

A fourth congressional bill, H.R. 277 (introduced by Rep. Mario Biaggi, D-N.Y.), does not cover safety per se, although it does address rising insurance costs and liability coverage. A subcommittee of the Merchant Marine and Fisheries Committee also held hearings on this bill April 17. Its main points are:

• Claims subject to limitation include death, personal injury, loss or damage of equipment, cargo claims and passenger or luggage claims.

• Makes limitation harder to break as a trade-off for an increase on the liability limit.

• Limits liability for claim of death or personal injury for vessels under 500 gross tons to \$1 million.

• Limits other claims for vessels less than 500 gross tons to \$500,000.

• Requires establishment of a fund equal to liability limit at time a filing is made for limitation of liability. Person is allowed to plead limitation of liability in the case without separate filing.

flooding, fire or explosion. Again, many of these problems relate to human error—the owner or operator failed to establish a maintenance program, make repairs, recognize safety hazards or lacked knowledge in fire prevention and control. A better understanding of the vessel and its equipment and a greater awareness of the maintenance by vessel operators could have averted many accidents.

Basically, there is no framework for safety specifically applicable to the U.S. commercial fishing fleet. The lack of vessel safety standards and educational information for commercial fishing vessels and operators is contributing to many of the deaths and injuries in the fishing industry. To improve the safety record on these vessels, Secretary of Transportation Elizabeth Dole approved a program for the Coast Guard to develop safety initiatives. We organized a small full-time task force in the summer of 1984 to study how this initiative could best be implemented. With the secretary's support and approval, the safety initiative developed into a totally voluntary program which addresses both vessel standards and crew awareness and education.

Our position on fishing vessel safety has been influenced by many factors. The domestic fleet comprises relatively small vessels operating in an unforgiving environment that can overwhelm even the safest vessel. Its interests are fragmented, and its members are traditionally independent. In the past, fishermen have lobbied successfully to keep their industry out of the commercial vessel regulatory program.

Keeping this in mind, without the support and involvement of fishermen, any safety program is prone to resentment, resistance and probably failure. Those who sail on commercial fishing vessels are employees rather than innocent passengers. Unlike larger sea-going vessels, fishing vessels pose little or no threat to the environment or the general public. Additionally, fishermen transport their own cargo or catch in their own vessels, normally with the crew sharing the expenses, profits and losses of each trip.

For this group of vessels, any safety program must be sufficiently flexible to permit the operators to make operational decisions that they alone are in the best position to make. Regulations do not necessarily offer this type of flexibility. Moreover, a traditional regulatory approach would require manpower-intensive enforcement to be effective.

It should also be noted that the experience of other major fishing nations in regulating fishing vessel safety has not been successful. The United Kingdom, for example, has extensive safety regulations governing fishing vessels, yet casualties have risen since their implementation, even though there has been a decrease in the size of the fleet. One critic wrote of the U.K. experience that legislating

published by the Coast Guard. They address topics such as stability (NVIC 5-85); radio and ship-board navigation equipment (NVIC 6-85); fire safety measures (NVIC 7-85); lifesaving equipment and protection of the crew (NVIC 8-85); and hull, machinery and electrical installation (NVIC 9-85). Since input from the fishing industry and other interested parties is essential, we published the series of NVICs as proposed standards. We have revised and consolidated them based upon comments received; the final standards will be published in June 1986 as NVIC 5-86.

A model for the safety awareness and education program is being pursued by the Coast Guard in company with the North Pacific Fishing Vessel Owners' Association (NPFVOA). A looseleaf safety

It takes more than passing an inspection to make a vessel safe—it takes commitment by master and crew to keep things operating safely.

safety in the fishing industry takes the responsibility for safety away from the fishermen; may cause them to be less concerned over maintenance which is the key to long term safety; and gives them a false sense of security i.e., if a vessel passes an inspection, they believe it is safe.

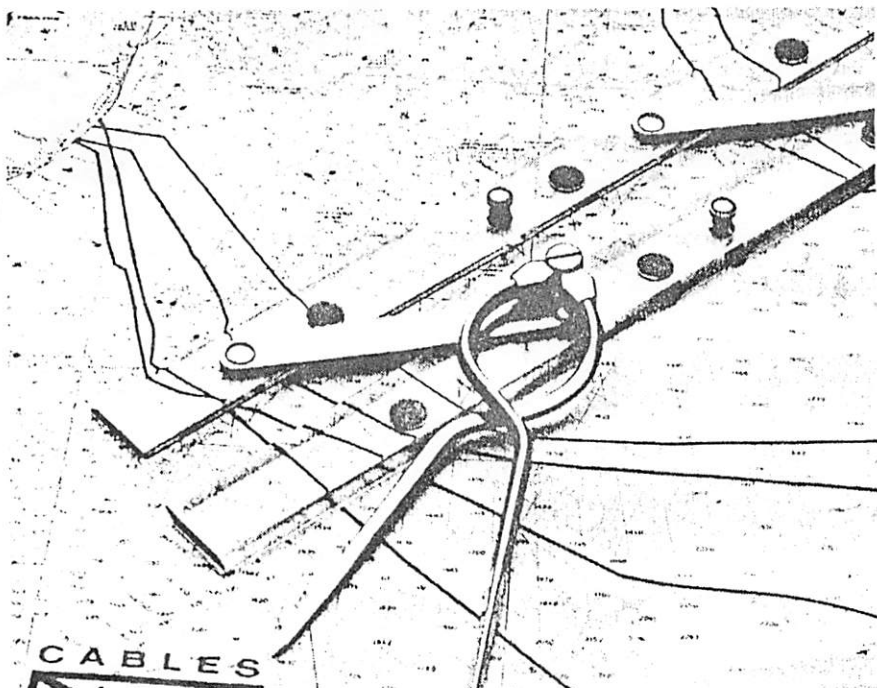
It takes more than passing an inspection to make a vessel safe—it takes commitment on the part of the master and crew to keep things operating in a safe condition. For these reasons, I believe a voluntary approach—fully involving the fishermen—is the way to go, and the Coast Guard is already moving in this direction. A voluntary program would be as effective as regulation with little difference in the cost to fishermen, and much less costly to the government, and it would achieve the desired results much more rapidly.

The voluntary standards program is currently defined in a series of five Navigation and Vessel Inspection Circulars (NVICs)

manual will be published with chapters paralleling the vessel standards and will be illustrated with pictures and diagrams. The initial version will be completed in June 1986.

The manual will be distributed primarily by vessel owner associations and the NOAA Sea Grant Marine Advisory Services' national network. Since the final product will eventually need some tailoring for each part of the country, we are encouraging other fishing vessel associations and interested groups to get involved so that specific regional safety concerns will be addressed. The final part of our program, which is a follow-on to the safety manual, deals with formal courses for all fishing vessel crewmembers. The safety manual will serve as the course outline-notes, with the course offered locally and tailored for the regional fishery.

We need both programs in place if we are to succeed in improving fishing vessel safety. The education program will reach the vessel



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Mail to: Deputy Director International Facilities Maintenance AT&T Communications Room N420 412 Mt. Kemble Avenue Morristown, New Jersey 07960 (All blanks must be completed to receive charts.)		<input type="checkbox"/> 400 The West Indies <input type="checkbox"/> 12200 Cape May to Cape Hatteras <input type="checkbox"/> 12300 Approaches to New York <input type="checkbox"/> 12318 Little Egg Inlet to Hereford Inlet <input type="checkbox"/> 12323 Sea Girt to Little Egg Inlet <input type="checkbox"/> 13003 Cape Sable to Cape Hatteras <input type="checkbox"/> 13218 Martha's Vineyard to Block Island <input type="checkbox"/> 14018 Grand Banks of Newfoundland <input type="checkbox"/> 18640 San Francisco to Point Arena <input type="checkbox"/> 18700 Point Conception to Point Sur
Name _____		
Address _____		
City _____	State _____	
Zip _____	Phone () _____	
Vessel Name _____		
Permit Number _____	FB-JN	

operating personnel while the standards program will go much further by reaching out to vessel owners, insurance companies, surveyors, naval architects, shipyards and industry-sponsored safety centers.

Benefits of this program include reductions in the number of deaths and injuries which should lead to reduced or stabilized insurance premiums. Local fishing and insurance groups can use these standards to improve the overall level of safety. This two-pronged approach will reach all levels of the fishing vessel community in a relatively short time.

Our voluntary program is a very comprehensive approach to overall fishing vessel safety; it addresses vessel standards, safety and survival equipment, and the training and education necessary to prevent casualties. It has been designed to eliminate the need to legislate safety. It does, however, recognize the need for an incentive. Affordable insurance, particularly if tied to a limitation of liability, will provide an additional incentive that will make our program effective.

Persons in the fishing industry have been helpful in putting our program together. They have expressed a desire to work with the Coast Guard in developing such programs, and we have provided the organization and framework for them to do so. They have responded; the NPFVOA is jointly producing the safety manual with us. Other industry representatives, such as marine surveyors, insurance underwriters and naval architects, are providing us with valuable comments on our vessel safety standards.

We have a truly cooperative effort going here. If adopted by industry, it will reap benefits similar to a centralized Coast Guard inspection program based upon regulations, but without the stigma of penalties or fines for non-compliance. My desire is to achieve safety improvements by using the positive approach.

I don't mean to sound as though we are the only ones doing something about fishing vessel safety. Many others are involved and should be mentioned. We are getting outstanding cooperation from Thorn Smith, executive director of

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Pacific Fishing®

May 1986

\$2.00



Survival at Sea—Practice Makes Perfect

Eighteen commercial fishermen donned their survival suits, some for the first time, and found out what it takes to survive a sinking at sea. Although the practice session was conducted in the serene environment of Seattle's Sand Point Naval Station pool and under the eyes of instructors such as John Ball of Northstar Survival Inc., and Lt. Brent Whitener of the U.S. Coast Guard, the positive benefits of the training prompted at least one skipper to say that his entire crew would soon take the training.

This hands-on session was part of the North Pacific Fishing Vessel Owner's Association Vessel Safety Program. That program also includes courses in marine fire fighting, emergency medicine at sea, navigation and stability, and an onboard vessel safety orientation.

For information on the course schedule, contact the NPFVOA Vessel Safety Program at Building C-3, Room 207, Fishermen's Terminal, Seattle, WA 98119, (206) 283-0861.

16 Pacific Fishing/May 1986

Letter to Our Readers

The Insurance Muddle

I got a call a couple of weeks ago from a fisherman who was mad as hell. He claimed that he was being jerked around by his insurance company. In a nutshell, the situation involved a new skipper for the fisherman's boat. Even though the new skipper was licensed by the Coast Guard, the insurance company was raising the fisherman's insurance premium because of the owner-operator limitation in the original policy.

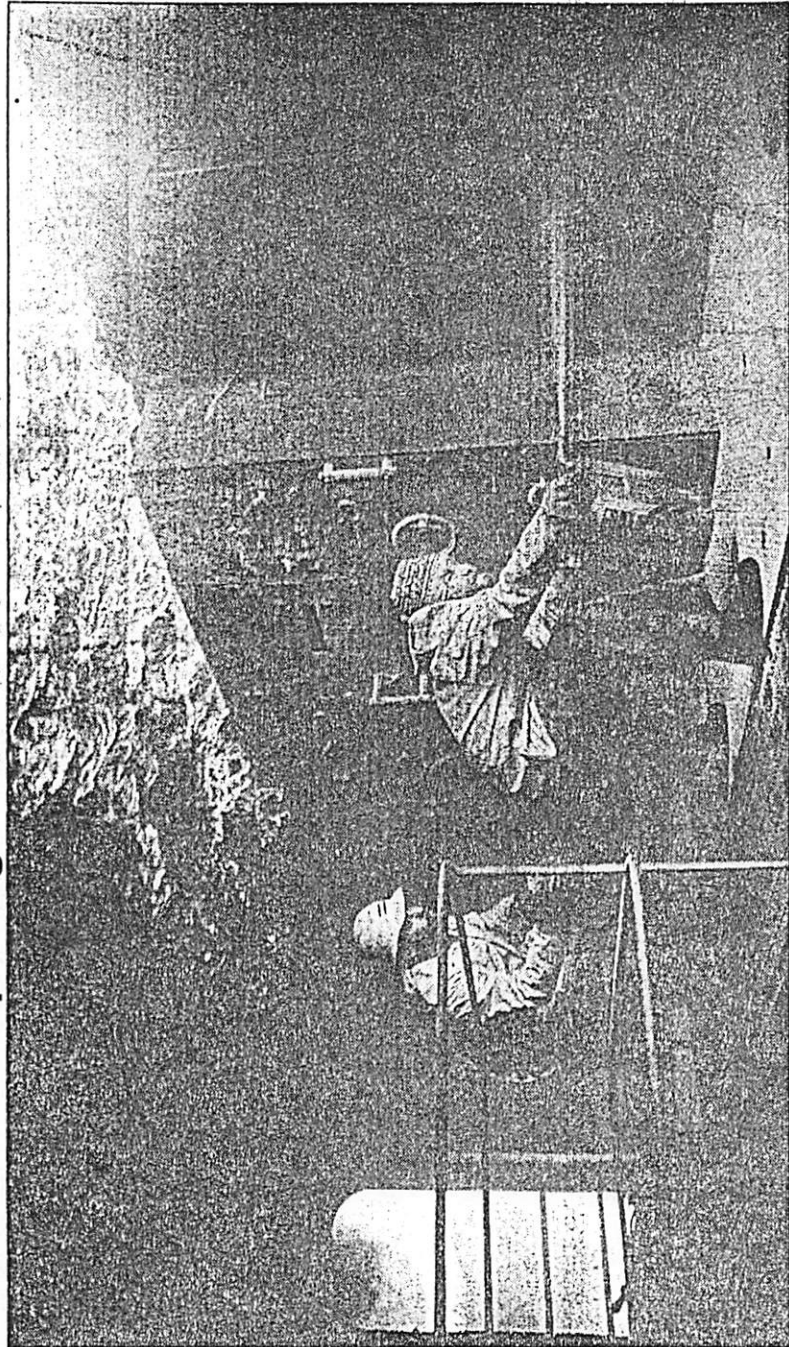
The irate fisherman asked tough questions of the insurance industry. Doesn't Coast Guard training mean anything? Shouldn't the insurance premium be lowered rather than raised? Are fishermen really going to get lower rates if they improve the safety features of their boats or is the push for safety just so many words?

I had no easy answer, and the answers were harder after questioning the fisherman's insurance agent. A well-meaning man, the agent didn't come across as the heavy in this scenario. Rather, he, like the fisherman, is hamstrung by the situation. It's the same old story: The fishing industry has a bad safety record and until that record improves (which could take a few seasons), insurance companies are going to be super conservative.

After talking to both the fisherman and the insurance agent, I came away frustrated and helpless, probably like a lot of you. I wish there was something to be done now, but it's just not in the cards. As an industry, our only hope is long-term: changing laws, operating more safely, upgrading the safety of our crews and boats, taking more safety training.

Then, and only then, will insurance rates become reasonable. Until then, we'll all have to live with the frustration, the anger, and the long-term view.

Practice in conquering a hazard of the sea



Al Hoyde, left, an instructor in the North Pacific Fishing Vessel Owners' Association's fire safety program, watches as a student battles a wall of flame with a fire extinguisher. Nineteen fishermen learned how to fight fires at sea yesterday at the state Fire Service Training Center near North Bend.

JENNIFER WERNER, P-I PHOTO

Fishermen are creating a new safety net

By John O'Ryan
P-I Reporter

Fishermen who make their living from the "old gray widow" of the stormy North Pacific are being taught how to do it and stay alive.

Nineteen fishermen from Seattle's deep-sea fleet were learning how to fight fires at sea yesterday, the first phase in a new safety program that also will cover survival procedures, emergency medicine, navigation and ship stability.

Statistics show that fishing is the most hazardous occupation in the nation, twice as dangerous as coal mining when measured by the number of fatalities.

The program is sponsored by the North Pacific Fishing Vessel Owners' Association, with grants from the National Marine Fisheries Service and the cooperation of the Coast Guard.

There are about 2,000 crewmen on the vessels which sail from Puget Sound to North Pacific waters. The goal is to give safety training to at least 200 of them every year in a continuing program.

Less of life is one of the reasons. There's another. Liability insurance has become almost prohibitively expensive for the owners of the big crab, trawling and scallop processing vessels.

The fire-fighting training is being carried out on a 150-foot "mock ship" which has been erected at the Washington State Fire Service Training Center near North Bend.

The "ship" has an engine room, complete with an old diesel engine and other machinery, electrical panels, crew's quarters, galley, pilothouse and holds — all places where a fire could break out.

And there are pipes carrying diesel oil to these spaces. Instructors can flood an area with fuel, ignite it and turn the fire over to the trainees.

Instructor Tom Foster, retired Kent fire chief, shouted yesterday as he ignited flames which leaped out of a mock electrical panel and spread across the ceiling of a compartment.

Fishermen crouched on the floor advanced on the flames with fire extinguishers, sprayed as they had been instructed to do, and suddenly the fire was out.

"Nice work! Nice work!" shouted the instructor. "If you don't use a fire extinguisher properly, it's not likely to do you any good," said Foster. The fishermen also extinguished an engine room fire, a galley fire and other shipboard fires.

As the program expands, training for the fishermen will include emergency medicine at the Ballard Hospital and ship disaster survival techniques taught by the Coast Guard.

Among the fishermen taking the training yesterday were crew men from the processing vessel Bonafish of Seattle. The skipper, Vic Scheibert, was impressed.

"You not only learn how to fight fires at sea, but you gain confidence," he said. "A spreading fire on a ship could be terrifying, but here you learn that if you deal with it properly, the flames are quickly extinguished."



Golden Alaska Seafoods

Market Place One 2001 Western Avenue Seattle, WA 98121 U.S.A.
(206) 441-1990 Telex: 283802 GASF UR

July 28, 1986

Dear _____ :

Enclosed is a letter from Kjell Rokke regarding vessel safety and the Vessel Safety Program currently being offered in the Seattle area to fishing vessel crewmembers. Kjell and I are determined that all crewmembers as well as skippers will complete these courses within this year. Of course we are concerned with vessel and crew safety, but another factor of major concern is the sky-rocketing cost of insurance for our vessels. Our insurance company feels these classes will significantly reduce the risk of casualty as well as provide the skills necessary to cope in the event of an unpreventable accident.

This series of classes will cost approximately \$300.00 per person. The company is willing to cover one-half of the expense, so your cost will be about \$150.00 each. Classes do not need to be taken consecutively, but each person must complete the entire series within this year. This will mean scheduling time off the vessel to include attending classes in the Seattle area. Please talk with Kjell on the grounds for updated information regarding class dates as we receive them, or any other questions pertaining to this course.

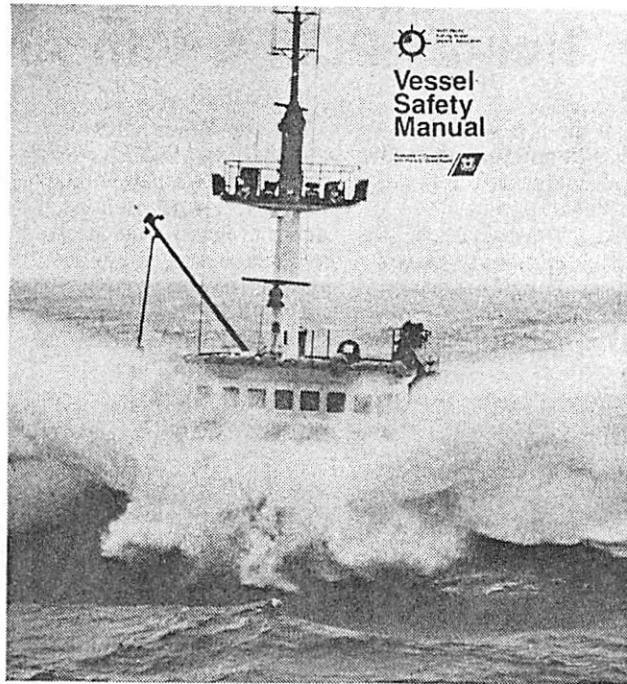
Very truly yours,
Golden Alaska Seafoods

Robert Breskovich

RB:kt

P.S. Also enclosed is a copy of the classes scheduled so far. Additional class dates will be distributed as received.

R.B.



Safety Manual Available

In the continuing industry effort to control both rising insurance costs and vessel safety problems, the North Pacific Fishing Vessel Owners' Association will publish a *Vessel Safety Manual* this month and is offering it to all fishermen at minimum cost.

Produced in cooperation with the U.S. Coast Guard, the *Vessel Safety Manual* consists of more than 300 pages of text and some 300 illustrations devoted to fishing vessel safety. The material is divided into 15 chapters ranging from vessel familiarity for the new hand to stability for the owner and skipper. Each chapter in the ring-bound manual will be tabbed for quick reference in an emergency.

Produced by John Sabella & Associates of Seattle, the manual draws upon the ex-

perience of veteran fishing vessel skippers, the Coast Guard, and recognized experts in various aspects of safety and seamanship.

While the initial edition is oriented toward the fisheries of the North Pacific and Bering Sea, the Coast Guard plans to revise and re-issue subsequent editions for use in other regions of the country.

Cost of the *Vessel Safety Manual* is \$30 per copy (Washington residents add 7.9% sales tax), with all proceeds used to sustain the NPFVOA Crew Training Program.

To order the manual or for more information on the Crew Training Program, contact the Vessel Safety Program, Bldg. C-3, Room 207, Fishermen's Terminal, Seattle, WA 98119 or call (206) 283-0861.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington, D.C. 20235

F/M22:MLG

AUG 19 1986

Mr. John Sabella
Director
Vessel Safety Program
Room 207, C-3 Building
Fishermen's Terminal
Seattle, WA 98119

Dear Mr. Sabella

I want to congratulate you on NPFVOA's Vessel Safety Manual. This is a first-rate working reference for fishing vessel personnel. You've managed to make an exciting presentation of something which ordinarily appears dull and difficult.

It seems to me that a dedicated application of this kind of material could really help to reduce casualties in this industry. This manual should become an industry fixture. Everyone needs now to work toward assuring that the manual (and whatever adjunct materials are developed from time-to-time) is vigorously applied at the working level. Vessel owners need to appreciate that applying materials like your manual, and the other extension services which should go with it, makes real economic sense.

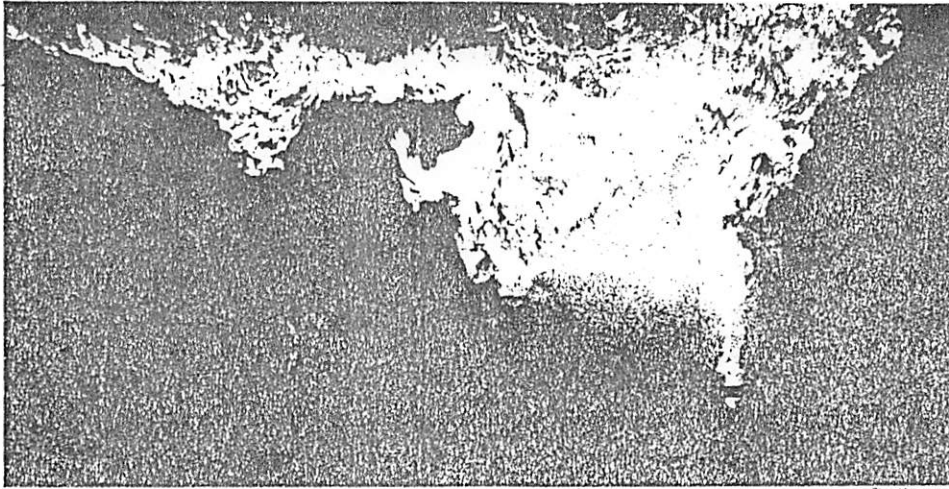
I would appreciate it if you could give us a list of the people who have received the manual, and keep us advised on the magnitude of its future distribution.

Sincerely,

Michael L. Grable, Chief
Financial Services Division



More than Playing with Fire



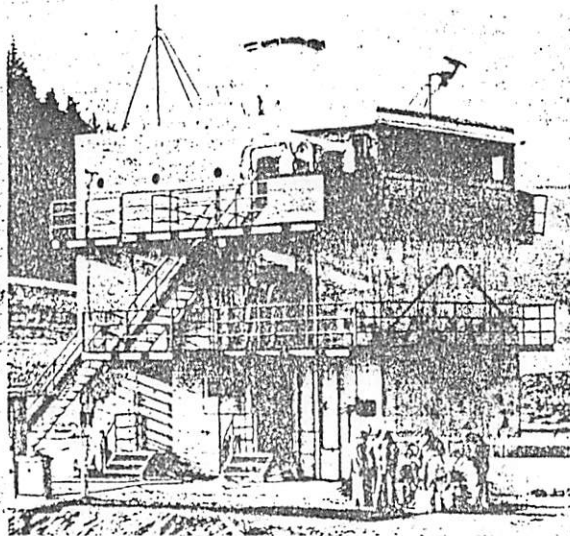
A fisherman attempts to extinguish an "engine room" fire (left) on board the center's "ship building" (center). Below, trainees use "the pit" to tackle deck fires.

by Clark Miller

Okay, it's not quite real life. Normally, when a fire breaks out in the engine room, a fisherman isn't standing in the corner, poised with a fire extinguisher. But today, when the instructor puts a propane torch to the fuel flowing over the engine face, when flames light up the dark room like lightning and the air is instantly choked with black smoke... it's real enough.

We're at the Washington State Fire Service Training Center, North Bend, Washington. The fireman darts forward, crouching low, and blasts bicarbonate of soda at the flames, clearing a path through them so he can reach his real destination—the source of the fuel leak. He hits it on the money. The fire is out in five seconds.

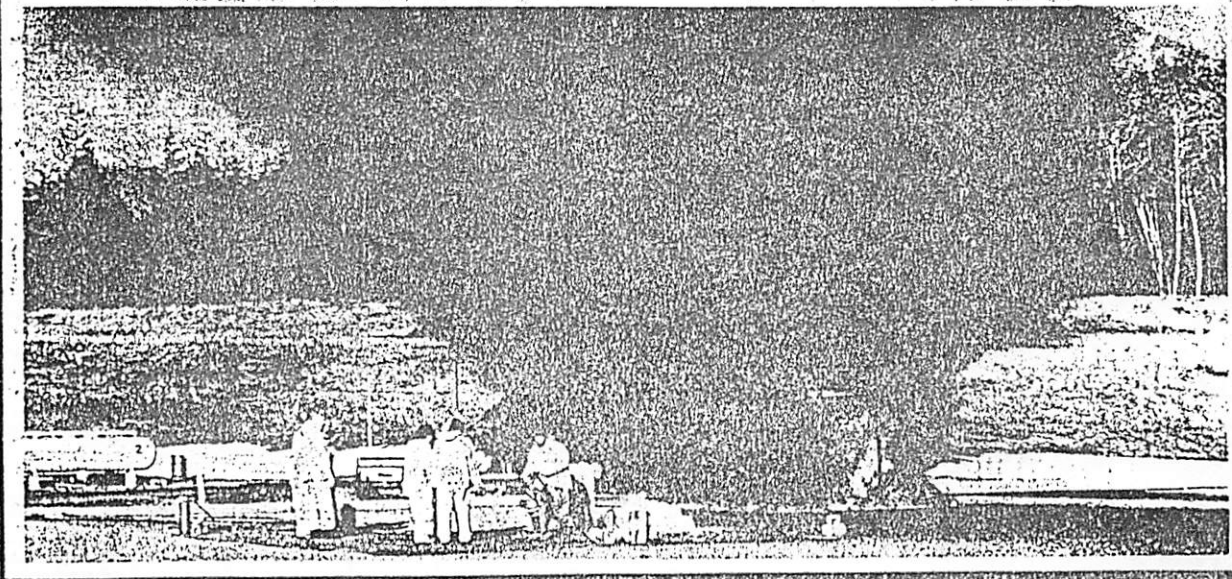
Other fishermen are crowded into the engine room and loosely lined up to take their turns fighting this particular type of fire. It's December 18, 1985, and these men are the first commercial fishermen to take part



in a new vessel-fire training program being offered at the center. They cheer their colleague as he backs away from the engine, keeping his eyes on it.

Before the day is over, these 19 fishermen will have repeatedly fought the most common types of vessel fires—ruptured fuel line, broken fuel or oil pump, electronics, deck spill, day tank. This is all part of the North Pacific Fishing Vessel Owner's Association Safety Program, a program that includes the creation of a safety manual, due next month, and video tapes for the Northwest and Alaska fishing fleet.

We start the day in the center's classroom. As instructed, the trainees have worn old raingear, rubber boots, insulated gloves. Instructor Tina Ettinger talks about fixed systems such as CO₂ and Halon. "If you don't have a fixed system on your boat, and a fire breaks out," she says, "improvise with two or three portables... open them with their C-rings, open the door, throw them in and close the door."



The trick is to isolate the space, keeping oxygen out.

She says both halon and CO₂ are clean, leaving no residue to harm machinery. The advantages to halon are that it's less toxic and is also clear, while CO₂ is foggy and can impair your vision. Also, halon requires less concentration, and therefore takes up less space, and is cheaper to install. The overall cost is higher, however, because halon is an expensive gas. Sources can be hard to find, especially outside the U.S.

No matter what kind of system you use to put out machinery fires, it is important to turn off the equipment first—in fact, it is preferable to let it run down for a minute. Otherwise, the extinguishing agent may just go up the stack. Placing a mattress over the stack is a good idea.

In the Burn Building, Ettinger shows a bisected CO₂ valve and lets the men practice manual operation of the pull-cord. She tells them to make sure the hammer is there to break the glass, and to be sure the line is free.

Moving outside, the men practice loading the canisters for the fire extinguishers: sifting the powder, screwing the caps hand-tight, putting in new cylinders. The center uses a training powder of bicarbonate of soda. A stiff brush is used to make sure the threads are clean.

The fire extinguishers have a spray period of 20-30 seconds. The small portable canisters found on many fishing boats have only 10-15 seconds, which may not be enough time, especially if the fire is being fought single-handed.

Before the actual fire-fighting program, the trainees are issued



"It's a good thing we don't use 100% (perfect) equipment—because that's the way it is out there (at sea.)"

Tom Foster (pictured)

flameproof outerwear. A fisherman quips, "You tell us to wear all this stuff, but the only fire I ever fought, we were all asleep and naked."

First comes the singular challenge of fighting a flowing-fuel fire, almost impossible to put out by just one man. A large old pump stands out in the open, rigged to spill fuel all over and under itself. The main object is shut off the fuel, since these fires tend to flash back.

An extinguisher fizzles out early and senior instructor Tom Foster observes, "It's a good thing we don't use 100 percent (perfect) equipment—because that's the way it is out there (at sea)." Foster is a retired fire chief with 35 years experience.

To quickly put out a flowing-fuel fire, two men need to work together. If the fire is outside, they must work with the wind at their backs. One man uses a water hose to cool the

metal and drive the fire away; the other uses the chemical agents in the extinguisher to put out the fire.

Quick response is critical. As the men take turns putting out fires on the large, open-air fuel pump, the pump gets hotter and hotter, and the fires become more difficult to put out.

Foster points out that the key is to get around and under the equipment with the water and chemicals, to eliminate flash back. The water is adjusted to spray a "fog" on the fire. A third man may be needed to turn off the valve that is feeding the fire.

It's wonderful to see how quickly two men, working in a rapid rhythm, can put out a flowing-fuel fire, the chemicals following the water in a crazy, back-and-forth dance that simply drives the fire back, and out, before it has a chance to recoup and launch forth again. Only a few fishermen get it right the first time. When they do, the others applaud. The level of excitement is rising.

Next, we go to "the pit," a deep pool of oil in the open that allows fishermen to practice putting out deck-spill fires, large spreading fires that cover a wide area. Again, you really need two men fighting the fire (with the wind at their backs—the trainees keep forgetting this, and the instructors keep yelling it at them).

The same basic strategy is followed, drive the fire back with water, put it out with chemicals.

Now it's time to go into "the ship," the three-story, concrete building designed to simulate the on-board environments in which vessel fires occur. The center's curriculum supervisor, Bob Bernard, gives me a quick tour of the building before the

training starts. The building is still only one-third completed, but that's sufficient for a good program for fishermen. The center is set up for engine room fires, electronics fires, fuel and oil pump fires. Bilge fires will be available soon, as will galley fires.

When the fore and aft sections are completed, the center will be able to simulate cargo hold fires, deck fires, etc. Electric-powered hoists will enable trainees to lift hatch covers. Instructors will be able to stage two or three disasters at once. For example, thanks to a 2,000-gallon water chest, they will be able to have a fire and a flood at the same time.

Inside the engine room, you really start to get the feeling that this place is hard-core. It takes up two floors—a walkway separates the space into upper and lower sections, the lower serving as the bilge and the upper as the "engine room." It is dark, cramped, ominous to a novice. The huge engine is like a bull in a phone booth.

Bernard demonstrates the fires for me. With switch-button control, he can set fuel flowing from half a dozen places, then torch the fuel to create an instant inferno. Then, like a magician, he can turn it off.

The "ruptured fuel line" fire, for instance. Bernard throws a switch and fuel sprays up eight feet, clear over the top of the engine. He torches it and the whole room instantly seethes with flames and smoke. We hunker down for clean air as the smoke rolls over our heads. The room roars with the sound of fire.

He reaches outside to the control

switch and turns it off. After an hour of those fires, the engine itself can achieve temperatures of 1,000 degrees. Next, he shows me the "oil pump fire," in the corner of the engine room. I'm standing in the far, diagonal corner when Bernard lights the fuel flowing down the pump. A tidal wave of flame spreads across the ceiling, racing right at me as I hit the deck.

In the same room, he next shows me the simulated "electrical switch-board" fire, in which the fire darts out of panels in the wall. Then, there's the day-tank storage fire.

The galley isn't complete yet—they have found they can't simulate a deep-fat fire without deep-fat. Plans also exist for a smoldering mattress fire.

All day long, the fishermen practice putting out these different fires—over and over. And they become noticeably more proficient at putting them out. You get the strong impression that if and when any of these men next face a real fire on his boat, he will not only know what to do, but will be willing to do it.

"Speed is the key," Bernard says. "If found within three minutes, most fires are controllable." This is where attitude comes in—if the man who finds the fire runs for help, he wastes those three minutes. If, on the other hand, he reaches for a fire extinguisher and wades in, he can probably beat the fire, or at least buy precious time.

"Fight the fire even if it's too big to win," an instructor urges the fishermen. "That way, you'll buy time to prepare for leaving the boat—more lives are lost abandoning ship than fighting fires."

One of the trainees for this first seminar for fishermen is Od Olsen. He has been fishing year-round for 15 years without ever facing a fire. His boat has no fire drills. The equipment is supposed to be checked regularly, but he doesn't know if it is. Olsen feels the training is beneficial—he will be passing on what he learns to his fellow crewmen.

But if ever there was a case to be made for hands-on experience, it is here at the center. Nobody can tell you how to fight a fire in an engine room—you have to experience it. You need an attitude that only experience can bring—that fire is your enemy, but not an enemy to run from; fire is an enemy to attack instantly, with all your power.

You have certain advantages over a fire. It is governed by predictable needs—heat, fuel, oxygen. Deny it any of those three elements, and it must die. A fisherman trained at the center may be more likely, when confronting a fire, to step outside his fear for a moment and ask, "What and where is the source of this fire?"

How can I get to it?"

That was the surprising revelation for this writer—that there are no real secrets to fighting boat fires. You must have good equipment, well-maintained; you must know how to use it (that's where regular fire drills come in); and you must be mentally prepared to oppose the fire. □



The Coast Guard has made safety a matter of choice

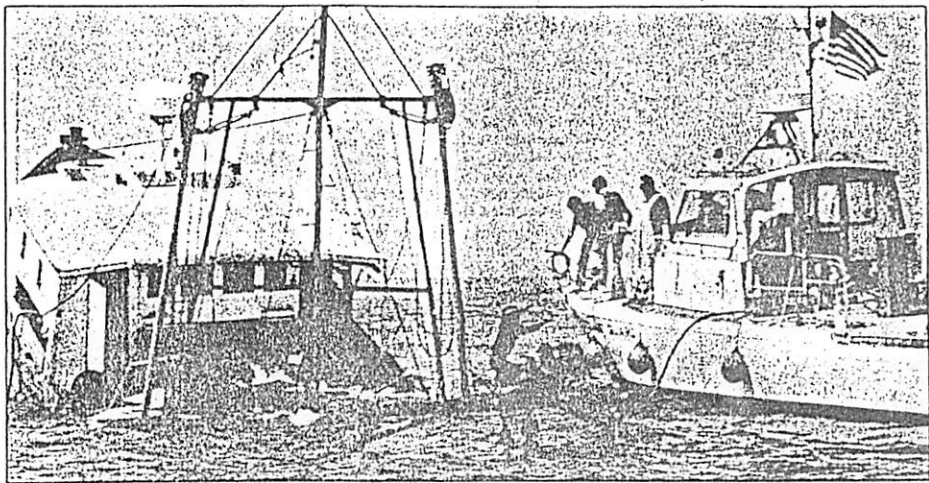
Voluntary guidelines set for building and operating fish boats

By Kris Freeman

Mandatory inspection of commercial fishing vessels and enforcement of safety regulations are prospects that both the Coast Guard and the fishing industry would just as soon avoid. It is impossible, however, to avoid the sobering casualty statistics of commercial fishing: an average of 84 lives and 250 U.S. commercial fishing vessels lost annually between 1981 and 1984, for example.

The lack of vessel safety standards and educational information for commercial fishing vessels and their operators contribute to human error, which is at the root of most of these accidents. Recognizing this, Congress has pressed for development of safety initiatives for the fishing industry. In summer 1984, the Coast Guard organized a task force to study ways to improve the safety record of commercial fishing vessels. The result is a totally voluntary program that addresses both vessel-construction standards and crew awareness.

In a cooperative effort, the Coast Guard and the fishing industry have each produced a set of voluntary guidelines aimed at reducing hazards for commercial fishermen. Standards for vessel construction are contained in the Coast Guard's Navigation and Vessel Inspection Circular (NVIC), pronounced "Navik") 5-86. Guidelines for



safe operation of fishing vessels are spelled out in the North Pacific Fishing Vessel Owners' Association's (NPFVOA) "Vessel Safety Manual," which picks up where the Coast Guard circular leaves off.

NVIC 5-86, tentatively titled "Voluntary Standards for Uninspected Commercial Fishing Vessels," will be a consolidation of five recent sets of recommendations. It will contain information not found in the

The alarming safety record of the commercial fishing industry finally prompted Congress to push for some form of remedial action. In a natural meshing of their own respective best interests, the Coast Guard and the fishing industry came up with separate guidelines addressing the problem. The Coast Guard's Navigation and Vessel Inspection Circular 5-86 is a technical document geared to naval architects and boatbuilders. The North Pacific Fishing Vessel Owners' Association's "Vessel Safety Manual" is aimed at ensuring the safety of those working aboard fishing boats.

— John McKernan photo

NPFVOA manual, which was assembled with Coast Guard assistance. The two documents are intended to complement each other and will be published simultaneously in June.

The Safety Manual, written for vessel operators, covers such topics as watch-keeping and firefighting. The NVIC is a more technical document, addressing areas such as vessel construction; radio and shipboard navigation equipment; stability; lifesaving equipment and protection of crew; fire protection; and hull, machinery and electrical installation. The document is aimed primarily at naval architects and boatbuilders.

"The NVIC will tell you exactly how high a bulwark should be and exactly how to build a gangway, for instance," says John Sabella, editor of NPFVOA's "Vessel Safety Manual." "By the time the operator gets the boat, those things will have been taken care of. That's where the safety manual comes in."

This doesn't mean that NVIC 5-86

should be of no interest to a skipper, particularly if he is building or converting a boat, says naval architect Greg Nordholm of Jensen Maritime Consultants Inc. in Seattle.

"I think anybody who's a master at sea should know about basic stability and be able to calculate it for his vessel... so from that point of view, I think he should be able to read and understand the NVICs," Nordholm says.

"Normally, NVICs are used to get a clearer explanation of regulations out to industry. However, there are no laws or regulations here," says Capt. Gordon Piche, manager of the Coast Guard Fishing Vessel Safety Task Force. "But we figured this was the best vehicle to get the information out to the industry. It's well known and we have control over the content." The only regulations contained in NVIC 5-86 will be the existing ones that pertain to pollution and safety equipment requirements.

The Coast Guard opted for voluntary

guidelines for several reasons. With laws, "you get into a different relationship with people. You get adversarial," says Piche. He adds that one set of regulations can't adequately cover the diverse U.S. commercial fishing fleet. "What's good for a lobster boat in Maine is not necessarily good for a crabber in the Bering Sea. When you get regulations, you get inflexible."

There is another reason for not presenting the guidelines in NVIC 5-86 as law, even though it might result in construction of better boats: It would require mandatory vessel inspections, a duty for which the Coast Guard does not have the manpower. And with mandatory inspections, the Coast Guard would have to condemn many active vessels.

"The fact is, there are a lot of vessels out there now that don't meet the criteria. A lot of successful vessels that have been fishing for years would have to stop fishing," Nordholm points out.

That wouldn't necessarily be a bad thing, according to Earl Krygier, head of the Alaska Trollers' Association (ATA). Although the ATA opposes mandatory safety training and inspection in general, Krygier does favor inspection of conversions, "especially conversions of vessels from the Gulf Coast coming up to Northern seas, where conditions are completely different."

Although the NVICs are technically only recommendations, they will carry a great deal of weight in civil court. "Builders and designers should be very aware of these [recommendations], because if they don't follow them, they're opening themselves up to liability," warns Nordholm.

"That's the down side," notes Sabella. On the up side, he says, fishermen were able

to contribute to the creation of both the safety manual and the NVIC, "instead of having a faceless bureaucrat in Washington write a manual and impose it by fiat."

The voluntary nature of these guidelines and the cooperative way in which they were written are in accordance with Piche's thinking about the limitations of man-



For maximum effectiveness, the "Vessel Safety Manual" should be backed up by formal training for crewmen. Training programs organized by the NPFVOA include classes in safety and survival equipment and procedures, firefighting and handling medical emergencies at sea.

— U.S. Coast Guard photo

and the Altair. Those were good boats."

NVIC 5-86 will be sent automatically to NVIC subscribers and will also be available through local marine inspection centers or by contacting the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; tel. (202) 783-3238.

Voluntary Safety Initiatives for Fishing Vessels

by Admiral James S. Gracey

A lot has been said and written over the past several months about the fishing vessel safety and insurance crisis . . . and for good reasons—between 1981 and 1984, for example, we lost an average of 84 lives and 250 U.S. commercial fishing vessels each year. Additionally, insurance rates have skyrocketed and many vessel owners are finding it difficult to get insurance; many have even had their policies cancelled. I could list more casualty statistics but I don't think it's necessary—I'm sure you agree that commercial fishing is a hazardous occupation.

When you take a look at fishing vessel casualties, you realize that many could have been prevented or their severity reduced if a few precautions had been taken. Many of these precautions require only a little bit of time—crewmen becoming familiar with the layout of the vessel, the location of firefighting and lifesaving equipment before the vessel gets underway or taking part in emergency drills. In some cases a minimal investment of money can reap many benefits—installing fire alarms in the engine spaces, for instance, can alert the crew to a fire in its early stages. Similarly, an engineroom-high level bilge alarm can warn crewmen early that the vessel is taking on water.

All the safety equipment in the world, however, is not going to make any difference unless you know how to use it. That's where the human factor comes into play . . . a lack of knowledge in areas unrelated to the business of catching fish—poor watchkeeping practices and procedures, navigational errors, rules of the road violations, and a lack of understanding of the various forces acting upon the vessel, especially vessel stability, are prime examples.

Human error plays a major role in fishing vessel casualties.

A major cause of accidents is material failure which results in flooding, fire or explosion. Again, many of these problems relate to human error—the owner or operator failed to establish a maintenance program, make repairs, recognize safety hazards, or lacked knowledge in fire prevention and control. A better understanding of the vessel and its equipment, and a greater awareness of the maintenance by vessel operators could have averted many accidents.

Basically, there is no framework for safety specifically applicable to the U.S. commercial fishing fleet. The lack of vessel safety standards and educational information for commercial fishing vessels and operators is contributing to many of the deaths and injuries in the fishing industry. To improve the safety record on these vessels, the Secretary of Transportation, Elizabeth Dole, approved a program for the Coast Guard to develop safety initiatives. We organized a small full-time task force in the summer of 1984 to study how this initiative could best be implemented. With the Secretary's support and approval the safety initiative developed into a totally voluntary program which addresses both vessel standards and crew awareness and education.

Our position on fishing vessel safety has been influenced by many factors. The domestic fleet is comprised of relatively small vessels operating in an unforgiving environment that can overwhelm even the safest vessel. Its interests are fragmented and its members are traditionally independent. In the past, fishermen have lobbied successfully to keep their industry out of the

commercial vessel regulatory program. Keeping this in mind, without the support and involvement of fishermen, any safety program is prone to resentment, resistance, and probably failure. Those who sail on commercial fishing vessels are employees rather than innocent passengers. Unlike larger sea-going vessels, fishing vessels pose little or no threat to the environment or the general public. Additionally, fishermen transport their own cargo or catch in their own vessels, normally with the crew sharing the expenses, profits and losses of each trip. For this group of vessels, any safety program must be sufficiently flexible to permit the operators to make operational decisions that they alone are in the best position to make. Regulations do not necessarily offer this type of flexibility. Moreover, a traditional regulatory approach would require manpower-intensive enforcement to be effective.

It should also be noted that the experience of other major fishing nations in regulating fishing vessel safety has not been successful. The

United Kingdom, for example, has extensive safety regulations governing fishing vessels, yet casualties have risen since their implementation even though there has been a decrease in the size of the fleet. One critic wrote of the UK experience that legislating safety in the fishing industry takes the responsibility for safety away from the fishermen; may cause them to be less concerned over maintenance which is the key to long term safety; and gives them a false sense of security i.e., if a vessel passes an inspection, they believe it is safe. It takes more than passing an inspection to make a vessel safe—it takes commitment on the part of the master and crew to keep things operating in a safe condition. For these reasons, I believe a voluntary approach—fully involving the fishermen—is the way to go, and the Coast Guard is already moving in this direction. A voluntary program would be as effective as regulation with little difference in the cost to fishermen, and much less costly to the government, and it would achieve the desired results much more rapidly.

The voluntary standards program is currently defined in a series of five Navigation and Vessel Inspection Circulars (NVICs) published by the Coast Guard. They address topics such as stability (NVIC 5-85); radio and shipboard navigation

equipment (NVIC 6-85); fire safety measures (NVIC 7-85); lifesaving equipment and protection of the crew (NVIC 8-85); and hull, machinery and electrical installation (NVIC 9-85). Since input from the fishing industry and other interested parties is essential, we published the series of NVICs as proposed standards. We have revised and consolidated them based upon comments received; the final standards will be published in June 1986 as NVIC 5-86.

A model for the safety awareness and education program is being pursued by the Coast Guard in company with the North Pacific Fishing Vessel Owners' Association (NPFVOA). A loose-leaf safety manual will be published with chapters paralleling the vessel standards and will be illustrated with pictures and diagrams. The initial version will be completed in May 1986. The manual will be distributed primarily by vessel owner associations and the NOAA Sea Grant Marine Advisory Services' national network. Since the final product will eventually need some tailoring for each part of the country, we are encouraging other fishing vessel associations and interested groups to get involved so that specific regional safety concerns will be addressed. The final part of our program, which is a follow-on to the safety manual, deals with formal courses for all fishing vessel crewmembers. The safety manual will serve as the course outline/notes, with the course offered locally and tailored for the regional fishery.

We need both programs in place if we are to succeed in improving fishing vessel safety. The education program will reach the vessel operating personnel while the standards program will go much further by reaching out to vessel owners, insurance companies, surveyors, naval architects, shipyards and industry-sponsored safety centers. Benefits of this program include reductions in the number of deaths and injuries which should lead to reduced or stabilized insurance premiums. Local fishing and insurance groups can use these standards to improve the overall level of safety. This two-pronged approach will reach all levels of the fishing vessel community in a relatively short time. Our voluntary program is a very comprehensive approach to overall fishing vessel safety; it ad-

resses vessel standards, safety and survival equipment, and the training and education necessary to prevent casualties. It has been designed to eliminate the need to legislate safety. It does, however, recognize the need for an incentive. Affordable insurance, particularly if tied to a limitation of liability, will provide an additional incentive that will make our program effective.

Persons in the fishing industry have been helpful in putting our program together. They have expressed a desire to work with the Coast Guard in developing such programs and we have provided the organization and framework for them to do so. They have responded... the NPFVOA is jointly producing the safety manual with us. Other industry representatives, such as marine surveyors, insurance underwriters and naval architects, are providing us with valuable comments on our vessel safety standards. We have a truly cooperative effort going here. If adopted by industry it will reap benefits similar to a centralized Coast Guard inspection program based upon regulations but without the stigma of penalties or fines for noncompliance. My desire is to achieve safety improvements by using the positive approach.

I don't mean to sound as though we are the only ones doing something about fishing vessel safety. Many others are involved and should be mentioned. We are getting outstanding cooperation from Mr. Thorn Smith, Executive Director of the NPFVOA and Mr. John Sabella who's working for Thorn in developing the safety manual. They are also putting together training courses for the Pacific Northwest. As a matter of fact they recently conducted several hands-on firefighting training courses for local fishermen in cooperation with local authorities in Seattle, Washington.

The Virginia Institute of Marine Science, in Gloucester, Virginia, has put together training courses. They held a fishing vessel safety and

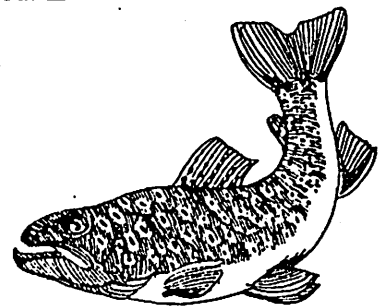
insurance workshop which covered a number of topics such as emergency first aid and cold water survival. They also spent a day at our Reserve Training Center in Yorktown, Virginia, covering firefighting and Coast Guard search and rescue techniques.

The Southeastern Fisheries Association is developing, among other things, an industry vessel safety code and regional safety manual while a group in New Jersey is

looking at developing a state underwritten mutual insurance association. Our Task Force has offered assistance to each of these groups and is working with the National Council of Fishing Vessel Safety and Insurance in Washington, D.C. to distribute information to them.

I believe our voluntary approach will work. The present insurance and safety crisis has caused persons in the fishing industry to take a hard look at the whole safety issue. They realize that any response they make to this issue must include a tightening up of safety standards and more safety awareness on the part of masters and crewmen. The industry's willingness to contribute to developing a program to reduce casualty losses and to follow established guidelines are also key points.

Many persons in the fishing industry are demonstrating that they can make improvements without government intervention and regulation. There are a lot of safety-conscious fishermen out there who will follow the recommendations in our NVICs and Safety Manual. I believe that by doing so they will start to see positive results, the kinds that count—fewer injured people, fewer vessels lost, and—most importantly—many lives saved. □



The Art of Safety

Preparing To Survive

After abandoning ship ill-fated crew members of the *St. Patrick* gathered themselves together to sing hymns. "They knew they were going to die," said survival instructor John Ball, "and by God they did."

Irreverent, perhaps, but Ball's message to the fishermen attending his class at Sand Point Naval Station was clear—don't prepare to die if disaster strikes, prepare to survive. Better yet, prepare to survive before you have to.

And that's exactly why the 16 men and one woman donned survival suits over their work clothes and jumped into the Navy pool in February. Taught jointly by John Ball of Northstar Survival, Inc., and Lt. Brent Whitener of the U.S. Coast Guard, the day-long survival class is one of five different courses being offered this year by North Pacific Fishing Vessel Owner's Association as part of their Vessel Safety Program, co-sponsored by the National Marine Fisheries Service and the U.S. Coast Guard.

For some it was their first course. Others had already taken NPFVOA's courses in marine fire fighting, emergency medicine at sea, navigation and stability, and onboard vessel safety orientation. Participants who complete all five courses are certified by the NPFVOA, and an increasing number of vessel owners are requiring their employees to attend.

One motivating factor is insurance rates. NPFVOA hopes that certifying crewmen will convince underwriters to rethink the high costs of fishing vessel insurance. Insurance relief may be somewhere in the future, but the safety benefits and the human returns are immediate.

For Mike Cordova the survival course was the second class he'd attended. A first-year crewman working for Westward Trawlers, Cordova was attending the series while in Seattle recovering from a hand injury. Asked whether the course was mandatory, Cordova said his boss "said he'd like for us all to go to it."

Asked whether the company was paying the \$65 fee for the class, Cordova said he wasn't sure. Then

he added, "I don't really care... it's really good training."

Besides the in-water practice using survival suits and a life raft, classroom time is devoted to survival at sea and ashore, cold-water near drowning, and hypothermia.

Another student who gave excellent marks to the course was Roy Johnson, partner in the fishing vessels *Polar Star* and *Polar Sea*. Johnson, with more than 45 years of fishing experience, was as enthusiastic as the greenhorns. Seasoned skippers need the course, too, he said. "They all have plenty to learn."

After his first experience ever in a survival suit, Johnson had this to say: "The first thing I'm going to do when I talk to the boats, is have the skipper go through and wax every one of them (survival suit zippers)."

Johnson admitted that some experienced skippers have ignored safety innovations simply out of habit. "In '36-'37, hell, we didn't have all that equipment," he said. "We were used to not having it... we never thought about it."

Gradually, Johnson said, skippers began purchasing life rafts, survival suits, fire extinguishers and EPIRBs, but many have never really had any hands-on training in their use outside of real emergencies.

Johnson estimated that more than half of the crewmen never look to see if there's really a survival suit inside the bag. It's courses like this, he said, that make crewmen conscious of safety equipment and willing to invest the time to see that it stays in good shape.

The total package of five courses costs \$300, Johnson said. So far he's only taken the survival course but he plans to take the others and to schedule his crews through the

program as soon as they return to Seattle from the crab grounds.

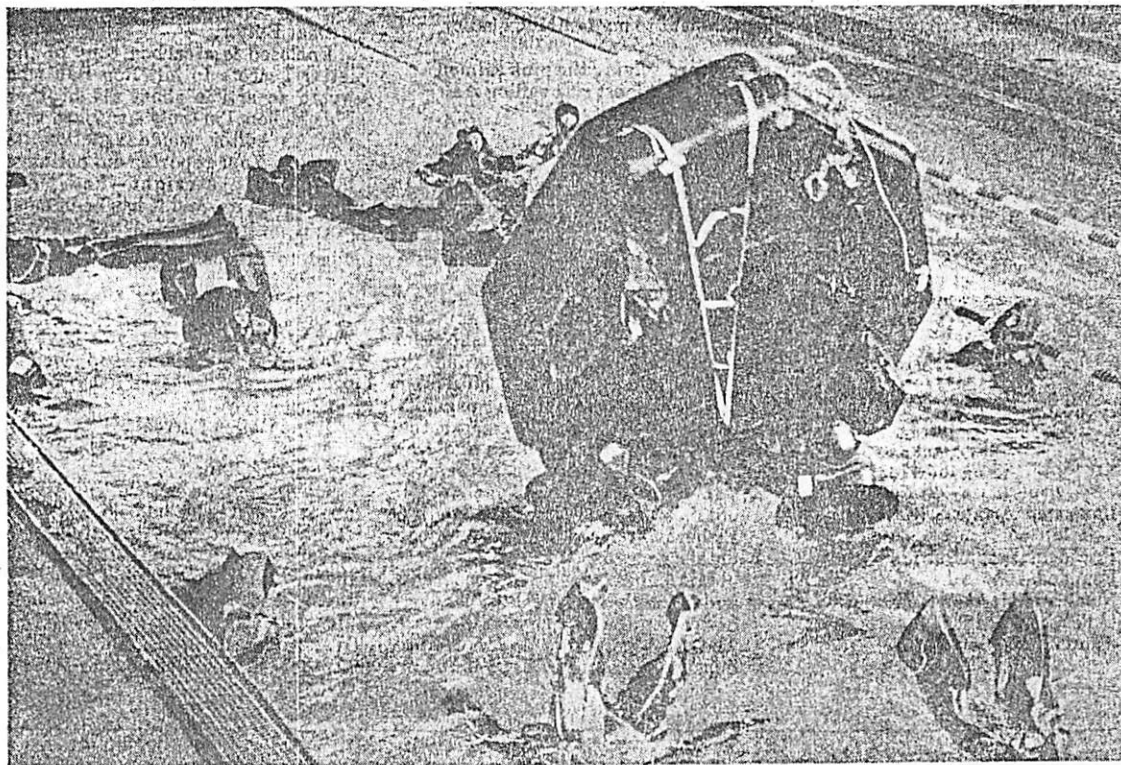
Is it worth \$300?

"Hell," said Johnson, "It'd be worth all the money you had if you needed it."

—John van Amerongen



Trainer John Ball (right) adjusts Roy Johnson's survival suit. Below, fishermen practice righting a liferaft at the Sand Point pool.

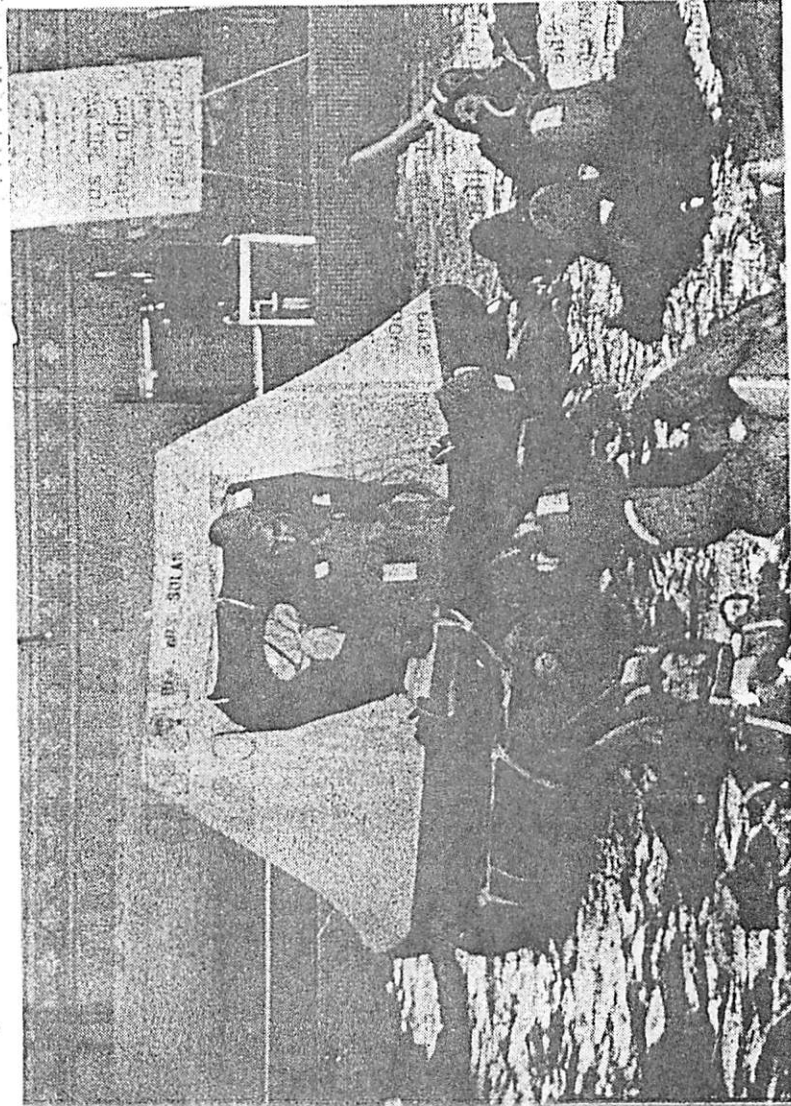




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Fishermen, wearing a survival suit, become familiar with onboard survival skills and abandon ship emergencies at a North Pacific Fishing Vessel Owners' Association safety training course. The NPFVOA program is helping eliminate some of the human error in fishing accidents and to prepare the men of the sea when an emergency does strike. Photo courtesy of John Van Amerongen, Alaska Fishermen's Journal

Lifesaver

Fishermen are learning their lessons before heading out into rough seas

By ALAN GULICK

The lack of vessel safety standards and educational information for commercial fishing vessels and operators is one factor in many of the deaths and injuries in the nation's most dangerous profession.

The North Pacific Vessel Owners' Association, however, is doing something to help eliminate some of the risk, or to at least prepare fishermen when an emergency does strike.

With the premise that knowledge and preparation are vital to safety, the NPFVOA safety program is an effort to boost the level of emergency preparedness within the fishing fleet.

Its goals are to save lives and property and to positively impact the availability and cost of fishing vessel insurance. The program is entirely voluntary and was developed with grants from the U.S. Coast Guard and the National Marine Fisheries Service.

"I think it's an excellent program," said Roy Johnson, who fishes in the Bering Sea.

He took the NPFVOA safety equipment and survival procedure course early this year and had his first ever experience in a survival suit.

"Using life rafts and survival suits are invaluable to fishermen," he said. "It could save their lives."

"Before, we never thought much about that. I think it will make everybody a little more safety conscious. In the long run, it will cut down on fatalities."

Johnson, a partner in the fishing vessels Polar Star and Polar Sea, began fishing when he was 13, some 48 years ago. He said he "never figured it was an unsafe industry. We never knew how many accidents there were compared with other industries."

The statistics are staggering. An average of 84 lives and 250 U.S. commercial fishing vessels were lost annually between 1981 and 1984. The next dangerous profession is mining, with an accident rate only half that of fishing.

The statistics help explain why insurance costs are so exorbitant and sometimes insurance is not available at all. A safety program, like the NPFVOA's, may help lessen that burden of paying high insurance costs.

"It's all a reaction to the insurance market," said Leslie Walker, training program director. "That's why these guys are coming to the classes. There's a strong hope the insurance companies are observing."

Walker said 250 fishermen have taken the various classes since the program began last December.

Joe Gnagey, vessel manager at Westward Trawlers Inc., said he "hopefully intends to have every crewman on our vessels through completion (of the program) this fall."

He called the safety program the most valuable piece of training the fishing industry has ever received. "It's good professional training. A confidence builder," he said.

There are five courses within the crew training program: marine fire fighting, safety equipment, and survival procedures, emergency medicine at sea, navigation and stability, and vessel safety orientation.

The "prop" vessel used in firefighting exercises at the Washington Fire Training Center is complete with realistic superstructure.

Participants learn fire control theory and gain experience at using portable fire extinguishers, fixed fire suppression systems and water hoses.

The second course involves survival theory followed by in-the-water simulations using exposure suits, inflatable life rafts, signalling devices and other survival gear.

Instruction includes man overboard and abandon ship emergencies, including survival at sea and shore, hypothermia and cold-water near-drowning.

The medical emergencies at sea focuses on the unique problems encountered in performing first-aid at sea, where there is no hospital emergency

room nearby. Wound management, CPR and other medical techniques are taught.

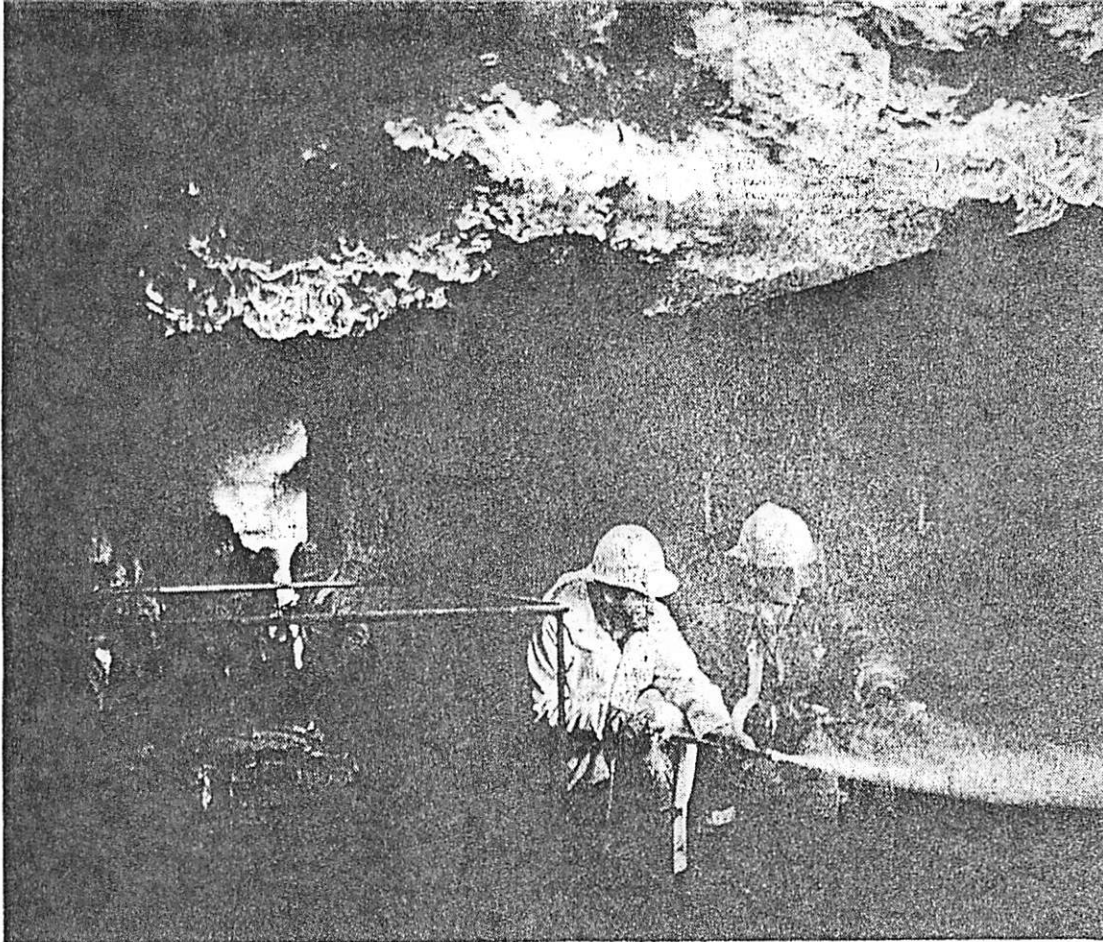
The navigation and stability aspect is a 16-hour, two-day course. It gives an overview of navigation, piloting, rules of the road, collision avoidance, wheelhouse electronics, and stability.

The class is designed as an introduction for the beginner or as a refresher for the experienced fisherman.

The vessel safety orientation is the portable component of the training program and takes place aboard participating vessels during layovers in Seattle. Cost is \$300.

The tuition for the fire fighting class alone is \$150, \$100 if a participant attends all

(Continued on page 3)



Fishermen get hands-on training on how to fight a fire aboard a vessel during a recent fire fighting course at the NPFVOA Vessel safety Program. Photo by Jennifer Werner, Seattle P-I

Preparing to survive

(Continued from page 1)
training segments. The other classes range from \$40 to \$65.

"It's good schooling for a lot of people just starting out in business and also for those who

have been in it for a while," Johnson said. "It's a very, very good program."

NPFVOA safety classes offered

Classes in the North Pacific Vessel Owners' Association Vessel Safety Program are scheduled September through December.

The firefighting course is offered Sept. 4 and 18 and Oct. 2 and 16. Two classes will also be held in November and December.

The medical emergencies at sea course, which costs \$40, will be held Sept. 30, Oct. 29, Nov. 20 and Dec. 12.

Safety equipment and survival procedures, \$65, will be held Sept. 11 and 25 and Oct. 9 and 23. There are also

two dates set for November and December.

The \$60 navigation and stability course will be held Oct. 12 and 13, Nov. 8 and 9 and Dec. 6 and 7.

Openings are available in all classes and a minimum of 15 participants are needed for each class.

The Safety Program office will attempt to accommodate companies or groups interested in scheduling special sessions.

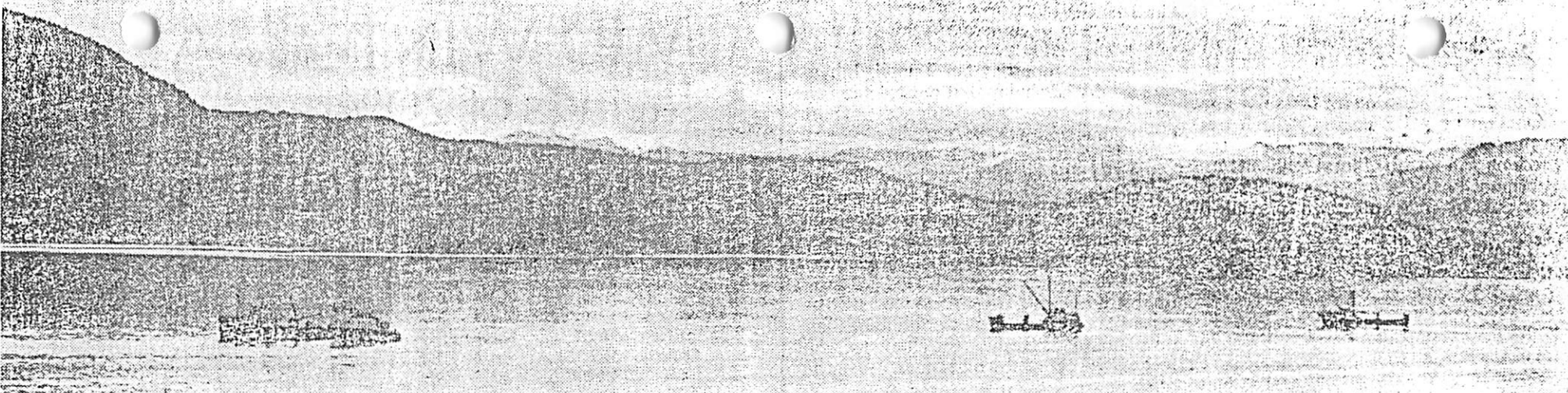
To register and for more information, call 283-0861.

The NPFVOA also has its "Vessel Safety Manual" on sale.

It was produced in cooperation with the Coast Guard and contains more than 300 pages and features over 300 diagrams illustrating safe vessel operation.

Cost of the manual is \$30 per copy and Washington residents need to add 7.9 percent sales tax to the \$30 cost. All proceeds will be used to sustain the NPFVOA crew training program.

To order the manual, contact the Vessel Safety Program, Building C-3, Fishermen's Terminal, Seattle, Wash. 98199.



Fishing boats return to port in Cordova, Alaska. Though a calm scene here, the fishing business is the nation's most hazardous. Each year, about 250 boats sink and 75 people perish

Steep insurance costs prompt fishermen to rethink safety on deck

By Mark Baumgartner
Special to The Christian Science Monitor

Anchorage, Alaska

Commercial fishermen, facing a rising tide of insurance costs, are being encouraged to pay more heed to safety aboard their boats as one way of possibly reducing rates.

Statistics tell a downbeat tale of what many people envision as a romantic seafaring industry. Fatalities among commercial fishermen occur at a rate seven times the national average for all industries. Twice as many fishermen are killed on the job each year as miners, whose occupation is rated as the second most hazardous.

United States Coast Guard records show that in an average year 250 fishing boats sink off the nation's coasts and 75 fishermen perish. The fishing industry also is among the leaders in on-the-job injuries.

Industry observers say many fishermen can no longer afford the burgeoning premiums charged by the dwindling number of insurance companies still willing to sell them insurance policies.

The combination of high casualty statistics and the trend in US courts toward very large cash settlements in personal-injury cases has brought about what everyone involved calls a "crisis in marine insurance."

Though its hazards are at the heart of the crisis, the US fishing industry is virtually without safety regulations. And no one is proposing new rules for fishermen.

"The Coast Guard aims to reduce casualties by 10 percent by 1991 without additional regulations," says

John Sabella of the Seattle-based North Pacific Fishing Vessel Owners Association.

Seeking better preparation for emergencies and safer methods of operation, Mr. Sabella and the Coast Guard plan to publish regional safety manuals.

They are also collaborating on a national crew-training program. Soaring insurance rates that threaten to beach fishermen might provide the motivation for them to examine their operations voluntarily, Sabella says.

But others note that increased safety won't necessarily result in appreciably lower insurance rates. Some industry observers say that premiums were unrealistically lowered when many insurers were seeking to attract investment cash to take advantage of the extremely high interest rates of the mid-1970s.

Sabella links safety to better management of the fisheries. Limited catch quotas and shorter seasons tend to force fishermen who face mortgage payments and other bills to venture into marginal weather and work with too little rest, he said.

Congressional remedies to the problem of high insurance premiums for fishermen have proved illusive, said Rod Moore, an aide to US Rep. Don Young (R) of Alaska, a major fishing state.

Fishermen aren't the only ones clamoring for relief from climbing insurance rates. Doctors, municipal employees, day-care center operators, and workers in other occupations labeled risky by the insurance industry have recently found it difficult to afford to stay insured and in business.

The problem can be traced to huge court settlements on personal-injury lawsuits, Mr. Moore said. "Any legislation must look at ways to limit liability."

One proposal before Congress calls for limiting insurance companies' liability in the majority of fishing-injury cases to medical expenses and lost wages. This would eliminate "noneconomic damages," such as pain, suffering, and mental anguish.

The legislation was written by Dennis W. Nixon, a professor at the University of Rhode Island.

He proposes that fishermen suffering injuries that keep them out of work less than a year immediately receive total medical coverage and full compensation for lost wages.

In addition, Professor Nixon advocates establishing a disability-income insurance program for fishermen. One of Nixon's goals is to lock lawyers out of a majority of the fishing industry's personal-injury cases. Attorney fees amount to one-third of the total award in an average case settled before trial, but lawyers get half of the settlement in a typical injury or death case that goes to trial, Nixon said.

The challenge is to give insurance companies predictability without depriving injured workers of their just compensation and of legal recourse. Said one personal-injury attorney:

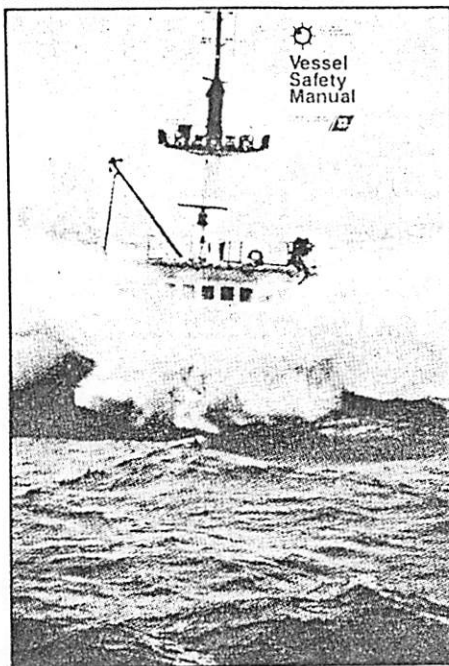
"When you limit a fisherman's right to sue, you're protecting boatowners and insurance companies, but what have you done for those out on the deck who are taking all the risks?"

NPFVOA's manual takes over where NVIC leaves off

The North Pacific Fishing Vessel Owners' Association is publishing its "Vessel Safety Manual" this June. Produced in cooperation with the Coast Guard, the manual contains more than 300 pages and features over 300 diagrams illustrating safe vessel operation.

The material is divided into 15 chapters, ranging from "Vessel Familiarity" for the new hand to "Stability" for the owner and skipper. The indexed volume will be ring-bound to accommodate additional material, allowing fishermen's groups in other parts of the country to add sections pertaining to their fisheries and gear types. The gear section in the NPFVOA manual concentrates on pots and trawls, since it was written for North Pacific fisheries involving large vessels. The Coast Guard plans to issue subsequent, revised editions of the manual for use in other parts of the country.

Some of the manual's sections are intended to be removed or photocopied and posted aboard a vessel. Examples of these pull-out pages include: "Suggested



Watchstanding Procedures" and "Cardio-Pulmonary Resuscitation (CPR) Techniques."

The "Vessel Safety Manual" is of limited use unless it's accompanied by practice and training, according to

manual editor John Sabella. "Nothing, no safety manual, will alleviate the responsibility of the skipper to pay constant attention to the safety of the vessel," says Sabella. "That's not to say that a vessel isn't better off with a stability letter and survival suits for every crewman (as recommended), but you have to make sure that you know how to use that equipment and follow that set of guidelines."

In keeping with this philosophy, the NPFVOA has also established a crew-training program to supplement the manual. The training curriculum includes classes in firefighting, medical emergencies at sea, safety equipment and survival procedures, and navigation and stability.

Cost of the "Vessel Safety Manual" is \$30 per copy (Washington residents add 7.9% sales tax). All proceeds will be used to sustain the NPFVOA crew training program. To order the manual, or for more information on the crew training program, contact the NPFVOA Vessel Safety Program, Building C-3, Fishermen's Terminal, Seattle, WA 98199; tel. (206) 283-0861.

— K.F.

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NOAA-SEA-86-17

RECORD SALMON
SEIZURE BY NATIONAL
MARINE FISHERIES
SERVICE AGENTS

FOR IMMEDIATE RELEASE

National Oceanic and Atmospheric Administration (NOAA) officials in Seattle, Washington, have seized in Tacoma almost 595,000 pounds of salmon worth \$796,000 bound from Taiwan to Japan by way of the U.S. in an alleged multimillion-dollar fish laundering scheme.

The record haul, believed to be part of over 3.5 million pounds of salmon worth \$4,746,000 routed through Tacoma, consists of 4-6 pound chum and sockeye. It was seized by National Marine Fisheries Service enforcement agents in the course of its 13,000 mile round trip across the Pacific.

Japan prohibits the importation of Taiwanese-caught salmon, and salmon cannot legally be exported from Taiwan.

The Commerce Department agency said the salmon were shipped first to Singapore and Hong Kong. Then Union Inc., a trading company in Costa Mesa, California, shipped the fish to Tacoma. There it is alleged that new container seals and bills of lading were used to obscure Taiwan as the country of origin, and the salmon were to be reshipped to Japan.

The U.S. has a substantial salmon export market to Japan, and a U. S. bill of lading would be readily accepted there. Sophisticated tests, the seized fish's appearance, including gillnet marks, and fishing patterns indicate they were caught on the high seas and are of Taiwanese origin.

The Taiwanese ban on salmon exporting and gillnetting was imposed at U.S. urging, in an effort to eliminate migratory interceptions and bring Taiwanese gillnetting practices under control.

In addition to forfeiture of the fish, civil actions against Union Inc., and its general manager, Young Ho Lee, are expected later this week. Civil penalties against the company and Mr. Lee could total \$150,000.

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U.S. accuses firm of huge salmon plot

By Bruce Sherman
EJ Reporter

A Southern California business executive said he was shipping hundreds of thousands of pounds of salmon back and forth across the Pacific so its quality could be inspected, not to hide its origin, according to federal authorities.

Young Ho Lee, a Korean national who runs a trading company in Costa Mesa, Calif., also told authorities he shipped the salmon from Singapore to Japan via Tacoma because he wanted to make sure it had a new bill of lading identifying his company as the shipper.

But the National Marine Fisheries Service contends that those shipments and others — amounting to as much as 3.5 million pounds of fish — were routed through Tacoma to Japan as part of a complicated “laundering” scheme to hide the fact that the fish was exported from Taiwan in violation of Taiwanese law.

Samples displayed

The U.S. officials also say many of the fish, caught by Taiwanese on the high seas, originated in North American streams and a “significant amount” of them may be Washington fish.

Yesterday, federal authorities displayed samples of 595,000 pounds of salmon seized in July in Tacoma and worth \$796,000. The chum and sockeye salmon had been in 12 shipping containers and came into port in two shipments.

Rolland Schmitten, regional director of the fisheries service, said of the seizures:

“It is unheard of in the fishing industry to seize 600,000 pounds of fish and account for the additional amount that we have.”

Washington’s average annual salmon catch between 1981 and

1985 was about 41 million pounds.

Lee, whose company was identified as Union Inc., could not be reached for comment yesterday. His explanation of why the fish went through Tacoma was included in documents that federal officials filed in U.S. District Court, Tacoma, to support their seizure of the fish.

The U.S. law

Schmittsen said civil papers had been served on Lee and his company alleging violations of federal law and seeking up to \$150,000 in civil penalties. The possibility of criminal charges is being looked into, Schmittsen said.

Calls to Lee’s office were referred to Seattle attorney Joseph Weinstein, who said, “We’re not going to comment on litigation while it’s pending.”

The civil action was filed under a U.S. law that prohibits the purchase, sale, import or export of any illegally taken fish or wildlife product. Products taken in violation of a foreign law are included.

Fisheries Agent William F. Lutton said the Taiwanese passed a law against high-seas salmon fishing in response to “international pressure to stop taking salmon and marketing it on the world market.”

Lutton said that in the current investigation, U.S. authorities “have not had full cooperation from Taiwan.” He said he didn’t know whether Taiwanese authorities plan any charges in the case.

Taiwanese representatives in Los Angeles were not familiar with the case and could not comment yesterday. They were unable to say immediately what agency in their country might be able to comment.

Lutton said the salmon went



Rolland Schmitten, regional director of the National Marine Fisheries Service, displays some of the fish seized in Tacoma.

from Taiwan either to Hong Kong or Singapore. He said it was then returned to Taiwan, placed on a Sea-Land container ship and then followed the normal ship route through Kobe and Yokohama, Japan, to Tacoma.

Lutton said the cargo was taken off the ship in Tacoma and given a new bill of lading showing that the fish had come from the United States. “It was put right back on the Sea-Land vessel . . . and shipped back to Yokohama” for sale in Japan.

“The same day that it entered the United States they’d file for an immediate export through the bonded facility down there, put it

right back on the ship and go right back out again. So no U.S. enforcement officials ever had a chance to see the fish.”

Schmittsen said the activity is believed to have started in March, 1985, and his agency’s investigation began in July after a written tip from someone in Taiwan. Schmitten wouldn’t identify the informant.

Federal authorities say Sea-Land was not involved in the illegal activity and has cooperated fully with authorities.

Schmittsen said the current plan is to distribute the seized fish to agencies serving the poor.

Charges filed in fish scam

California firms, 1 man accused

by Peyton Whitely
Times staff reporter

Two California companies and a man identified as an officer of both have been named defendants in civil charges filed over the illegal catching of millions of pounds of salmon in the north Pacific Ocean.

The charges were filed yesterday in Washington, D.C., against the companies, Union, Inc., of Costa Mesa, Calif., and Channel USA Inc. of Fullerton, Calif., and Young Ho Lee, 40, a Korean citizen who is an officer of both companies.

The charges were brought by the national Marine Fisheries Service after an investigation that began in July with a tip that Taiwanese fishermen were catching millions of pounds of salmon then smuggling them to Japanese markets through a 13,000-mile journey intended to hide the origins of the fish.

At a Tuesday press conference announcing the results of the investigation, Roland Schmitter, fisheries service regional director, said the investigation was unprecedented in the U.S.

More than 594,000 pounds of the illegal salmon have been confiscated as part of the investigation and are being held in cold storage in Tacoma.

In the civil filings, which are conducted through an administrative legal procedure outside the normal federal-court process, Union Inc. is accused of 15 counts of illegally transporting the salmon in a series of shipments dating back to March 1985.

Channel USA is named in four counts involving two shipments of 263,024 pounds of salmon shipped in March 1986. Lee is identified as general manager of Union and secretary of Channel.

Each count carries a penalty of up to \$10,000. Union would be liable for up to \$150,000 in fines and Channel could face \$40,000 in penalties. It is expected to be several months before a hearing will be conducted on the charges.

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Owner of 2 Firms Faces Charges in Salmon Imports

By JANE APPLGATE, Times Staff Writer

The owner of two Orange County companies is facing civil penalties and \$190,000 in fines on charges that he illegally imported salmon caught by a Taiwanese fishing fleet. Young Ho Lee, 40, a Korean citizen, and two companies he controls were named in two complaints filed this week by the Department of Commerce in Washington.

Lee allegedly bought the salmon from a Singapore company and routed the shipment through a U.S. port to avoid Japanese laws prohibiting the importation of Taiwanese fish.

Two companies Lee controls, Union Inc., a Costa Mesa food distribution company, and Channel USA Inc. of Fullerton also were named in the complaints. Lee and his companies face 19 counts of allegedly violat-

ing a federal law prohibiting the transportation and sale of illegally caught fish. No one answered the phone at Union Inc. Friday. No telephone number is listed for Channel USA.

The charges stemmed from the seizure of 600,000 pounds of salmon confiscated in July by National Marine Fisheries Service agents in Tacoma, Wash. An informant's tip led agents of the fisheries service and U.S. Customs Service to a warehouse where they found the salmon. The fish shipment is worth about \$800,000, according to William F. Lutton, deputy special agent in charge of the fisheries service northwest region. "There has never been anything of this magnitude," Lutton said Friday. A hearing on the charges probably will be held in Los Angeles, he said.

The federal complaint alleges Lee purchased the salmon from a company in Singapore and shipped it to Tacoma, Wash., before reshipping it to Japan. That route would circumvent a Taiwanese law prohibiting the export of salmon caught by its fishing fleets. Japanese law also prohibits the import of Taiwanese salmon. Both nations passed the laws under pressure from the U.S. government to protect the salmon population, according to officials of the fisheries service.

Initial tests on the salmon revealed about half were caught in U.S. waters off the coast of Washington and Alaska and the rest were caught in the high seas, according to Rolland Schmitt, regional director of the fisheries service in Seattle.

Trade Voids... Settlement