

- b. Dependability for consistent and uniformly high quality protein in the concentrate, plus a maximum of other needed nutritive factors.
- c. Products that adapt themselves to being produced, packaged, stored, and transported at a low price but without sacrifice of high biological value or of suitability for incorporation into the consumers' diet.

CONCLUSION

In conclusion, I believe the Conference has firmly challenged us to increase the yield from the sea, to solve the technical and educational problems of getting fish consumed where it is needed in a form that is wanted, and to ensure that the form wanted is nutritious.

Admitting that much already known is not fully utilized and could be better utilized through education and training, we can only truly meet the Conference challenge of the optimum utilization of fish as food through increased support of fundamental fisheries research.

How "Rules of the Road" Make Your Vessel Safer at Sea

STEWART SPRINGER

*Bureau of Commercial Fisheries
Washington, D. C.*

Abstract

Rules of the Road, or more formally, Regulations for Preventing Collisions at Sea, are the traffic laws of the sea and have many similarities with ordinances regulating traffic on city streets. The need for the Rules of the Road by fishing vessels is shown by statistical samples of collision accidents. Justly or unjustly, fishing boat operators have acquired a reputation for navigational irresponsibility. Fishing vessels are protected to some degree by the Rules whether or not the fishing vessels are operated in strict compliance. Better understanding of the Rules and better compliance by fishermen would save lives, reduce property loss, and reduce the probability for more stringent and restrictive safety regulations.

Discussions held in the United States in preparation for the 1960 International Conference on Safety of Life at Sea and the actions and recommendations of that Conference suggest specific steps the fishing industry might take to improve its safety record.

THE "RULES OF THE ROAD" to be discussed here are the Collision Regulations applying to all vessels at sea. Similar, but slightly different, rules are in effect for inland waters; and these inland rules vary somewhat in different parts of the world. The International Rules of the Road have universal application to vessels at sea, however, and perhaps have the widest acceptance of any world rules. The non-controversial nature of the Rules is one of their important features, and in international conferences on safety, the Rules are considered separately from other items because of the importance of unanimous agreement on them. As originally developed, the Rules were made for sailing ships. Changes have been made from time to time chiefly because technological developments have produced larger and faster ships with new capabilities and new problems. Although the Rules antedate modern safety conferences, they have regularly been given an important, if separate, place in such deliberations.

In 1960, an international meeting was called to study the entire safety prob-

lem with respect to ships at sea. Such topics as construction standards, manning, inspection, cargo regulations, and the Collision Regulations were thoroughly reexamined. Some new topics were introduced. Up to the present time (1961) provisions developed by the 1948 International Conference on Safety of Life at Sea apply to fishing vessels of the United States. The changes proposed by the 1960 Conference will apply to U.S. fishing vessels only after the Acts of the Convention are ratified by the U. S. Senate, after the Convention has been finally accepted by a specified number of nations, and after the implementing regulations are promulgated by the U. S. Coast Guard. I cannot predict when all of these events will be concluded. Although many of the Regulations of the earlier 1948 Conference had an indirect bearing on the safety of fishing vessels and their crews, the provisions of the 1948 Convention exempted all fishing vessels from Regulations under the first 4 Chapters of the Convention, leaving them subject only to provisions of Chapter V and to the Collision Regulations. The Collision Regulations or Rules of the Nautical Road are contained in an annex to the Convention and are accepted by all maritime nations for ships of all sizes on international voyages. The remainder of the 1948 Convention has wide acceptance by the major maritime nations.

Historically it is worthwhile to note that the first International Conference on Safety of Life at Sea was held in London in 1914 following public reaction to the 1912 sinking of the TITANIC. One of the results of that conference was the establishment of the International Ice Patrol, which is supported by nations having substantial Atlantic shipping and is carried out by the U. S. Coast Guard. This operation has practically eliminated iceberg accidents to transatlantic shipping. The fourth International Conference on Safety of Life at Sea was the 1960 Conference under discussion and, according to a press release of July 15, 1960 from the Commandant of the Coast Guard, it was called primarily as a result of the collision of the liners STOCKHOLM and ANDREA DORIA in 1956. I have purposely emphasized the cause and effect relation between general public opinion and the development of rules and regulations. Public opinion does not permit toleration of practices that appear to be wasteful of life and property. Given appropriate publicity, the man in the street reacts to a piece of monumental carelessness with the statement that "there ought to be a law". So it is partly a result of public opinion that governments have developed an extensive and complex body of laws on safety at sea.

The fourth International Conference on Safety of Life at Sea convened in London on May 17, and was concluded on June 17, 1960. The governments of 45 countries were represented by delegations and seven other governments and eight international organizations sent observers. The Conference business included a great amount of technical detail and the 575 members of delegations were split into 13 committees to consider the many proposals for change advanced by various governments.

In preparation for the Conference the United States had held meetings of committees to prepare the U. S. position on questions of national interest which might come up at the Conference. Mr. Charles Jackson, President of NFI, and Captain David Hart were industry members and I was designated by the Commissioner to act as the representative of the Fish and Wildlife Service. Meetings of the national committees were held during the year preceding the 1960 Conference.

Consultation with members of the fishing industry during the period preceding the 1960 Conference indicated considerable doubt as to the wisdom of removing any of the exemptions for fishing vessels or in making any great changes in existing Regulations or Rules. At the same time, it was recognized that some changes would be made in the interest of safety and that such changes could have a marked impact on fishing vessel operation.

At the 1960 Conference a group of proposals by several foreign governments was made to remove fishing vessel exemptions. Some governments proposed deletion of all exemptions while others proposed removal of exemptions in various higher tonnage categories. The delegation of the United States opposed removal of the exemptions at this time for many practical reasons. The final Convention did include as a Recommendation, but not as a Regulation, the following statement:

"That Contracting Governments should transmit to the Organization information as to the extent to which they found it practicable to apply the appropriate provisions of the Convention to fishing vessels with a view to such information being disseminated to Contracting Governments and the Food and Agriculture Organization of the United Nations."

The Organization to which reference is made in the preceding statement is the International Maritime Consultative Organization. The text of the new Convention has an expanded definition of the term fishing vessel. It is defined as any vessel catching living resources of the sea. Considerable attention was given to problems of fishing vessels throughout the meetings, and improvements in the new text have been made through simplification of the language, clarification of the intent of Regulations and Rules, and recognition of the importance of the use of newly developed devices in safe operation at sea.

The Collision Regulations were clarified in revisions proposed at the 1960 meeting, especially in those sections dealing with fishing vessels. Rule 9, although greatly revised, was shortened by about 200 words. The new text is intended to remove variation of interpretation. It also abolished the tricolored lantern for trawlers and the triangle of white lights for other vessels having gear extending into the seaway. The new regulations provide for green over white masthead lights to identify trawlers with gear overboard and red over white masthead lights to identify other fishing vessels having gear extending more than 500 feet into the seaway. Trolling vessels are specifically exempted from carrying special lights.

The "Rules of the Road" or Collision Regulations are the traffic regulations of the sea and are intended to help in the prevention of collisions. Of the 31 rules only the 31st, concerning distress signals, deals with any problem except the prevention of collision. Many parallels exist between traffic regulations at sea and traffic regulations for automobiles. But conditions at sea are sufficiently different to require somewhat more complicated rules and much greater attention to their application. For a license to drive an automobile, an examination is usually required to prove the applicant has basic knowledge of traffic regulations. For a license as master or mate in the Merchant Marine, an applicant must pass a comprehensive and thorough examination on the Rules. Skippers of nearly all fishing vessels and skippers of many other smaller vessels in the United States are not licensed. Some of these men know the "Rules of the Road" because they have a personal pride in their knowledge and ability as seamen. Unfortunately, a few fishermen not only do not know the Rules, but possess misinformation perhaps that a vessel approaching another from the right in a crossing situation has the "right of way". The phrase

"right of way" does not really appear in the Rules at all and it is dangerous to assume that any right exists under all conditions. If there is one rule more important than others for the fishermen to know it is Rule 29 which states that nothing in these rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to carry lights or signals, or any neglect to keep a proper lookout or of any neglect which may be required by the ordinary practice of seamen, or by the special circumstances of the case. If I may presume to interpret this rule broadly I would say that it means that a vessel skipper must use his head and be prudent. It is not prudent, for example, for a fishing boat skipper to come charging close across the bow of a 10,000 ton 20 knot ship in a 50 ton fishing boat even if he thinks he has the right of way and has his pilot house plastered with "good luck pieces". The fishing boat skipper should know, for example, that a ship has no brakes.

Justly or unjustly, fishermen have gained a very poor reputation for seamanship among officers of large ships, probably as a result of careless and heedless actions by a minority of fishing boat operators. The fact that skippers of large vessels comply with the Rules of the Road undoubtedly tends to protect smaller vessels from being run down more often. But fishing boats are more frequently involved in collisions with each other than with large vessels and some of these fishing boat collisions cause serious damage and loss of life.

Records show that serious and damaging collisions involving fishing boats occur offshore with much greater frequency than in harbors and approaches to harbors. This should be expected. Fishing vessels manned by an alert crew should be able to avoid collision at any time because of their great maneuverability. In the open sea the principal cause of fishing boat involvement in collisions appears to be failure to keep an alert watch. Another probable cause is the tendency to take action late in avoiding a collision course. Many collisions, including some between fishing vessels, occur because both vessels have delayed evasive action until the last moment and then turned simultaneously, thus producing a serious collision from an event which otherwise might have produced a near miss.

The use of radar by many vessels, including fishing vessels, has not eliminated the collision problem. In fact, a new class of collision has appeared, popularly called the radar-assisted collision. Study of collisions involving vessels on which radar was available and used has shown that the need for the Rules of the Road still is as great or greater than ever, and that radar is a useful tool in navigation (in a collision situation) only when competently and properly operated. The Coast Guard now requires a certificate of competency in radar use for newly licensed deck officers.

I suspect that one or more violations of the Rules would be found in an investigation of any severe collision at sea. Collisions are not the only accidents occurring at sea, but they frequently lead to disaster and loss of life. If I am right that collisions follow violations of the Rules, then all of them are preventable.

It is my personal hope that when the new Rules are promulgated, the fishing industry will take a more active interest in compliance with them. To mark the event I recommend that fishing vessel owners take the following actions:

1. Make certain that fishermen responsible for the safety of their vessels know the Rules of the Road.
2. If the fishing vessels are radar equipped, require operators to obtain a certificate of competency in radar use.

3. Equip small vessels (especially small wooden vessels which work in fog areas) with radar reflectors or targets.
4. Give moral support to actions which promote higher standards for fishermen in seamanship and the traditions of courtesy and helpfulness at sea.

These steps should save money for every boat owner through insurance rate reductions. Furthermore, fishermen could place less reliance on avoidance of Friday sailings, avoidance of carrying aboard a black suitcase, or the tabu of the use of the word pig aboard the vessel. Far be it from me to object to good luck but fishermen need everything going for them and luck alone is not enough.

Fish Meal—Another International Problem

CHARLES BUTLER

*Division of Industrial Research
Bureau of Commercial Fisheries
Washington, D.C.*

Abstract

It is not news to you members of the U.S. fishing industry that there are international overtones to, for example, the fisheries for shrimp, tuna, and groundfish. We have, in addition, some problems in the import and export of fish and fishery products. However, for many years we have looked upon our industrial products (or reduction) industry as a thriving and vigorous segment of the total U.S. fishing industry. This was especially true of the Atlantic and Gulf menhaden industry, a segment solely engaged in the catching and processing of fish for reduction to meal, oil, and solubles.

The sudden changes of late 1960, and early 1961; the reasons for these changes; and a review of the further international developments relating to these new, fast moving and often confusing developments for the number one (in terms of total poundage of catch) segment of the U.S. fishing industry is presented.

Through review of the past pertinent events, statement of present situation, and a cautious look into the immediate future of this important and interesting U.S. industry a clearer picture should emerge of the place of fish meal and oil in international relations and trade.

THE ENTRANCE OF FISH MEAL as a problem on the international scene has been a recent one. However, judging from the scope and complexity of this problem, it will be with us for some time. It may be of value to take stock of the principal factors involved, to pull together the findings arising from several recent meetings on fish meal and related subjects, and to peer cautiously into the immediate future for clues to possible solutions to the problem.

We in the Bureau of Commercial Fisheries had, for many years, looked upon the industrial products segment of our fishing industry as an outstanding example of a vigorous and prosperous activity. There were international problems of long standing for groundfish, more recently for salmon and tuna, then with shrimp, and of course, the multiple complications for many fisheries over the possible extension of national jurisdiction outside the traditional three mile limit.

The fish reduction industry, and especially the menhaden segment along the Atlantic and Gulf Coasts, has forged ahead rather steadily over the past fifteen years. Meal production, while variable in any given locality, had trended