CHAPTER 5

MARKETING AND BUSINESS OPERATIONS

INTRODUCTION

This chapter describes the operation of a horizontal tuna longline vessel as a business. This includes the marketing and grading of the catch, which need to be carefully thought through to meet the needs of specific markets and to maximise profits. Packing the fish for export and shipping the catch by airfreight are covered to highlight the process for people wishing to enter export marketing. The operation of the boat is also covered, looking at both fixed and variable costs and how to apportion the income from fish sales after expenses are deducted, amongst the skipper, engineer, crew and vessel owner.

A. MARKETING AND GRADING IN GENERAL

Onshore handling of tuna for export sashimi markets is just as important as on-board handling. Care must be taken not to damage the fish and not to interrupt the cold chain. This means that fresh chilled fish should be maintained at 0˚ to 4.4˚C not only on the boat but also during unloading, processing, packing, transporting and marketing.

The main markets for fresh sashimi grade tunas, broadbill swordfish and striped marlin exported from the Pacific are Japan, Hawaii, and the US mainland, with small markets in Korea, Australia and New Zealand. Each market has slight preferences for how the fish are received; such as Japan preferring to receive the tunas with head on (G&G), while the Hawaii market prefers H&G tunas. Also, different sashimi markets have preferences for certain species, so this needs to be considered as part of any marketing strategy.

Albacore tuna commands a good price from canneries, although the price fluctuates at times based on supply and demand, and the fish need to be frozen before shipping to canneries. Frozen albacore loins are mainly marketed in Europe and the US mainland to be further processed as steaks. There is also a growing market in the US and Japan for ULT (ultra-low temperature) frozen albacore for sashimi.

Byproduct species are generally sold on the domestic or local market, although byproduct species such as mahi mahi and wahoo can fetch good prices in some export markets at different times of the year.

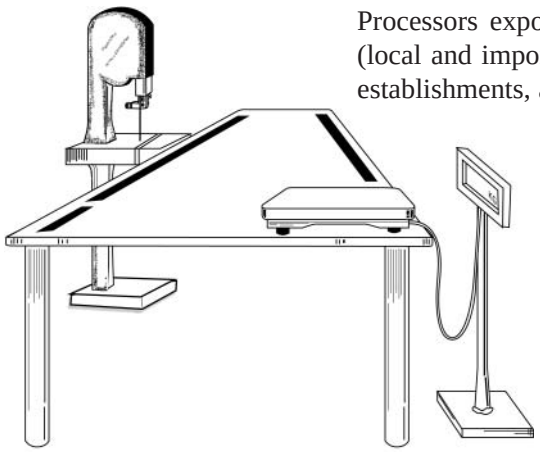
Market requirements

Most packing of fresh chilled fish for export is done at a shore based packhouse or processing facility. These establishments are set up to handle fresh fish and have the appropriate health and sanitation certification both for the local requirements and for the export markets the fish are destined for. For example, if fresh fish is being exported to the US, the packhouse needs a current HACCP (hazard analysis and critical control point) plan for the establishment.

The HACCP plan has documented all the hazard areas in the processing and packing of the fish, mainly in regard to quality and temperature control. At each of these identified points, records need to be kept on a random sample to document and show that temperature or other identified hazards are in check. If the fish are processed on a boat, such as with loining, then the boat has to have a HACCP plan and quality control needs to be documented at each identified point.

The European Union (EU) has its own requirements for marketing fresh or processed fish. The EU requires each country exporting fish to them to have appropriate legislation, and a competent authority, such as a health inspector who has access to laboratory facilities to conduct random checks on fish to ensure that the fish is safe for human consumption. The EU also has health and sanitation requirements for processing facilities. Facilities need to be certified by an EU inspector before they export fish to EU markets.

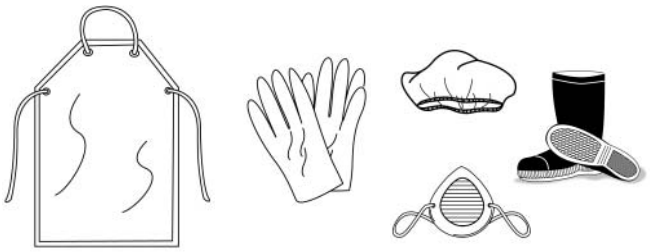
Processors exporting to the US or EU should consult all relevant authorities (local and importing) to ensure that all requirements, both for the fish and the establishments, are complied with.



Equipment needed for packing fresh fish for export

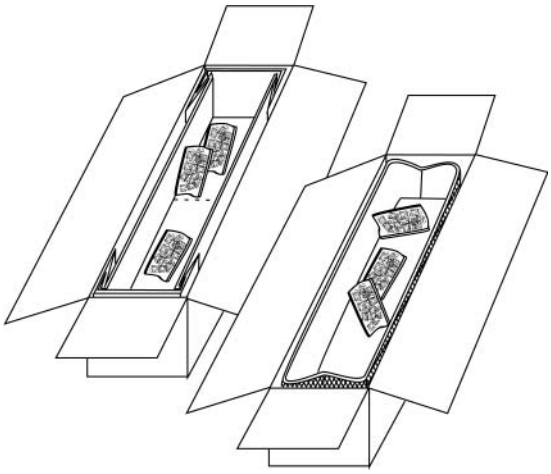
Packhouses or processing facilities for export should have stainless steel processing tables, knives, bandsaw, meat hooks, and good accurate scales.

Fish handlers should wear rubber disposable gloves and appropriate clothing (apron, gumboots, mask and hairnet).



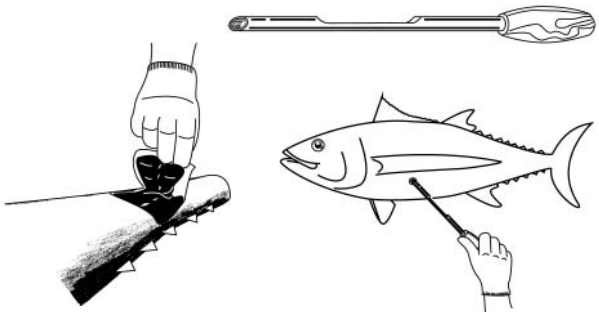
Export fish should be packed in airline approved insulated wet-lock cartons, and gel ice packs should be added to the cartons to help maintain the cold chain.

Grading fresh sashimi quality tunas



Export marketing of fresh tuna is a very complex business. Freshness is the most important factor but fishermen and processors also have to consider grades of fish, market specifications, market trends and cost of exporting. All export fish should be firm and fresh. Mushy flesh is unacceptable.

Tuna is usually cut near the tail or cored either by the exporter or the buyer so that the flesh can be examined and graded. Byproduct species are not graded like tunas but buyers do look for firmness and they often examine the bloodline (dark muscle) for freshness. The bloodline should be pink or red; brown is not good.



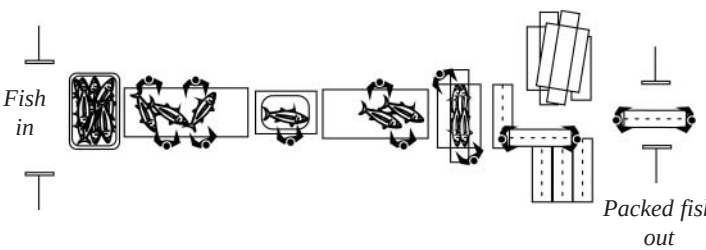
Japan and the US grade sashimi tuna similarly, although the grades are named differently. In Japan the ranking or grading is A, (top quality) B, C, or D (reject). In the Hawaii or west coast US markets, fish are ranked or graded #1, (top quality) #2, #3, or #4 (reject), with a plus or a minus sign to indicate the presence or absence of fat. The highest grade is #1+. Hawaii grading is usually stricter than mainland US grading, and Japan grading is stricter than Hawaii grading. Some Pacific Island exporters simply grade their tunas as 'YES' or 'NO' — the yes fish get exported, the no fish are sold locally. This type of grading is better than not grading at all.

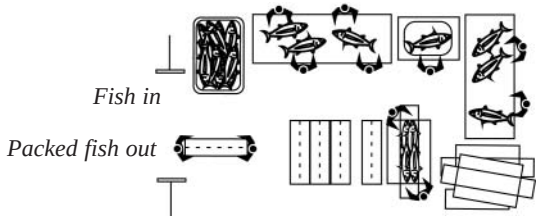
Size of tunas has a bearing on tuna grades — only larger fish can be #1 grade — approximately 30 kg whole weight for yellowfin tuna and 40 kg whole weight for bigeye tuna, but this can vary with market demands. Large, well rounded tuna are more likely to have high fat content and they give higher yields. The most important grading factor, however, is colour: red is best. Roughly, red is #1, pink is #2, pale is #3, and brown is #4 or reject grade. A rainbow-like sheen on the flesh usually downgrades the tuna. Other important factors are muscle clarity and visible fat. High-grade tunas have bright, clear flesh. The highest-grade tunas have visible layers of fat in the flesh, particularly in the belly flap.

The best way for exporters to get the highest return from export tunas is to send only fresh fish that have been graded and packed properly, and to send what the buyers want. Generally, only #1 and #2 fish are exported. If the market is good and supplies are weak, #3 fish can sometimes be exported. Lower-grade tunas are usually sold locally, frozen for the cannery, or converted to value-added products such as steaks.

Layout of a packhouse or processing facility

The layout of a packhouse or processing facility is extremely important to ensure the smooth flow of product from the receival area to the packed cartons leaving the facility. It is best if all fish arrives at one end, is processed without any double handling or backtracking, and leaves from the other end. In some cases, a continuous flow in a 'U' shape may be needed, with the fish entering and leaving from the same area.

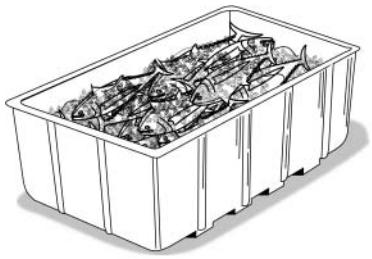


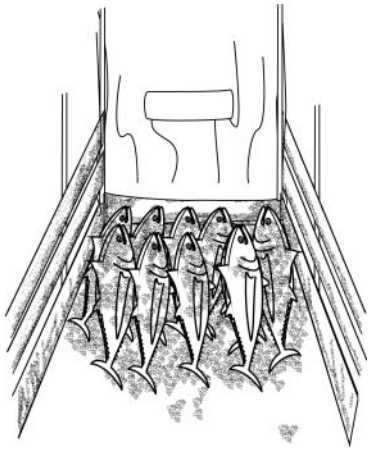


B. PACKING FRESH FISH FOR EXPORT

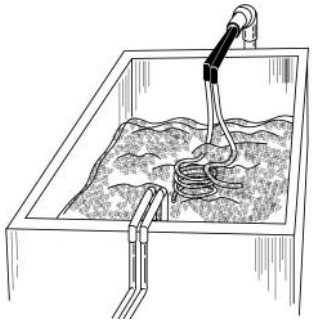
Fish should not be moved around in the heat of the day. Unloading and packing should be done in the morning or evening hours when it is cooler. Fresh chilled fish that are not to be exported should be re-iced or stored in a chill room until they are sold or processed. Fish that are to be exported should be processed as soon as they are offloaded from the boat. Fish and cartons of fish should be kept out of the sun and away from other heat sources. They should not be dropped or thrown.

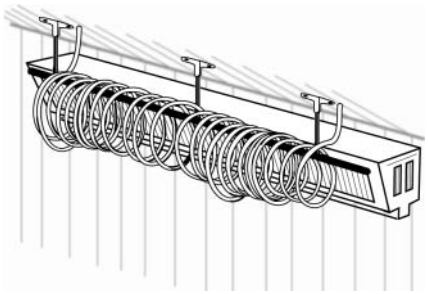
The catch from longline boats is often unloaded directly to a packhouse or processing facility. When this occurs, the fish are placed in portable insulated storage bins onshore, with ice or ice slurry to maintain temperature. The bins are transported into the packhouse by forklift. If, however, the fish has to be transported from the wharf to the plant by truck, they should be transported in a refrigerated truck, or the truck bed should be iced, or the fish should be transported in portable insulated storage bins with ice or ice slurry.



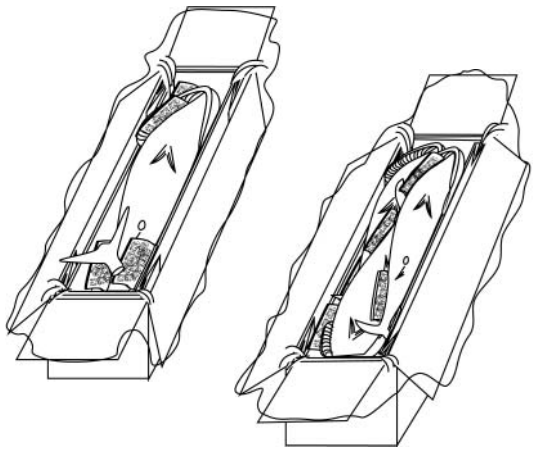


Once the fish are in the packhouse, the area should be closed off to stop insects entering and to maintain a cool working temperature. The fish are placed individually on the table, the mutton cloth or body bag removed, and they are rinsed off with cold (0˚C), clean fresh water. Water for rinsing fish can be chilled in several ways. One way is to have coils of copper pipe mounted in front of a chiller unit. Another way is to have copper pipe in an insulated bin of ice slurry. The water is chilled as it passes through the copper pipe.





The fish are then graded and weighed, with the weight recorded on a piece of paper. The paper is then placed on the gill cover, the fish's side, or in the belly cut. Export fish are then ready to be packed in cartons. Generally the same species are placed in the one carton, with up to four fish depending on size and weight. Large fish are packed individually and may need the tail cut off to fit it into the carton. All fish are packed back down and belly cavity up.



Packs of frozen gel ice are added to the box to assist in maintaining temperature. Usually one pack (1 kg) of gel ice is used for 10 to 20 kg of fish. At least one gel ice pack is placed in the gill cavity or belly of large fish.

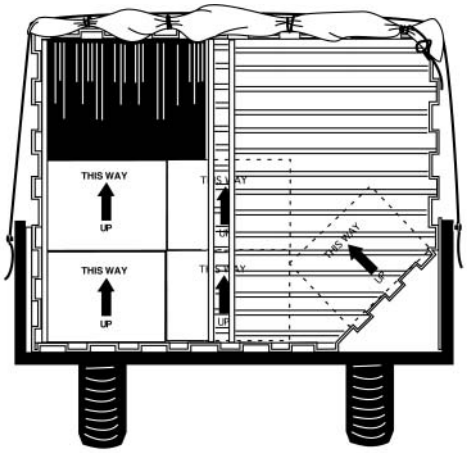
Each carton is then sealed, by first closing and sealing inner plastic or insulated linings, and then the cardboard flaps. Cartons are either strapped or taped to ensure the lid is secure. Each box is then weighed and clearly marked with the company name, destination, species and individual weights of each fish and the total weight of the box, with each box numbered for future reference. The sealed cartons are then stored in a chiller, either loose or on a pallet, or loaded directly into a refrigerated truck or into an airline container, ready to be transported to the airport.

C. SHIPPING AND MARKETING EXPORT FISH

Exporters should keep in close communication with fish buyers or brokers so they know what the export markets are doing. If there is a glut of yellowfin tuna in Japan in April, for example, then it may be better to send yellowfin to the US that month. Exporters should be aware of individual market preferences. The Honjo Market in Osaka, for example, prefers yellowfin tuna to bigeye tuna, while the Tsukiji Market in Tokyo prefers bigeye tuna to yellowfin tuna. The market for sashimi tuna has definite seasons as well. For example, just before Christmas and New Year's Day are the best times to market sashimi tuna, while the months of June and July can be the poorest times.

Once all the fish have been processed and packed, the exact details of the consignment are known for each shipment. Airfreight space is generally booked in advance, to ensure the fish can be exported as scheduled. Some countries require the presence of Fisheries or Customs Officers during the processing and packing stage to verify product and quality of product. All Customs and Fisheries forms should be completed.

The cartons of fish should be transported to the airport in a refrigerated truck as close to the time of cargo loading as possible, or if there is refrigerated storage at the airport, the consignment can be taken out earlier and stored. Alternatively, the cartons of fish can be taken from the chiller and stacked into a standard airline cargo container, such as an LD 3 container (holds roughly 1 mt of product). These containers can then be trucked to the freight area at the airport. The cartons can also be loaded into an airline cargo container at the airport.



The final step is to complete an air waybill for each consignment. The air waybill contains all the details of the importer, exporter, number of cartons, gross weight of each carton and the route the consignment will take. The importing agent is then notified that the consignment is on its way, with all necessary documents faxed through to ensure the fish is cleared quickly through Customs and gets to the market in the shortest time and best condition.

Some tips for exporting and payment

Availability of affordable airfreight space is probably the most important factor in deciding whether or not to attempt to export fresh tuna. Countries and territories that have well developed tourist industries have good airfreight links to sashimi markets, as they have regular planes going to Japan and the US. Air cargo is the biggest component of marketing costs in a fresh fish export operation. If the marketing costs for exporting fish are going to be 50 per cent or more of the market value of the catch, then it is probably not worth exporting the fish. It would be better to sell the fish locally.

Longline fisheries in countries with little external air traffic will find it difficult to enter the export sashimi business. Fisheries dependent on charter flights to get their fish to markets will also have difficulties. The minimum payload for a charter plane is about 15 to 17 mt.

Freight forwarders can be helpful to fish exporters. They can prepare documentation, obtain clearances, and pre-pay fees associated with the shipment of fish. Freight forwarders can also obtain very competitive freight rates as they deal in bulk bookings. Each shipment of fish exported must have a complete set of documents. These may include air waybill, pro forma invoice, packing list, certificate of origin, and HACCP documentation.

Most overseas seafood business transactions are done with open accounts using telegraphic transfers, or TT. Letters of credit are not as convenient.

Operators should always have enough operating capital to carry on while waiting for revenues to come in. Terms of payment from the fish buyer might be 30 days while terms of payment required by the freight forwarder might be only seven days. If the fish are sent cost, insurance, freight, or CIF, then the exporter is responsible for paying the airfreight bill. If the fish are sent FOB (free on board), then the buyer pays the airfreight bill.

D. RUNNING A LONGLINE BOAT AS A BUSINESS

General principles

A commercial longline fishing boat can be a part of a company owned fleet or can be an independent business, operated by an owner-operator captain, with some variations in between these two extremes. This section deals with small-scale operations such as single boat companies or owner operated boats, not with large fleets. They are another matter altogether.

Basically, there are two elements in the business of a commercial fishing operation, the boat and the crew. These two elements work together for one goal, to catch fish and make money. In order to do this they must keep expenditures low while trying to keep revenues high. One way to ensure this is to distribute the revenue on a crew-share basis. That is, everybody shares in the risk and in the net proceeds and everybody has an incentive to perform well.

In a crew-share operation, the business of the boat should always be kept separate from the business of the crew. This is true even with a one boat, owner operated company. In this sense, a fishing boat is unique as a business. What this means is that there are always two sets of books and two accounts: one for the boat and another for the crew. It is important that these two do not get mixed up and that money from the two entities does not get co-mingled. The boat, or company, consists of the owner of the boat, the boat, and all equipment and fishing gear, while the crew consists of the captain, engineer, and deckhands. In an owner-operator situation the captain belongs to both entities but he still needs to keep the accounts separate.

The reason that there has to be two sets of accounts for a fishing operation is that there are two sets of expenses, or costs, and there is a clear division between these two. They are usually called operating costs and fixed costs. Operating costs are often called shared expenses. That is, they are the costs of running the fishing operation and they are shared between the boat and the crew in some sort of pre-arranged manner. Fixed costs, on the other hand, are solely the responsibility of the boat. They are company expenses and are not shared by the crew. Another difference between these two types of costs is that operating costs are usually met at the end of each fishing trip while fixed costs are met on a monthly, quarterly, or annual basis. Each fishing trip, from the crew's point of view, is a separate business venture that has a definite beginning and end, while the boat's business is ongoing for the life of the company.

Before a boat leaves for fishing there is an agreement between the boat and the crew. The boat (or company) agrees to risk its capital (the boat and equipment) and some up-front expense money (or credit) to meet the operating costs. The crew agrees to risk their time, labour, and possibly life and limb. Both enter into this agreement for the same end result: to catch fish and make money. Both also agree that before any money can be made, all operating costs have to be met. In some operations, where fish are exported, cost of marketing the fish is considered an operating cost and is shared by boat and crew. After a break-even point is reached in the fishing trip, money will be earned that can be shared. Unfortunately, there is a complication — the market forces that set the price of fish have no relation to the cost of producing the fish or marketing the fish. Fishermen are, thus, price takers. The results of their efforts may not be enough to pay expenses. In this case the boat and crew do not get paid.

Operating costs and crew payment: an example

A longline boat makes preparations for a two to three week fishing trip. During the turnaround time, the engine oil was changed and the fuel tanks were topped off. Extra engine oil was also purchased. The total fuel bill (diesel fuel and motor oil) was $10,000. Fuel and oil were obtained on credit from the local oil company on the boat's account. Bait and ice were also supplied on credit by a local fish processing outfit. The cost was $4000 for bait and $2000 for ice. $500 worth of replacement fishing gear, a carry-over from the previous trip, had been purchased on credit from a local fishing supply store. Certain expendable spares were also purchased including fuel filters and oil filters, light bulbs, tape, gloves, lubricating spray, cleaning materials, etc., amounting to $500. Lastly, $1000 of company money was spent on food for the crew. Total operating costs for the trip were, therefore, $18,000 (Table 5). That is, the fishing operation would need to have revenues of $18,000, after marketing expenses, to break even.

Before leaving, the boat and crew agreed on a formula for dividing the proceeds of the trip. They agreed that after all fish were sold all of the operating costs would be paid first and then the balance of money, if any, would be divided equally between the boat and the crew. This is a 50/50 split. Some boats operate on a 60/40 split or some other arrangement (see below).

The crew also agreed on how they would divide their portion of the proceeds. They agreed to divide their money into shares. The captain would get two shares, the engineer one-and-a-half shares, the two experienced fishermen one share each, and the novice, or green, fisherman, one half share. Total crew shares would, therefore, be six.

The trip lasted fifteen days during which the longline was set and hauled ten times. A total of 12 mt of saleable fish was caught — some fresh bigeye and yellowfin tuna for export sashimi markets, some albacore tuna for the canneries, and some byproduct species for the local market. The average price received for all fish sales was $6.00 per kg. Total gross revenue for all fish was, therefore, $72,000. Marketing costs, which included transport, processing, air-freight for fresh fish, surface freight for frozen cannery fish, export and import fees, and agent commissions totalled $22,000, leaving a balance of $50,000. After deducting all operating costs there was a net of $32,000. This amount was divided equally between boat and crew, each receiving $16,000 (Table 5).

The crew's share of the proceeds was divided into six equal shares of $2666.67 ($16,000 ÷ 6 shares). The captain received two shares, or $5333.33. The engineer got one-and-a-half shares, or $4000. Each experienced fishermen got one share, or $2666.67, while the green fisherman received a half share, or $1333.33 (Table 5). At this point the crew's account was finished and the reconciliation for the trip was complete. In this type of situation, members of the crew may be considered self-employed independent contractors and not employees of the company. As such, they would be responsible for any personal income tax due on money earned. Tax requirements vary depending on local laws and regulations.

Table 5: Reconciliation of all operating and marketing costs, and crew wages based on shares

Item	Cost in dollars
Operating costs	
Fuel and oil	10,000.00
Bait	4,000.00
Ice	2,000.00
Fishing gear	500.00
Spares	500.00
Food	1,000.00
Total	18,000.00
Gross revenue	
12,000 kg @ average price of $6.00/kg	72,000.00
Net proceeds	
Gross revenue	72,000.00
Less marketing costs	22,000.00
Balance	50,000.00
Less operating costs	18,000.00
Net	32,000.00
50% net to boat	16,000.00
50% net to crew	16,000.00
Crew shares	
Six shares each of $2,666.67/share ($16,000/6 shares)	
Captain 2 shares	5,333.33
Engineer 1.5 shares	4,000.00
Fisherman 1 share	2,666.67
Fisherman 1 share	2,666.67
Fisherman 0.5 share	1,333.33
Total shares	16,000.00

Note: Typically, a reconciliation will show much more detail than that presented in Table 5. It will include the name of the boat, names of the crew, and all operating costs including names of vendors. Often details of all fish sales are included in the reconciliation, showing weight and price of each fish and the name of the buyer, with notes on the condition of the fish that affected the price. The boat and the captain should have each received a copy of this reconciliation.

E. FIXED COSTS AND THE BOAT'S ACCOUNTS

In the example in the previous section, the boat's share of $16,000 went directly into the company account. From this account the company has to meet all fixed costs. These include mortgage and interest payments for the purchase of the boat (or lease payments if the boat is on charter); insurance for the hull, machinery, and fishing equipment; taxes; license fees; wharf fees; depreciation; and all management fees, if any. The owner, whether he is the operator or not, may charge the company for his time spent on shore making arrangements for each trip and for sale of the catch. He may have a small office with telephone and fax, and may even have a secretary. The owner's salary, telephone and fax, rent on the office, and the secretary's wages are part of the management fee.

Most of these fixed costs are paid on a monthly, quarterly, or annual basis so they are covered by more than one fishing trip. A boat may make two or even three trips per month, in which case each trip will contribute something towards the fixed costs for that month. Any money left after all fixed costs have been met is profit for the company. Unlike the accounting for each separate fishing trip, the boat's account is ongoing and is usually reconciled with the bank and other creditors, investors, and the tax office at the end of the fiscal year. The crew, unless the operation is owner operated, is not usually privy to the boat's accounting and business.

Eventually the boat and equipment will need replacing. Money is held back from payment of company dividends to account for the wear and tear on the boat and equipment over a set period of time, usually about ten years (depreciation). At the end of the life of the boat the company should have accumulated enough money, theoretically, to purchase another boat. Sometimes depreciation is a figure that is put on the books for accounting and tax purposes but it is not actually paid into an account. In that case it is a cashback cost. In other words, depreciation is subtracted and then added back. Each time this happens the insured value of the boat is reduced, as is the tax base.

In addition to all of the above, a company may hold back a certain percentage of its share for a maintenance reserve. From time to time boats will experience breakdowns that are more serious than routine maintenance problems. A main engine may need replacing. This can cost several thousand dollars and is usually not fully covered by marine insurance. It is prudent for a company to have a fund so that they will be prepared for this eventuality. For a mid-sized longliner a maintenance reserve fund should be in the order of at least the replacement or rebuild cost of the main engine. Some companies consider this to be a shared cost and deduct one or two per cent off the top of revenues from each fishing trip before operating costs are deducted. This money is put into a separate maintenance reserve account, not the company's main account.

Advantages of a crew-share approach to wages

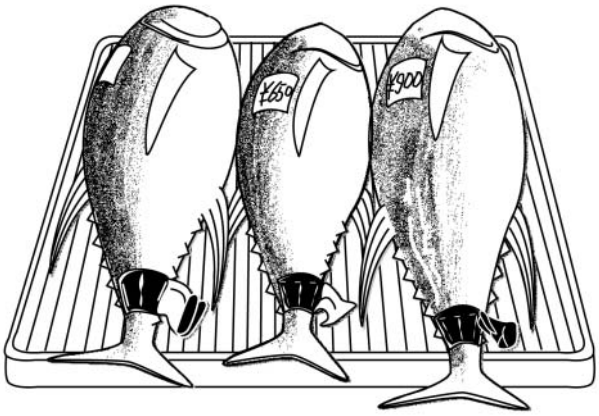
There are several advantages to operating a fishing boat on a crew-share basis in the manner outlined in Chapter 5 D. First of all, everybody is working toward a common goal — to catch fish and make money. Fishing is not a nine-to-five job. No fish, no money is the rule. Conversely, the more fish you catch the more money you earn.

There is a direct incentive, with this type of arrangement, for the crew to catch as much fish as possible, in the shortest time, with the least amount of expense and wear and tear on the boat. The incentive goes beyond just tonnage of fish. There is also an incentive to preserve the fish in the highest quality condition so that they will fetch the highest possible price in the market. The crew has an incentive to handle all fish properly if they are being paid based on revenue.

The crew also has an incentive to be economical with supplies if they are sharing the costs. They are less likely to waste fuel, ice, bait, gloves, fishing gear, spares, etc., if they have to share the cost of their replacement. Furthermore, they have an incentive to maintain the boat in the best possible condition. A well maintained boat will be likely to catch more fish and earn more money than a poorly maintained boat. It will be able to spend more time at sea and will have fewer breakdowns and shorter turnaround times in port.

By contrast, longline operations that are based on fixed wages for the crew or on payment by effort or tonnage usually experience problems — there is little incentive for the crew to perform well. Large industrial fisheries such as the purse seine fishery for cannery tuna can get away with paying the crew based on tonnage. The price for the fish is set by the canneries and, except for reject fish, does not fluctuate much over a short time period. A purse seine boat will know about what they are going to earn just based on what is in the fish hold. The albacore longline fishery for cannery fish is similar: there is little short-term price fluctuation.

The longline fishery for sashimi grade tuna, however, is quite different. Every fish has its own price based on a number of factors including demand, time of year, size, fat content, overall appearance, flesh colour, flesh quality, etc. How the fish was handled has a direct bearing on the appearance and flesh colour and quality. On the same day at the major fish auctions in Japan the difference in price between two fish can be several dollars (hundreds of yen) per kilogram.



A tonne of poorly handled bigeye tuna is not worth as much as a tonne of top quality bigeye tuna. If the crew is being paid based on tonnage, however, a tonne of poorly handled fish will be of the same value to them as a tonne of top quality fish. In this case the boat will lose out on the difference. If the crew is being paid wages for their time or by fishing effort it would not really concern them if they caught any fish or not; they would be paid just the same. In fact, their jobs would be easier if they did not catch fish. The main reason that government operated commercial fishing ventures usually fail is that the crews are paid government salaries (and they are used to working nine-to-five).

Some longline operations in the Pacific have had success using a compromise between wages and incentives. They usually offer a base wage and then a bonus on top of the base that is calculated on revenue. This arrangement is attractive to crew because they know that they will have something at the end of the trip. There is less risk for the crew but they also miss out on real bonanzas when the catch is good and there is a big demand that drives prices up. On the other hand, they never go home empty handed.

In this type of arrangement there is an incentive for the crew to handle the fish properly, as they will receive a larger bonus if the price of the fish is higher. Some companies treat the base wage of the crew as an operating expense and throw it in the basket with fuel, ice, bait, etc. Obviously, there are many variations to how a longline operation can handle distribution of revenue, but the crew-share method seems to have been the simplest, most successful and most popular throughout the world.

Working capital

A common mistake some start-up operations make is to assume that every thing will go according to the proposal they sent to the bank. There have been cases of exporters getting nothing but an airfreight bill for a shipment of fish. To be ready for all contingencies, a longline fishing and export operation should have enough working capital to finance at least two or three fishing trips and two or three export shipments.