

# Hawaii Seafood Market for Pelagic Fish

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## **Introduction**

The Hawaii seafood market is a vital segment of the pelagic fishery, and is important to Hawaii's cultural heritage and the overall state economy. The marketing and distribution system for fresh pelagic fish landed in Hawaii is a part of a larger network of inter-connected local and worldwide components that supply Hawaii's consumers with a wide variety of fresh and frozen seafood products from Hawaii and around the world. The local supply of cooking or restaurant grade fish falls short of demand in Hawaii, so much fresh and frozen fish is imported to Hawaii. The volume of fish imported to Hawaii may reach as much as two-thirds of the local production.

Hawaii's fishermen supply a variety of pelagic fish in a range of qualities and quantities. Some of these fish are highly valued and find ready customers outside Hawaii in Japan, the mainland USA, and to some extent Europe. These export markets are very important for tuna and swordfish, which are produced and traded extensively on an international scale. Hawaii exporters and fishermen target the Japanese tuna market because of the renowned high Japanese fish prices but, while the Japan market rewards high quality tuna, it also punishes poor quality. Hawaii fish have a reputation for high quality in Japan because it is only profitable for Hawaii exporters to send the very best quality fish. Swordfish do not have a strong demand in Hawaii, and the bulk of swordfish landings are exported to the larger, established markets on the US mainland.

When and where fishermen sell their fish are individual decisions that are influenced by convenience and price. Fishermen on the islands of Oahu and Hawaii have the option of selling through fish auctions. Others prefer direct sales to reliable wholesalers and retailers.

## **Market forces**

Demand and supply drive the seafood market. "Demand" can be viewed as a consumer with an appetite, certain expectations of quality, and a pocketbook, who chooses seafood for dinner. If she or he can afford high-quality fresh fish, the consumer maybe willing to spend more. If only a limited amount of fresh fish is available and many consumers are hungry, demand is high and prices increase. In contrast, if she or he has eaten fresh fish frequently in the past, the consumers demand for the fish may be lower, whatever the price.

"Supply" is the amount of fish available to the consumer. Local landings of fresh fish are only part of the supply story, however, and when the worldwide supply of fish is high, prices are affected virtually everywhere because of the interconnected nature of fisheries and markets through import and export industries. When landings are low worldwide, fish prices increase in response to the consumers' desire for fish.

## **Sources of fresh pelagic fish in the Hawaii market**

The dominant source of fresh pelagic fish supplied to the Hawaii market is local fishermen using several fishing methods. Hawaii has a large pelagic longline fleet that targets tunas and swordfish. The handline fishing fleet targets yellowfin and bigeye tunas; this fishery tends to have seasonally large catches of yellowfin during the summer. In addition to supplying fish for the market, the trolling fleet also provides charters for sport fishermen; commercial trollers provide a variety of pelagic fish, especially mahimahi, wahoo, marlins and yellowfin tuna, depending on the season.

The advent of reliable packing materials and air shipment have allowed fresh pelagic fish to enter the Hawaii market from around the world. Fresh tuna now arrive in Honolulu from the Philippines, Indonesia, Micronesia, the Marshall Islands, Fiji and Ecuador. Fresh mahimahi are flown from Ecuador and Costa Rica when market and supply conditions are right. Other fish, such as fresh halibut and salmon from the Pacific Northwest and Alaska, enter the Hawaii market during the summer.



### **Role of the various fishery sectors**

The primary function of the fishing and seafood market industries is to produce fresh fish, which is marketed and distributed to the consumer as quickly as possible to maintain product quality. Each level of the marketing network plays a significant, specialized role in this process, and each works in an inter-dependent manner with the other segments. The result is an integrated system that is capable of quickly unloading, processing, marketing and distributing the fresh catch of Hawaii's fishing fleet. The marketing sector in Hawaii is highly evolved and is able to find markets for the wide variety of pelagic fish species, sizes and qualities.

### **Effect of pelagic fishing methods on fishermen's marketing options**

Fishermen are the necessary first step in the seafood marketing network. Although the same fish are targeted by different fishing sectors, the market options for each sector differ somewhat, depending on the species, the size, and the quality and quantity of the fish being landed.

The major factors affecting marketing options for fresh pelagic fish are quality and related shelf life of the product. Shelf life is the amount of time a fish can be maintained within quality parameters, including grade, intended use and wholesomeness of the fish. The higher the quality and the longer the shelf life, the more marketing options. For example, a tuna might range from the highest-quality, highest-priced *sashimi*, or be of such poor quality that it is fit only for canning. If the shelf life is short, the entire export market may be eliminated as a marketing option, and fewer such options mean less flexibility and generally lower value.

All segments of the seafood industry play a role in the maintenance of fish quality and shelf life. The fishermen are the first step in the formula, and many of the processes that determine quality and shelf life begin at sea. The gear used to catch the fish and the handling methods can affect the quality and shelf life of the fish. Poor handling can destroy the quality of the fish and greatly shorten shelf life. Not all aspects of quality are related to post-harvest handling, however, as certain aspects are inherent in the individual fish (size, fat content, scars, injuries,

etc.) and, thus, are beyond the control of fishermen and processors. The fresh fish market does not discriminate against fishing sectors, but cares only about the quality and shelf life of the fish.

#### *Longline fishing*

Longline-caught tunas are generally accepted to be of a higher quality than tunas from other sources. This maybe because when fish are hooked, they are in deeper, colder waters and do not struggle as much as fish caught by trolling or handlines. Also, by the time they arrive in the market, longline-caught tuna may have been chilled longer and more thoroughly than fish landed by handline and troll fishermen. Longlines also tend to catch larger tunas than trolling, and size may also affect quality and shelf life.

The longline fleet in Hawaii produces over two-thirds of the local pelagic fish landings. These fishermen target tuna or swordfish depending on the fishing strategy (supply, price, fishing conditions, etc.). Numerous other species of pelagic fish are also caught by longline, and these fish greatly supplement the local fish supply and give consumers a wide variety of fresh fish to choose from.

#### *Handline fishing*

Handline fishermen are able to hook and quickly land tuna, and are capable of producing extremely fresh tunas that play a significant role in the local tuna supply, particularly on the Big Island. The handline tuna fishery in Hawaii has been plagued by a condition known as "burnt tuna syndrome". This phenomenon may be related to the fish struggling on the line, potentially altering the fish's body chemistry and elevating its body temperature, as well as inadequate on-board handling (bleeding, gutting and chilling). Burnt tuna has a reduced shelf life, and its market options are limited to grilling. This problem is not unique to the handline fishery, and all segments of the marketing network are responsible for maintaining the quality and shelf life of fish.

#### *Trolling*

The troll fisheries produce the best quality mahimahi and wahoo in the Hawaii market; the freshness of the fish and careful on-board handling can produce premium-quality fish that are greatly valued in Hawaii. On the other hand, trollers have a special challenge when catching tunas, as they share with handliners the problem of burnt tuna. With charterboats, the challenge is even more difficult because of the time that it takes to land a fighting tuna on rod and reel. Again, a shorter fight time and faster chilling lead to better quality fish.

#### **Fish Auctions**

Fish auctions, where fish are sold by the piece, are important to Hawaii, and not available as a local market option to fishermen in most other parts of the USA.

The auction system serves an important function for both the fishermen and the market. The auctions bring together the supply (fish) and the market forces (buyers) at a single location. Thus, the auctions remain one of the best options for fishermen to quickly and easily market their catch, which allows fishermen to spend more of their time fishing, rather than marketing.

In the auctions, bidding is "open" and all levels of the seafood market are represented, from the large wholesalers to the private consumer. If the market is not glutted by large supplies of fresh fish, bidding for the fish between buyers can

be highly competitive, especially at the Honolulu auction. Buyers are keenly aware of market conditions, the quality of the fish being offered, and the market demand. Fish quality is a primary determinant of how the fish will be used (raw (*sashimi*), grilled, smoked, etc.), and quality determines the price. Each fish is evaluated by the buyers for quality to form the basis for their bids. For each fish or lot of fish, the auctioneer calls out the name and the weight of the fish to be sold, and waits for an opening bid from the buyers. Bid prices increase in increments of 10 cents per pound or more. Buyers remain in the bid by subtle cues to the auctioneer. At times, the bid changes hands many times with multiple buyers involved. When bidding ends, the final price is determined by a combination of the buyers' assessment of quality, market demand and current supply of fish.

### **Wholesalers**

Wholesalers play a major role as buyers of local fish landings at both Hawaii auctions, for both export and local sales. The wholesale sector of the market network processes and sells the fish to the appropriate market, which might include smaller wholesalers, supermarkets, retail outlets, restaurants, and individuals. Direct sales from fishermen to wholesalers is an additional marketing option, but this is more common outside Hawaii. Some fishermen choose to sell their fish on consignment, skipping the wholesalers and accessing export markets directly.

### **Restaurants**

At least 10-15% of the fresh fish landed in Hawaii go to local restaurants. Restaurants purchase fish directly from fishermen, from the auctions, and from wholesalers. Many restaurants prefer to purchase fish from wholesale operations, which are set up to handle purchasing of the variety, volume and quality of fish needed to meet the restaurants' needs. A good wholesaler can concentrate on the seafood business and find the best value "catch of the day" for the restaurant, which is then free to concentrate on the restaurant business.

### **Fish Peddlers**

Fish peddlers generally work as individuals, selling fish along the roadside or door-to-door in neighborhoods. Although the overall volume of fish bought and sold by peddlers is relatively small, they represent another way in which fish reach the final consumer.

### **Retailers**

The retail markets, such as supermarket chains and specialty seafood markets, help in the final presentation of fish to the public. People in Hawaii who eat fish are among the most knowledgeable and discriminating seafood consumers in the USA. The quantity, variety and quality of fresh pelagic fish available in Hawaii is reflective of the high level of seafood consumption. Many shops specialize in fresh local seafood, and fish offered in supermarkets are of high quality and readily available. Fish is sold in convenient forms and portions such as steaks, fillets, *sashimi* blocks, and a myriad of other raw fish preparations such as *poke*. Many retailers also provide ready-to-eat *sashimi* and *sushi* platters.

### **How the Hawaii market differs from those of America Samoa, Guam and the Northern Mariana Islands (NMI)**

The other US Pacific islands differ from Hawaii in that they lack a large local consumer seafood market. The seafood market for pelagic fish in Guam and the NMI is relatively small, as are the domestic fishing fleets that supply these islands' markets. Foreign longline fleets land large amounts of fresh tuna in Guam for air transshipment, primarily to auctions in Japan, so shoreside export and shipping operations are Guam's predominant fishery activities. American Samoa is the site of two major tuna canneries, which are primarily supplied by the US purse seine fleet (which deliver frozen skipjack and yellowfin tuna), and by foreign-flag longliners (mostly albacore). Processing of canned tuna and surface transshipment are the main fishery activities in American Samoa at this time. Very little fresh pelagic fish is landed in American Samoa relative to Hawaii, Guam and the NMI. One reason that domestic landings of fresh fish are relatively small in Guam and American Samoa (compared to Hawaii) is the availability of wahoo, mahimahi and lower-grade tuna from the purse seine and longline vessels that visit both ports.

### **Future Challenges**

The Hawaii seafood market is dynamic and intrinsically tied to the world market for fisheries products. Local, national, regional and global changes in trade policy and the management of pelagic fisheries will continue to shape the local seafood market. Consumer concerns about fishery interactions with protected species can influence seafood markets. For example, tuna/dolphin interactions in the eastern tropical Pacific caused a great change in the US tuna canning industry. Public outrage over high seas driftnet fisheries contributed to international efforts to ban this fishing practice. Consumers are becoming more aware of the potential impacts of current fishing methods on fish stocks and non-target species, as well as the international politics which play a role in fisheries management.

Another area of increased attention by consumer groups and government is seafood safety and the need for seafood inspection. This growing concern is already having an impact on the fisheries and the seafood market. Even the perception of a problem with seafood by the consumer is enough to seriously affect the entire industry from marketer to the fisherman.

The concerns of other fishermen must also be addressed. The impacts of commercial fisheries on target and non-target (bycatch) pelagic species is a concern to recreational fishermen. In Hawaii, these bycatch species play an important role in contributing to the variety of reasonably priced fresh fish available to the consumer. In some other states, management policies prohibit the sale of billfish in the name of conservation. Eliminating the seafood market for these species, however, may actually work against conservation efforts by forcing fishermen to discard bycatch at sea, wasting the resource and depriving consumers of the benefit of valuable seafood.

The fishing and seafood industries must remain adaptable and progressive to ensure that their products continue to find a ready market. The seafood market in Hawaii is expanding, as it is throughout the USA. It will continue to grow only if consumers feel that seafood products are wholesome and healthy protein foods of good value. Importantly, consumers want to know that the potential environmental and biological impacts are acceptable for the fisheries that

produce the seafood they consume. To maintain consumer confidence and demand, fishermen, the marketing sector and government agencies that have the task of managing fishery resources and seafood industries (such as the Western Pacific Regional Fishery Management Council, National Marine Fisheries Service, Fish and Wildlife Service, Food and Drug Administration, state and territorial agencies, etc.), must be committed to working cooperatively to facilitate long term, sustainable production of Pacific pelagic seafood markets.

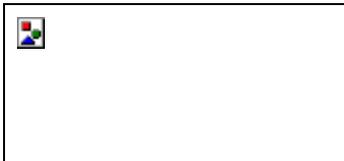
### Important pelagic fish in the Hawaii seafood market

Species	Market Name	Uses/grades	Gear (in order of importance)
Tunas			
yellowfin	ahi	sashimi, grill	longline > handline
> troll			
bigeye	ahi	sashimi, grill	longline > handline
albacore	tombo ahi	grill	longline > handline
skipjack	aku	sashimi, grill	pole and line >
troll > longline			
Marlins			
blue marlin	kajiki	sashimi, grill	longline > troll
striped marlin	nairagi	sashimi, grill	longline > troll
Swordfish	swordfish	grill	longline > handline
Mahimahi	mahimahi	grill	troll > longline
Wahoo	ono	grill	troll > longline

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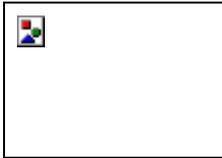
### How the price of fish changes from fisherman to consumer

As a fish moves from the fishermen through the market to the consumer, the price (cost per pound) increases directly with the change in product form because the yield changes (e.g., whole weight v. fillet). The selling price is always a matter of the original cost plus the value that is added (labor, packaging, profit, etc.). Each step within the market structure has a different set of risks and expenses. The following is presented as an example and is not



meant to reflect a standard formula.

Whole Fish (100% Yield)	Price Paid	Wholesale
	to Fisherman	Purchase Cost
	\$2.70/lb	\$3.00/lb



The initial marketing costs are estimated at 10%.



**Loin or Fillet**  
(60% yield from whole fish)

<b>Purchase Cost</b>	<b>Selling Price</b>
\$5.00/lb	\$6.00/lb

The wholesaler paid the equivalent of \$5.00/lb for the loin (his "cost"). He then adds about 20% in value-added costs, which is the price the retailer pays.

**Sashimi Block**  
(60% yield from loin)

<b>Purchase cost</b>	<b>Selling Price</b>
\$10.00/lb	\$13.50/lb

The retailer paid the equivalent of \$10.00/lb for the sashimi block (his "cost"). He then adds about 35% in value-added costs, resulting in a retail counter price that the final customer pays.

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*Pacific pelagic fisheries are dynamic, and the information in this document is subject to change.*